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Introduction

Purpose
Every year at the national and regional conferences participants’ present thought-provoking, insightful papers and posters on teaching issues. Unfortunately, many of these may be largely forgotten after the conference has ended. To capture and share this wealth of material with a wider audience, the Society for the Teaching of Psychology (Division Two of the American Psychological Association) has created this recurring STP e-book series that organizes this material into topical categories and provides readers with a summary of each conference presentation and the first author’s contact information.

Sources
In Volume 2 of this series, we provide summaries of teaching presentations originally delivered at one of the following ten national or regional conferences, many of which are sponsored by the Society for the Teaching of Psychology.

The Society for the Teaching of Psychology contributes to the program at the American Psychological Association’s annual convention. Posters and one-hour symposia on teaching and learning are welcome; completed empirical and cross-divisional research is particularly encouraged. Individual papers or other formats are not accepted.

The Society for the Teaching of Psychology hosts a Teaching Institute each year at the Association for Psychological Science meeting. The APS-STP Teaching Institute is held as a pre-conference to the regular conference of the Association for Psychological Science. The teaching institute begins with a Wednesday evening workshop and continues all day Thursday with plenary and concurrent sessions on a host of topics relevant to the teaching of psychology. The institute also includes an active and vibrant poster session. In addition, STP sponsors three talks during the regular convention.

The Society for the Teaching of Psychology’s Annual Conference on Teaching (ACT) takes place each year in October. ACT is the flagship conference of Division 2 of the American Psychological Association. It convenes college and secondary educators, particularly within the field of psychology, for symposia and demonstrations of best practices in teaching and the scholarship of teaching and learning. The conference program includes keynote addresses and concurrent sessions featuring nationally recognized teachers and advocates for undergraduate education, a poster session, publishers’ displays, and plenty of time to get to know other teachers who are passionate about teaching psychology.

The National Institute on the Teaching of Psychology is an annual conference for teachers of psychology. Invited presentations include workshops, concurrent sessions, and general sessions on topics of interest to psychology teachers at all levels, from high school through university. To assist these teachers in improving their effectiveness and enhancing their students’ learning, the Institute program offers updated content and new instructional techniques and classroom activities.
In 2009, the Council for the Teaching of Undergraduate Psychology (CTUP) merged with the Society for the Teaching of Psychology (STP) to create a stronger network to support teaching development for instructors who attend the Midwestern Psychological Association (MPA) conference. At MPA, the teaching sessions offer teachers of psychology at all levels the opportunity to enhance their teaching skills through invited workshops and lectures on successful teaching strategies and techniques presented by psychology instructors who have successfully employed these methods. These sessions also provide opportunities for instructors to present their own successful methods in posters and to discuss teaching topics in participant idea exchanges.

The Rocky Mountain Psychological Association sponsors the Portenier/Wertheimer Teaching Conference each year. The conference is designed for faculty who teach at four-year universities and colleges, community colleges, and high schools. Specifically, the conference is for those who wish to explore new ideas that will enhance and broaden their teaching skills. This celebration of teaching is designed to provide useful and interesting information directly related to teaching psychology, and the opportunity to see award-winning teachers in action. The conference also provides a forum for the discussion and exchange of knowledge and practice about the teaching of psychology as well as student learning and assessment.

The mission of the Mid-Atlantic Teaching of Psychology Conference is to bring together teachers of psychology from universities, two and four-year colleges, and high schools who wish to enhance their teaching of psychology and expand their teaching skills through workshops, lectures, and participant idea exchanges on successful teaching strategies and techniques. In addition, MATOP fosters the development of valuable teacher networks that further strengthen the continued support of good teaching and professional fellowship.

The Southeastern Teaching of Psychology Conference is sponsored by Kennesaw State University’s Center for Excellence in Teaching & Learning. Held annually, SETOP is an opportunity for teachers of psychology to discuss and share experiences and techniques. The conference offers concurrent sessions and invited addresses on teaching techniques and issues associated with undergraduate education.

The Western Psychological Association was founded in 1921 for the purpose of stimulating the exchange of scientific and professional ideas and, in so doing to enhance interest in the processes of research and scholarship in the behavioral sciences. Each year, WPA hosts the Lewis M. Terman Teaching Conference, a full day of sessions that include presentations and interactive workshops to enhance participants’ teaching abilities.

Founded in 1955, the purpose of the Southeastern Psychological Association is to advance psychology as a science, as a profession, and as a means of promoting human welfare. Its mission is to stimulate the exchange of scientific and professional ideas across the diverse areas of psychological inquiry and application. Presentations and posters on teaching are integrated into their annual conference program.

**Organization**

The presentations are organized into twenty-seven topical areas, including broad areas such as student advising, assessment issues, the design of capstone courses, undergraduate research, writing, student engagement, student success, critical thinking, ethics, online teaching, pedagogy, professional development for both faculty and for students, and the scholarship of teaching and learning (SoTL).
In addition to those broad areas, presentations summaries/posters address approaches to teaching specific subjects including clinical and counseling psychology, cognitive psychology and the psychology of learning, developmental psychology, gender, the history of psychology, interdisciplinary studies, multicultural psychology, neuroscience, psychopathology, research methods, service learning, social psychology, and statistics.

Acknowledgments
Many thanks to the co-editors for their invaluable assistance in assembling the materials from their respective conferences for publication in this e-book. I am also grateful to the authors for their willingness to share their work with our readers. For their invaluable assistance in helping to format each of the entries in the e-book, I would like to thank my Administrative Assistant, Lisa Martinez and my Graduate Teaching Assistant, Anthony Martinez.

For this e-book, our goal is that the reader to find entries that will answer questions, generate ideas, and adapt information to lectures, discussions and conversations. For each of the contributions, we have provided the first author’s contact information so that you may follow up on entries of interest and obtain additional information not in the summary.

Richard L. Miller
Texas A&M University – Kingsville
March 2018
Section I Advising

1. Effectiveness of a Mandatory Advising Sequence in the Psychology Major

2. Academic Entitlement and its Relationship with Demographic Variables

3. Academic Advising Posters: A New Academic Advising Delivery System
Effectiveness of a Mandatory Advising Sequence in the Psychology Major
Jean P. Kirnan, Mario Erisnord, and Madeline Anthes
The College of New Jersey
Presented at the 2017 APA Annual Convention
For further information, contact Jean Kirnan at jkirnan@tcnj.edu

Introduction
Several chronic problems—low attendance at course workshops/retreats, upper-level students unprepared for post-graduation plans, seniors student access to advising, faculty time spent repeating basic information, faculty variability in advising knowledge—led to the development of a mandatory advising sequence in psychology major. Similar to Kirnan (2005), we identified the unique developmental needs of each year: freshmen (FR), sophomores (SO), juniors (JR), and seniors (SR) and streamlined appropriate learning goals for each. The sequence was designed to complement, not replace, faculty advising and add to existing online resources.

Freshman and junior courses were more prescriptive in format with mandatory meeting times and fixed topics. Sophomore and senior courses were more flexible allowing students to choose 4 workshops to attend from a list of 20 to 30 department approved events (research opportunities, graduate school, alumni, skills, and current issues). The mix of prescriptive and developmental advising is recommended (Smith & Allen, 2006).

Method
- 4-year mandatory advising sequence was implemented in fall 2008 in psychology department as a mandatory 4-year public college in the northeast. Routine course survey are collected each semester, but in spring 2015, a qualitative analysis was undertaken.
- Interviews were conducted with faculty (N=27), administrative staff (N=2), and department chairs (current and former, N=7). Focus groups were conducted with students (N=38) from all grade levels as well as transfers.

Results
- Students valued the content, timing, and prescriptive nature of the FR and JR courses.
- Students’ feedback varied on the workshop format of SO and SR years, requiring more relevant topics and changes to scheduling.
- Faculty noted students were more prepared for advising meetings which became more developmental.
- Staff and chairs acknowledged logistical challenges in staffing, scheduling, and monitoring the sequence.

4-Year Advising Sequence Progression Model

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<tr>
<td></td>
<td>1st-year</td>
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<td>3rd-year</td>
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<td>✔</td>
<td>✔</td>
<td></td>
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<tr>
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<tr>
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<td>✔</td>
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<tr>
<td>1st-year</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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</table>

Interview and Focus Group Feedback on 4-Year Advising Sequence

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Challenges</th>
</tr>
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<tbody>
<tr>
<td>Students valued the content, timing, and prescriptive nature of the FR and JR courses.</td>
<td>Faculty are committed to improving their advising skills.</td>
</tr>
<tr>
<td>Students’ feedback varied on the workshop format of SO and SR years, requiring more relevant topics and changes to scheduling.</td>
<td>Departmental support and resources for advising are lacking.</td>
</tr>
<tr>
<td>Faculty noted students were more prepared for advising meetings which became more developmental.</td>
<td>Staff and chairs acknowledged logistical challenges in staffing, scheduling, and monitoring the sequence.</td>
</tr>
</tbody>
</table>

Concluding Remarks
- The sequence was successful in addressing faculty concerns with main benefits of creating a sense of community, increasing student agency through creating urgency, and reducing faculty advising to less time each student to present developmental needs all of which support further research (Kemper, 2000; Kang, 2000; Kirnan, 2005).
- Challenges were noted mostly in the workshop format. Conversion of SO/SR workshops to in-person sessions is not economically or logistically feasible. Further, we find the mix of prescriptive at FR and SR years with more developmental focus (through student choice) in SO and SR years is optimal.
- Changing student demographics and curricular mandates constant assessment and revision. Changes already under way include:
  - Introduction of an online workshop to ease scheduling issues.
  - More developmentally focused workshops.
  - SO (introducing, study abroad), SR (life skills, career shift).
Academic Entitlement and its Relationship with Demographic Variables

Jeffery Bass, Mary Ellen Fromuth, Teresa Davis, Angelina Anselmo, Milena Guerra, & Kin Leong Chan

Middle Tennessee State University

Presented at: Southeastern Psychological Association, 2017

For further information, contact: MaryEllen.Fromuth@mtsu.edu, Teresa.Davis@mtmail.mtsu.edu

Abstract

The current study explored the relationship between academic entitlement and demographic factors related to students’ personal and academic attributes. Participants were 272 (96 men, 176 women) undergraduate students enrolled in a general psychology course. As part of a larger study, students completed a lengthy survey, including an academic entitlement scale (Greenberger et al., 2008) and various demographic items. Results indicated that men were higher on academic entitlement than women, and upperclassmen (sophomores, juniors and seniors) scored higher than freshmen. No differences emerged on other demographic variables, (e.g., ethnicity, age, and generational status). The need for additional research is discussed.

Introduction

Greenberger, Lessard, Chen, and Farruggia (2008) described academic entitlement as “expectations of high grades for modest effort and demanding attitudes towards teachers” (p. 1193). Although there is a growing body of research literature regarding academic entitlement, there remains limited research exploring its relationship with student demographic attributes. For gender, research consistently indicates, however, that men score higher on academic entitlement than women (e.g., Chowning & Campbell, 2009; Ciani, Summers, & Easter, 2008; Greenberger et al., 2008). Regarding age, both Greenberger et al. (2008) and Jeffres, Barclay, and Stolte (2014) found that there was no significant relationship between students’ age and academic entitlement. In terms of ethnicity, Greenberger et al. (2008) found that Asian students scored significantly higher on entitlement than Caucasians, but Sohr-Preston and Boswell (2015) found no differences between ethnic groups (i.e., Caucasian, African American, Asian, Hispanic/Latino, and Native American).

There also is limited research on the relationship of academic entitlement with academic demographic variables. Regarding year in college, Ciani et al. (2008) found that seniors were higher on the Entitlement Negotiations subscale compared to freshmen. Similarly, Chowning and Campbell (2009) reported that first year students scored significantly lower than upperclassmen on the Externalized Responsibility subscale. Boswell (2012), however, found no significant differences in entitlement based on college year. For generational status (i.e., parental college education), several studies (e.g., Boswell, 2012; Greenberger et al., 2008; Sohr-Preston & Boswell, 2015) found no differences in academic entitlement between first generation and non-first-generation college students. Finally, Greenberger et al. (2008) found some evidence that foreign-born students had higher scores on academic entitlement than students born in the United States.

Due to this limited research, the present study explored the relationship between academic entitlement and student demographic factors. Specifically, this study explored the relationship of
academic entitlement with demographic variables (i.e., gender, age, and ethnicity) and with academic demographic variables (i.e., generational status, major, year in school, and international education).

Method

Participants and Procedure

The current sample consisted of 272 (96 men, 176 women) undergraduate students enrolled in a general psychology class. Most of the participants (92%) were between 18 to 21 years old and in their first semester of college (53%). In this study, 58% of the participants identified themselves as Caucasian, 29% as African American, 6% as Latino/Hispanic, and 8% as being of other ethnicity. The participants were recruited from the psychology research pool, and all received course or extra credit for their participation. In groups, participants individually completed a lengthy survey. For the purpose of this study, only questions related to demographic variables and academic entitlement were examined.

Measures

**Demographic information.** Participants responded to three demographic items: gender (i.e., male or female), age, and ethnicity. For age, participants were asked to choose among the following age groups: 18-21, 22-25, 26-29, or 30 & over. For statistical analyses, ages were categorized into two groups: 18 to 21 and 22 or older. For ethnicity, the options were African American, Caucasian, Latino/Hispanic, and Other. The Other ethnicity group was not included in further analyses.

**Academic demographic variables.** Participants responded to four academic demographic variables including generational status (i.e., “are you a first generation college student?”) and major (i.e., psychology major or nonpsychology major). Regarding year in school, the options were 1st semester freshman, 2nd semester freshman, sophomore, junior, and senior. In the analyses, 1st and 2nd semester freshmen were grouped as freshmen; sophomores, juniors, and seniors were grouped as upperclassmen. The fourth variable concerned international education. Participants were asked to indicate whether they primarily completed each educational level (i.e., elementary, middle school, and high school) within the United States or outside of it. Those who had primarily completed any of the three educational levels outside the United States were categorized as having international education.

**Academic entitlement.** Developed by Greenberger et al. (2008), this scale has 15 items, which are rated on a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree). Examples of items include “Teachers often give me lower grades than I deserve on exams” and “A professor should be willing to lend me his/her course notes if I ask for them.” For this study, the Cronbach’s alpha was .79.

Results

To understand the relationship between the academic entitlement and demographic information (i.e., gender, age, and ethnicity), Satterthwaite t-tests and a one-way ANOVA were run. As seen in Table 1, a Satterthwaite t-test revealed that men were significantly higher on academic entitlement than women. No significant differences were found, however, based on age (see Table 1).
Furthermore, a one-way ANOVA indicated that academic entitlement was not statistically significantly different among African Americans ($M = 36.53$, $SD = 7.84$), Caucasians ($M = 34.68$, $SD = 8.39$), and Latinos/Hispanics ($M = 35.50$, $SD = 6.80$), $F(2, 245) = 1.34$, $MSE = 66.11$, $eta^2_p = .011$, $p = .26$.

Table 1

Descriptive Statistics and t-tests for Dependent Variables and Academic Entitlement

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>df</th>
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<td><strong>Gender</strong></td>
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<tr>
<td>Male</td>
<td>94</td>
<td>37.45</td>
<td>8.28</td>
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<tr>
<td>Female</td>
<td>175</td>
<td>34.56</td>
<td>7.92</td>
<td>183.10</td>
<td>2.77**</td>
<td>0.36</td>
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<td><strong>Age</strong></td>
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<tr>
<td>18 – 21</td>
<td>247</td>
<td>35.69</td>
<td>8.19</td>
<td>25.38</td>
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<td>0.19</td>
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<tr>
<td>22 and older</td>
<td>22</td>
<td>34.18</td>
<td>7.74</td>
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<tr>
<td>Freshman</td>
<td>173</td>
<td>34.64</td>
<td>8.05</td>
<td>195.52</td>
<td>-2.54*</td>
<td>-0.32</td>
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<tr>
<td>Upperclassman</td>
<td>96</td>
<td>37.25</td>
<td>8.09</td>
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<td>254</td>
<td>35.30</td>
<td>8.08</td>
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<td>-1.91</td>
<td>-0.56</td>
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<tr>
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<td>40.00</td>
<td>8.69</td>
<td>13.09</td>
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<td><strong>First Generation</strong></td>
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<tr>
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<td>241</td>
<td>35.73</td>
<td>8.26</td>
<td>36.13</td>
<td>1.08</td>
<td>0.20</td>
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<tr>
<td>Yes</td>
<td>28</td>
<td>34.18</td>
<td>7.08</td>
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*Note.* Because equality of variance was not assumed, the Satterthwaite t-tests were used.  
*p < .05.  **p < .01.

Satterthwaite t-tests were used to explore the relationship between academic entitlement and academic demographic variables (i.e., year in school, generational status, international education, and majors). Results indicated a significant difference in academic entitlement for year in school with upperclassmen (i.e., sophomores, juniors, and seniors) being higher on academic entitlement than freshmen (see Table 1). Additionally, as seen in Table 1, generational status, international education, and being a psychology major were not related to academic entitlement.

**Discussion**

The findings of this study are consistent with previous research (e.g., Ciani et al., 2008; Greenberger et al., 2008; Sohr-Preston & Boswell, 2015) in indicating that academic entitlement is related to demographic and academic demographic variables. Consistent with previous research (e.g., Greenberger et al., 2008; Sohr-Preston & Boswell, 2015), men scored significantly higher than women on academic entitlement. Various theories have been proposed to explain this gender difference. For example, Boswell (2012) proposed that greater academic entitlement in men might
be attributed to gender differences in socialization. Specifically, she stated that men are more socialized to expect to be successful. Further, Sohr-Preston and Boswell (2015) theorized there may be gender differences in the pathway to academic entitlement. They suggested, for example, that family functioning may play a more important role in the development of academic entitlement in women.

In the current study, another significant difference was found for college year, which indicated that upperclassmen scored higher on academic entitlement than freshmen. This finding is consistent with previous research. Chowning and Campbell (2009) found that upperclassmen were higher than freshmen on the Externalized Responsibility subscale, and Ciani et al. (2008) found that seniors scored higher than freshmen on the Entitlement Negotiations subscale. In explaining this difference, Ciani et al. (2008) suggested that upperclassmen are more likely to believe they have the right to negotiate with a professor, which may be an adaptive strategy.

Consistent with some previous research, the present study did not find significant differences in academic entitlement for age (e.g., Jeffres et al., 2014) and ethnicity (Sohr-Preston & Boswell, 2015). Also, academic demographic variables, such as generational status and international education, were not related to academic entitlement. Given the mixed findings in the field and the small magnitude of difference when differences were found, it appears that there may be other variables more central to the development of academic entitlement.

Despite its limitations (e.g., small sample; cross-sectional design; higher rate of female participants), this study illustrated the need to continue to explore how demographic variables relate to academic entitlement. Future research should explore the basis for gender differences in academic entitlement, such as by exploring the possible relation between gender socialization and academic entitlement. Further, with few exceptions (i.e., Sessoms, Finney, & Kopp, 2016), most studies (e.g., Chowning & Campbell, 2009) examining academic entitlement used a cross-sectional design. Thus, to explore the relationship between academic entitlement and demographic variables (e.g., year in school and age), more longitudinal studies are needed.

References


Academic Advising Posters: A New Academic Advising Delivery System

Drew C. Appleby  
Indiana University-Purdue University Indianapolis  
Kevin J. Apple  
James Madison University  
Presented at: Southeastern Conference on the Teaching of Psychology  
For further information, contact: dappleby@iupui.edu

Academic advising enables students to identify, clarify, investigate, prepare for, and accomplish educational, career, and personal goals by providing them with opportunities to identify resources, understand options, and enhance self-awareness. Academic advice can be delivered in-person (e.g., one-on-one or in groups and classes), online (e.g., via websites, podcasts, or instructional platforms), or in print (e.g., in books, handouts, or brochures). This poster introduces a new online and print-based delivery strategy—the Academic Advising Poster (AAP)—and describes this strategy by answering the following what, who, where, when, why, and how questions about AAPs.

WHAT Is an AAP?

An AAP is a poster-size enlargement of a PowerPoint slide (or similar format) that has been created to enable advisees to identify, clarify, and accomplish educational, career, and personal goals by providing them with opportunities to discover resources, understand options, and enhance self-awareness. Some examples of the topics these posters cover are:

- An Online Career-Exploration Resource for Psychology Majors (resource)
- Academic Advising Resources in the Psychology Department (resource)
- Ways to Get the Most Out of Your Psychology Major (options)
- Field Placement Opportunities (options)
- What Is Your Procrastination Style? (self-awareness)
- Why Your Freshman Year in College Will NOT Be 13th Grade (self-awareness)

WHO Can Benefit from AAPs?

AAPs can be created to advise a variety of students on a variety of topics.

- High school students preparing for the transition to college
- College freshmen who are learning how to adapt to the culture of higher education
- Students who want to understand the requirements to graduate with a specific major
- Students who want to become familiar with their department’s events and opportunities
- Students who want to prepare themselves for employment after graduation
Students who want to prepare themselves for graduate school

WHERE Can AAPs Be Displayed?

Advising posters can be displayed in a variety of both physical and cyber locations.

- Areas of high student traffic
- Academic advising offices
- Classrooms where topics of the posters are taught (e.g., first-year seminars and capstones)
- Department websites
- Online classroom management platforms (e.g., Blackboard or Moodle)

WHEN Should AAPs Be Posted?

AAPs should be posted during periods when students have needs for specific information.

- During orientation to help students/parents understand department resources and opportunities
- Before and during regularly occurring, high volume advising periods such as class registration
- During periods when students have specific advising questions (How do I apply to graduate school?)
- Before important deadlines (e.g., for dropping/adding classes or registering for graduation)
- Well in advance of times during which students need to make important decisions and prepare to engage in complex sequences of goal-related behaviors
  - identifying potential career goals and engaging in the job-search process
  - creating cover letters, resumes, and curriculum vitae
  - selecting graduate programs that fit their values, goals, and strengths
  - selecting appropriate authors of strong letters of recommendation

WHY Are AAPs Effective, Efficient, and Economical?

AAPs are effective, efficient, and economical advising delivery devices for several reasons.

- Their messages are visible 24/7 to students, and they can be reused year-after-year.
- Students can decide to read only those posters whose content is relevant to them.
- Their appearance or content can be easily modified or updated.
- They can be created by faculty, staff, administrators, or students at relatively low cost.
- Those whose content pertains to all students can be shared with other academic departments.

HOW Can the Effectiveness and Value of AAPs Be Assessed?
Surveys can determine the extent to which students are aware of, read, and value AAPs. For example, a 2015 survey of the AAPs displayed in the James Madison University Psychology Department produced the following results from the 359 students who responded to it.

- 81% said they noticed the posters.
- 77% of those who said they noticed the posters also said they read them.
- 80% of those who reported they read the posters agreed or strongly agreed that at least one of the posters was helpful.

Acknowledgements: We would like to thank Colleen Johnson and Michael Stoloff for their assistance with this project.

**Academic Advising Posters**

Please feel free to modify and use my posters in any way that will increase student success at your institution. Enlarging them to 18x24 appears to be a reasonable size for both viewing and posting, although some contain smaller fonts that may require printing in a larger size to increase readability.
The following poster is based on a letter I wrote to explain the two types of academic advising that were available in my department when I served as its Director of Undergraduate Studies. Although I wrote the letter to the students in my department, it also served to help my colleagues—and others throughout the university—to understand how academic advising was defined and delivered in the IUPUI Psychology Department.

An Open Letter to Students About Academic Advising in the IUPUI Psychology Department
Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis)

Dear IUPUI Psychology Majors and Minors,

The IUPUI Department of Psychology is dedicated to providing academic advising of the highest quality. I want to help you understand and take full advantage of our advising program by explaining the two types of advising that are available in our department and encouraging you to take advantage of both.

I am in complete agreement with the National Academic Advising Association’s statement that academic advising is “a teaching and learning process.” I define academic advising as an active, teaching-learning partnership between advisors and advisees that enables advisees to (a) satisfy their graduation requirements in a timely manner; (b) identify, clarify, and investigate their educational and career options; and (c) acquire the knowledge, skills, and characteristics necessary to accomplish their post-baccalaureate goals. There are two types of academic advising, prescriptive and developmental, and our program combines these in a manner that will help you accomplish all three of the tasks in the preceding definition. The specific ways in which these two types of advising will enable you to accomplish your goals are described below.

Prescriptive Advising
This is the type of advising with which most people are familiar. It consists of a interaction between an academic advisor and student in which the advisor teaches the student about what is required to graduate with a bachelor’s degree in psychology. This is the type of advising that enables you to know
• what classes you must take to satisfy your degree requirements and
• when to enroll in these classes so you can graduate in a timely manner.

Developmental Advising
However, there is much more to an undergraduate education than simply completing a set of required classes in the correct order. A second—and perhaps even more important—type of advising is developmental advising, which provides you with opportunities to collaborate with your advisor in order to discover
• who you are by identifying your strengths, weaknesses, interests, values, and goals;
• where your education can take you in the future as you investigate the careers and graduate programs you can enter with a bachelor’s degree in psychology; and
• how the curricular and extracurricular components of your undergraduate education can help you develop the knowledge, skills, and characteristics you will need for success on-the-job or in graduate school.

The combination of these two types of academic advising will enable you to not only earn a college degree in a timely manner, but to also become a savvy psychology major, an educated person, a successful member of the workforce, and a lifelong learner who is quite capable of answering the challenging “what, when, who, where, and how” questions that are so puzzling to so many other students. The goal of our advising program is to provide a collaborative atmosphere in which you and your advisor can work together to create a plan for your undergraduate education that will prepare you to accomplish your educational, career, and life goals. Please accept my invitation to become an active partner in this teaching-learning process.

Very sincerely yours,

Drew C. Appleby
Professor of Psychology
Director of Undergraduate Studies in Psychology

I designed the following three posters to promote success in all students. Thus, they can be utilized in any academic department or school-wide program (e.g., a First Year Experience seminar).
Why the Freshman Year in College Is NOT 13th Grade

Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis)

According to the most recent data from American College Testing’s College Retention and Graduation Rates (http://www.act.org/research/policycenter/reports/graduation.html), 32% of all freshmen enrolled in American colleges and universities drop out before their sophomore year. The causes for this appalling statistic have been researched extensively, and they fall into four categories: post-academic preparation, inadequate financial support, lack of campus engagement, and poor educational instruction. While these reasons certainly account for a substantial percentage of the high drop-out rate, during my 40-year career as a college professor, I have observed that many of my academically well-prepared, financially well-supported, actively engaged, and highly motivated freshmen failed to return for their sophomore year as a result of the culture shock they experienced when they were unaware of the very real and very important differences that exist between the academic culture of high school and college. As a result of this unawareness, they treated their freshman year in college as if it were their 13th grade in high school and therefore failed to adapt successfully to their new academic environment because they were either unable or unwilling to change the behaviors, attitudes, and strategies that helped them succeed in high school, but which caused them to fail in college. The strategy developed to help my students overcome this challenge was to perform a qualitative research project in which I asked students in one of my freshmen learning communities at the end of their first semester to identify the most important ways in which their educational environment had changed from high school to college. I performed a content analysis on these answers and the seven categories of differences described in the following paragraphs emerged, each of which is followed by a representation of sample of students’ responses. This last step in my strategy was to create a PowerPoint from my results and present it early enough in the following semester so my current students could benefit from the wisdom of their predecessors before it was too late. My strategy appeared to work because the last two classes I taught before I retired received the TRAC Freshman Learning Community Award for the best presentation from first to second semester. If you would like to receive my PowerPoint and a handout I created to accompany it, contact me at dappleby@iu.edu.

Academic Expectations Are Much Higher.

In high school, academic expectations are set by the teacher. If they have not been met, the teacher does not feel that you have done your best, and you receive a lower grade. In college, academic expectations are much higher, and academic performance generally grades your grade.

- "I was surprised by how much better people work. In high school, if I worked hard, I was one of the 'smart' people who never had to read the material before class, study for a test, or even worry about grades. In college, I was responsible for my own education, and it was often more challenging than I expected."
- "In high school, I was expected to do the work if I wanted a good grade, but in college, I was responsible for it."
- "In high school, I never had to worry about assignments, deadlines, or grades. In college, I was responsible for planning my time and managing my workload.

Student-Teacher Contact Is Less Frequent and More Formal.

In high school, student-teacher contact is closer and more frequent in classes that usually meet five days a week. Teachers are more accessible, and students are usually required to attend all of their class periods. In college, classes are less frequent, and students are usually only required to attend one class period per day. In high school, teachers often have personal relationships with their students, and students feel more comfortable discussing personal issues with their teachers. In college, teachers are more formal and professional, and students are expected to treat the teacher as a respected authority figure.

- "In high school, I could always go to my teachers for help, but in college, I had to make appointments to see my professors.
- "In high school, I could often get help from my teachers after class, but in college, I had to make appointments to see my professors.
- "In high school, I could often get extra help from my teachers, but in college, I had to make appointments to see my professors.

The Syllabus Replaces Teachers’ Daily Reminders.

In high school, the teacher prepares a lesson plan and uses it to tell students how to prepare for the next class period. In college, the instructor distributes a syllabus at the beginning of the semester with an outline of the course, the topics that will be covered, and the assignments that will be given. In high school, the instructor provides daily reminders of the upcoming topics and assignments. In college, the instructor provides a syllabus that contains the topics that will be covered and the assignments that will be given.

- "In high school, the teacher would remind us of upcoming assignments and exams, but in college, I had to check the syllabus to stay on track.
- "In high school, the teacher would tell us what was due the next day, but in college, I had to check the syllabus.
- "In high school, the teacher would remind us of upcoming assignments and exams, but in college, I had to check the syllabus to stay on track.

Students Must Be More Independent and Responsible.

In high school, parents, teachers, and counselors have a significant role in guiding and supporting students. In college, students are responsible for making their own decisions and taking responsibility for their education. Students must learn to be independent, take charge of their own education, and be responsible for their own learning.

- "In high school, my parents helped me with my homework, but in college, I had to do it on my own.
- "In high school, my parents helped me with my homework, but in college, I had to do it on my own.
- "In high school, my parents helped me with my homework, but in college, I had to do it on my own.

Students Are Treated More Like Adults Than Children.

In high school, teachers often contact parents of students who are having a difficult time. In college, students are treated more like adults and are encouraged to make decisions for themselves. Although parents may still be involved in the decision-making process, students are expected to take responsibility for their own education.

- "In high school, my parents were involved in my education, but in college, I had to take responsibility for my own education.
- "In high school, my parents were involved in my education, but in college, I had to take responsibility for my own education.
- "In high school, my parents were involved in my education, but in college, I had to take responsibility for my own education.

Students Must Learn to Prioritize Their Activities and Manage Their Own Time.

In high school, teachers often assign homework that must be completed by a certain date. In college, students are responsible for managing their own time and prioritizing their activities. Students must learn to manage their own schedule, set priorities, and make decisions about how to use their time effectively.

- "In high school, my teachers assigned homework that I had to complete, but in college, I had to manage my own time and prioritize my activities.
- "In high school, my teachers assigned homework that I had to complete, but in college, I had to manage my own time and prioritize my activities.
- "In high school, my teachers assigned homework that I had to complete, but in college, I had to manage my own time and prioritize my activities.

The article whose results are summarized in this poster can be accessed online from the following reference:

# Goofus and Gallant Go to College

Drew C. Appleby, PhD [Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis]

This poster provides you with an opportunity to engage in some honest self-evaluation that can increase your probability of being a successful college student. If you read Highlights magazine when you were a child, you probably remember Goofus & Gallant, a cartoon that featured two boys who responded very differently when they were placed in the same social situation.

Invariably, Gallant acted in a generous, responsible, and courteous manner while Goofus behaved in an selfish, irresponsible, and rude fashion. This cartoon never showed the consequences of these two very different interpersonal styles; it simply illustrated the appropriate and inappropriate ways of interacting with others. Its creator, child psychologist Gary C. Cleveland Myers, assumed that children would be able to decide for themselves which of these two styles would be more likely to produce positive (i.e., successful) outcomes in their lives, such as being trusted by adults, developing a positive reputation, and developing lasting friendships.

Although the world of college is far away from the school yard of Goofus and Gallant, it is still a place where your actions and attitudes can have a profound effect upon your success. Four decades of college teaching exposed me to thousands of both successful and unsuccessful students. As my career progressed, I began to detect important differences between these two groups, and I decided to document these differences—just as Myers had done with children—and then share them with my students before their first college class. Just as children see a little of both Goofus and Gallant in themselves, it is likely that you will discover some of your behaviors, attitudes, and ambitions in both the successful and unsuccessful student columns below. Your strategy should be to make a solemn pact with yourself to continue to engage in your success-producing behaviors and to do your very best to change those that could cause you to be unsuccessful. The take-home lesson from this poster is that, while no one is perfect, everyone can benefit from a good dose of self-awareness and the willingness to change in order to succeed.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Successful Students (SSs)</th>
<th>Unsuccessful Students (USs)</th>
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<tbody>
<tr>
<td><strong>Alignment of Ambition</strong></td>
<td>51% have clear goals; they set priorities and work toward them. They plan their days and weeks, and they are committed to their classes and their responsibilities. They believe that their primary purpose for attending college is to learn and that they are motivated in the internal long term.</td>
<td>63% are uncertain as to what they want to do; they also want to be doctors, lawyers, and business managers, but they possess self-motivated students. They find it difficult to fulfill these desires because they are unsure of how they can fulfill their education to acquire them. Their belief in their future is uncertain because they believe that their education is not the key to success. They lack motivation, and they do not believe in their ability to succeed.</td>
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<td><strong>Attendance</strong></td>
<td>58% are punctual, they arrive early for class, and they do not miss class. They take their academic responsibilities seriously and make thoughtful comments about their classes. They appear to value and enjoy the learning process.</td>
<td>90% are sporadic in their attendance. They do not value their academic responsibilities and do not make thoughtful comments about their classes. They appear to value and enjoy the learning process.</td>
</tr>
<tr>
<td><strong>Preparation</strong></td>
<td>53% show more interest in their classes and their subject matter. They work hard to understand the subject matter, and they make thoughtful comments about their classes. They appear to value and enjoy the learning process.</td>
<td>54% show less interest in their classes and are less motivated to understand the subject matter. They do not make thoughtful comments about their classes. They appear to value and enjoy the learning process.</td>
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<tr>
<td><strong>Curiosity</strong></td>
<td>57% are able to connect their past experiences with the present, and they use their experiences to help develop their understanding of new experiences. They are willing to learn new things and to develop new interests.</td>
<td>83% are unable to connect their past experiences with the present, and they use their experiences to help develop their understanding of new experiences. They are willing to learn new things and to develop new interests.</td>
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<tr>
<td><strong>Comprehension</strong></td>
<td>56% are able to think about their past experiences in the present, and they use their experiences to help develop their understanding of new experiences. They are willing to learn new things and to develop new interests.</td>
<td>85% are unable to think about their past experiences in the present, and they use their experiences to help develop their understanding of new experiences. They are willing to learn new things and to develop new interests.</td>
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<tr>
<td><strong>Attitude</strong></td>
<td>51% have a positive attitude. They see the determinations and self-discipline necessary for success, and they have a positive attitude toward the requirements of their classes and other things they are not specifically required to do (e.g., doing 15 minutes of homework each day).</td>
<td>85% have a negative attitude. They see the determinations and self-discipline necessary for success, and they have a positive attitude toward the requirements of their classes and other things they are not specifically required to do (e.g., doing 15 minutes of homework each day).</td>
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<tr>
<td><strong>Talent</strong></td>
<td>50% have some special talent. It is not exceptional musical ability, extraordinary organizational skills, or exceptional creativity, but a talent that is shared by their classmates. This is not a talent that the teacher is teaching, but a talent that is shared by their classmates.</td>
<td>89% have no special talent. It is not exceptional musical ability, extraordinary organizational skills, or exceptional creativity, but a talent that is shared by their classmates. This is not a talent that the teacher is teaching, but a talent that is shared by their classmates.</td>
</tr>
<tr>
<td><strong>Goals</strong></td>
<td>The primary goal of SSs is to acquire the knowledge, skills, and attitudes that will enable them to succeed in their chosen careers. They have a clear idea of what they want to do, and they are motivated in the internal long term.</td>
<td>The primary goal of USs is to avoid classes. They want to get through classes in order to get out of school. They are not motivated in the internal long term.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>57% earn above-average grades. They learn from their teachers’ feedback, and their performance increases steadily as they understand what is expected of them, and they benefit from the information and skills they acquire in their classes. From their teachers’ perspective, they work in a pleasurable way to grade.</td>
<td>89% earn below-average grades. They have a vague idea of what is going on, but their grades are not measured in their classes. The best successful students appear to be the truly lazy, who do not seem to care—either from the standpoint of teacher or student—as if they are trying to overcome their lack of understanding.</td>
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</tbody>
</table>
# What Is Your Procrastination Style?

Drew C. Appleby, PhD
Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis

Procrastination is perhaps the most damaging characteristic that college students possess. It robs them of good grades and it prevents them from developing and/or maintaining productive and healthy relationships with their teachers, families, friends, and partners. Procrastination has many causes, some are external (e.g., situations involving work overloads) and some are internal (e.g., personality characteristics). The following six types of procrastinator personalities (described by Dr. Linda Sapadin in her excellent book *How to Beat Procrastination in the Digital Age: 6 Unique Change Programs for 6 Personality Styles*) are examples of internal causes. Dr. Sapadin suggests how those with these types of personalities can lessen the tendency to procrastinate, and these suggestions can act as helpful guidelines for changing the way you think and behave if you are a procrastinator. However, these suggestions are easier said than done. If you are a procrastinator, then you already know that you possess an amazing ability to avoid or sabotage solutions designed to help you overcome your tendency to procrastinate. So, if you really are a procrastinator, be prepared for one part of you to say, “Yes, this really pertains to me, and I absolutely must do something about it before it ruins my education and my life,” and for another part of you to say, “I agree, but I can put it off until tomorrow.” If you would like to learn about Dr. Sapadin’s strategies to overcome these procrastination styles, you can order a copy of her book on Amazon.com. But do yourself a favor. If you are a procrastinator, order it *right now* or you will never get around to it.

## The Perfectionist

The Perfectionist truly believes that her value as a human being is at stake every time she does something. The world is an all-or-nothing place for the Perfectionist, which means that if the project she is working on fails, then she is a failure too. Her deepest, darkest fear is that she does not measure up to others, which may have its origin in a parent or teacher who looked at the A’s on her term paper and asked what happened to the other two points. Procrastination allows the Perfectionist to postpone judgment because if she does not play, then she cannot lose.

## The Overdoer

The Overdoer is constantly busy, so her procrastination is often secret known only to herself. The Overdoer is a people-pleaser who possesses an extraordinarily strong need to help others so they will like, appreciate, depend on, and/or love her. It would seem that the Overdoer is guaranteed to succeed in school and on the job because she is so willing to do her share and help others to do theirs. However, lurking behind that “I can do it all” exterior is a person who has lost the balance between school and fun, work and leisure, and the professional and the personal. This leads her to take on more responsibility than she can handle in a competent manner, and soon she is disappointing those who want so desperately to please by producing mediocre work and then having to make up excuses to explain why her work is late and/or substandard.

## The Worrier

The Worrier has an overpowering need to feel secure, but she pays an extremely high price for her security. Her most fearsome enemies are risk and change, which paralyze her with dread because their anticipated negative consequences push her dangerously outside her narrow zone of mental comfort. She constantly expects the worst and creates an endless stream of negative “what if’s” that predispose her to assume that all actions involving risk or change will produce disastrous outcomes. For example, what if I apply to graduate school and then think better of it because it’s too hard? Or what if I finally work up the courage to leave this terrible job, and then I can’t find another one? Or what if I marry my boyfriend, and then he dies? The Worrier has Better Safe Than Sorry tattooed on her soul. Worriers were often raised by parents who took care of all their needs and who believed their children could not survive in this terribly dangerous world without constant parental protection and warnings. Worriers experience less joy and fun in their lives than other people and often suffer from burnout, but for the Worrier, these are small prices to pay if they allow her to avoid the terrible anticipated consequences of risk or change.

## The Defier

The Defier harbors a deep resentment toward authority and has also learned that the safest way to rebel against authority figures such as teachers, bosses, and parents is to use passive, rather than active, aggression. When asked to perform a task, a Defier will almost always say “sure, I can do that,” but then “forgets” to do what he promised or produces work that is either poor in quality, late, or both. Defiers use the same strategy in their personal relationships by promising, but failing to meet the needs of their friends, family, and partners. This withholding strategy provides the Defier with a sense of power over others, but unfortunately this approach often leaves the most important people in his life feeling disappointed, betrayed, manipulated, and used. When this strategy produces its inevitable negative consequences (e.g., being fired or the end of an important relationship), the Defier consoles himself by believing that his situation is the inevitable fate of a person of great integrity who has been forced to exist in an artificial world populated by shallow, insincere, hypocritical, and unfair others. He is unhappy, but because of the inherent unfairness of the world, he has every right to be. He is the noble victim.
I created the following nine posters to enable psychology majors to accomplish Goal 5 (Professional Development) of APA’s Guidelines for the Undergraduate Psychology Major: Version 2.0.
The Blessings and Curses of Being a Psychology Major

Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis)

The Blessings

The first blessing of psychology majors is their ability to prepare themselves for a remarkably wide variety of careers because the psychology curriculum provides so many opportunities to develop the seven job-related skills (i.e., communication, collaboration, critical thinking, professionalism, self-management, technological, and ethical reasoning) that employers value most during the hiring process. These skills also help gain positive on-the-job outcomes (e.g., new responsibilities and promotions) and avoid negative on-the-job outcomes (e.g., reprimands, discipline, and termination). Psychology majors’ second blessing is the knowledge they acquire as they learn about the causes and consequences of human behaviors and mental processes, which are perhaps the most interesting, complex, and important topics addressed in higher education. The captivating nature of psychological knowledge attracts large numbers of students to the major, produces more than 100,000 bachelor’s degrees in psychology, each year, and prepares psychology majors to enter an astonishingly wide range of careers that deal with people and their interactions with each other and their environments.

The Curses

Unfortunately, there are downsides (i.e., curses) to these two blessings. The first curse is the prospect of making a decision from such a massive set of career choices is daunting for many psychology majors. Unlike their education-, accounting-, and nursing-major peers who know exactly what they will become when they graduate (i.e., teachers, accountants, and nurses), only a small percentage of psychology majors continue their education, earn graduate degrees, and become psychologists. The rest enter the workforce immediately after graduation in diverse fields such as business, advertising, human resources, social services, health care, law enforcement, technology, education, fitness, recreation, and the military. The second curse is that psychology is a very popular major. This may initially appear to be a blessing, but it also means that a bachelor’s degree in psychology places psychology majors at risk in the job market simply because so many are competing with one another for jobs. If psychology majors lack the ability to prove they possess a strong set of job-related skills, they risk job dissatisfaction, the disturbing belief that their jobs are not related to their major, and the possibility of having to accept a job that does not require a bachelor’s degree.

Savvy and Not-So-Savvy Psychology Majors

The experience of teaching, advising, and mentoring thousands of psychology majors during my 40-year academic career has led me to conclude that this group is composed of two subgroups: occupationally savvy students and occupationally not-so-savvy students. These subgroups approach their professional futures in profoundly different ways. Occupationally savvy students adopt a proactive, two-stage approach to their collegiate experiences by deliberately using it as an opportunity to explore, identify, and refine their career goals. They create and follow plans to acquire the skills they will need to attain their post-baccalaureate aspirations. In other words, they intentionally use their undergraduate educations to decide what they want to become and then begin a systematic process to support themselves in the image of that person. On the other hand, occupationally not-so-savvy students live their undergraduate lives under the ill-fated illusion that they are both entitled to and will acquire a job after they graduate simply because they possess a college diploma. These are the students who take courses to “get them out of the way,” avoid challenging classes in which they could strengthen important career-enhancing skills (e.g., writing, public speaking, and math), choose easy rather than skill-building electives, and pass extracurricular opportunities because they believe they are a waste of time, rather than as golden opportunities to develop valuable collaboration and leadership skills.

How to Maximize Your Blessings and Minimize Your Curses

So how can you maximize your blessings and minimize your curses? I recommend becoming a savvy psychology major by accomplishing the following three tasks.

1. Choose a broad occupational field in which your work would be a good match for your interests, values, and goals.
2. Examine several careers in this field and choose one whose description makes you excited about obtaining it.
3. Investigate this career carefully to determine the skills and knowledge you will need to succeed in it.

I have created an Online Career Exploration Resource for Psychology Majors to help you accomplish these tasks that consists of more than 2,000дуल you can use to explore 280 careers (organized into 15 broad occupational fields) that psychology majors can prepare to enter. Persons employed in 55 of these careers are psychologists who must hold the appropriate graduate degree. Persons employed in the remaining 224 psychology-related careers (that require the demonstration of psychological knowledge and skills, but which do not carry the title of psychologist) are divided almost equally into two categories: (1) those that can be entered with a bachelor’s degree and (2) those that require a graduate degree. To access this resource, go to http://www.openpsych.org/Resources/Documents/download.pdf.

Who Can Help You?

If your career requires you to earn a degree beyond the bachelor’s, seek the aid of a faculty mentor who can help you plan the remainder of your college career so you can develop the skills you will need to succeed in graduate school and the documents you will need to apply successfully to a graduate program (i.e., a curriculum vita, a personal statement, and strong letters of recommendation from appropriate people). If you can earn your chosen careers with a bachelor’s degree, visit a professional employment counselor in your department or your university’s Career Center who can help you prepare for your career and create the necessary documents and information you will need to be hired (i.e., a resume, a cover letter, and effective answers to challenging interview questions).

When Should You Begin This Process?

Begin this process now, not tomorrow, not at the end of the semester, and absolutely not until after you graduate. Just remember the 100,000 other psychology majors who will graduate with you. They all want good jobs too, but until they read this poster, you will be the only one who has my online resource and a strategy to use this resource to identify, plan for, and obtain the career of your choice.

The publication upon which this poster is based can be accessed at http://www.psychology.com/2012Tech/All/Appley/bk277373x641k
What Can I Do With a Bachelor’s Degree in Psychology?
Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University Purdue University Indianapolis)

Psychology majors often ask, “What can I do with a bachelor’s degree in psychology?” The purpose of the resource described in this poster is to provide an answer to this question. This resource consists of 300 careers that psychology majors can pursue to enter, which are organized into the 13 broad occupational categories highlighted in red, and those requiring a graduate degree are printed in green. Careers whose futures are promising because they are expected to grow rapidly in the next several years, will have large numbers of job openings, or are new and emerging occupations are followed by ●. Persons employed in 50 of these careers are psychologists who hold the appropriate graduate degree. The remaining 244 psychology-related careers (i.e., those that require the demonstration of psychological knowledge and skills, but which do not carry the title of psychologist) are divided almost equally into two categories: those that can be entered with a bachelor’s degree and those that require a graduate degree. Each career is followed by a set of hotlinks to websites containing information such as required skills and knowledge, work activities and environment, necessary preparation, and pay scale. Students can access this resource at http://teachpsych.org/resources/Documents/upep/2010/Introduction%20To%20Careers%20in%20Professional%20Development%20of%20A%20Guideline%20for%20the%20Undergraduate%20Psychology%20Major%20by%20Drew%20C.%20Appleby%20Emeritus%20Professor%20of%20Psychology%20at%20Indiana%20University%20Purdue%20University%20Indianapolis.pdf. Faculty, advisors, and administrators can use this resource in classes, advising sessions, and departmental websites to help psychology majors begin the process of accomplishing Goal 3: Professional Development of APA’s.”
# Occupations For Psychology Majors With a Bachelor’s Degree

Drew C. Appleby, PhD (Professor Emeritus of Psychology, IUPUI)

Teaching, advising, and mentoring thousands of psychology majors during my 40-year career helped me to identify and understand their career-preparation dilemmas. I discovered that the greatest challenge faced by my students who planned to enter the workforce with a bachelor’s degree was composed of three parts: (1) deciding upon a broad occupational area in which they would like to work (e.g., business, health care, or social service); (2) identifying specific jobs in that area that would best fit their unique set of skills, values, and interests; and (3) creating and carrying out a plan to prepare themselves to enter and succeed in those careers. The authors of APA’s most recent revision of its Guidelines for the Undergraduate Psychology Major also recognized this challenge and issued a strong recommendation to undergraduate psychology programs to help their students develop more meaningful professional direction by acquiring an understanding of the careers in which people with backgrounds in psychology are typically employed. In response to this challenge, I created a resource titled an Online Career-Exploration Resource for Psychology Majors (http://www.teachpsych.org/resources/Documents/appleyb.pdf and http://teachpsych.org/careers). This resource consists of more than 2,400 hotlinks that can be used to explore 300 careers (organized into broad occupational categories) that psychology majors can prepare to enter. Persons employed in 30 of these careers are psychologists who must hold the appropriate graduate degree. Persons employed in the remaining 244 psychology-related careers (that require the demonstration of psychological knowledge and skills, but which do not carry the title of psychologist) are divided almost equally into two categories: those that can be entered with a bachelor’s degree and those that require a graduate degree. The 12 boxes below contain the broad occupational areas and specific careers in these areas that psychology majors can prepare to enter with a bachelor’s degree.

This poster can serve as a career-planning “starting point” that will provide you with a manageable introduction to my 81-page resource. Once you have used this poster to identify an occupation you would like to enter—and have utilized the resource’s hotlinks to discover the skills and knowledge this career requires—your next step should be to make an appointment with an academic advisor in your department or a career counselor in your university’s Career Center. The purpose of this meeting should be to collaborate with this person to create a plan that will enable you to enroll in the classes and engage in the extracurricular activities (e.g., internships, service learning, and leadership opportunities) that can provide you with opportunities to develop the knowledge and skills you will need to prepare for your chosen career. The next step will be to carry out this plan, and continue to work with your advisor/counselor to create the necessary documents and information you will need to be hired (e.g., a well-written cover letter, an impressive resume, and effective answers to challenging interview questions).

## Business, Advertising, and Finance

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<tr>
<th>Occupation</th>
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<tbody>
<tr>
<td>Advertising Sales Agent</td>
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<td>Assistant Retail Manager</td>
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<td>Claims Supervisor</td>
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<td>Pharmaceutical Sales Representative</td>
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<td>Purchasing Agent</td>
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<td>Real Estate Appraiser</td>
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<td>Sales Representative</td>
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<td>Public Relations Representative</td>
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## Health and Medical Services

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<th>Occupation</th>
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<tr>
<td>Child Life Specialist</td>
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<td>Concierge, Health Care Facility Administrator</td>
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<td>Health Coach</td>
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<td>Health Information Specialist</td>
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<td>Hearing Aid Specialist</td>
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<td>Patient Resources and</td>
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<td>Reimbursement Agent, Pharmacy</td>
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<td>Sales Representative, Physical</td>
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<tr>
<td>Therapist Assistant, Psychiatric Aide Technician, Public Health Director, Public Health Social Worker</td>
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## Human Resources

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<td>Benefits Manager, Employment</td>
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<td>Worker, Disability Case Manager,</td>
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<td>Disability Support Worker</td>
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<td>Employee Health Maintenance</td>
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<td>Programs Specialist, Employee</td>
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<td>Relations Specialist, Employment</td>
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<tr>
<td>Intervention, Human Resources</td>
</tr>
<tr>
<td>Advisor, Job Analyst, Labor</td>
</tr>
<tr>
<td>Relations Manager, Labor Relations</td>
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<tr>
<td>Specialist, Occupational Analyst,</td>
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<tr>
<td>Personnel Recruiter</td>
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## Law and Law Enforcement

<table>
<thead>
<tr>
<th>Occupation</th>
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<tbody>
<tr>
<td>Administration Officer</td>
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<tr>
<td>Correctional Treatment Specialist</td>
</tr>
<tr>
<td>Corrections Officer, Criminal</td>
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<tr>
<td>Investigator, Delinquency</td>
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<tr>
<td>Prevention Social Worker, Action</td>
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<tr>
<td>Investigator, Immigration Officer,</td>
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<tr>
<td>Paralegal, Police Officer, Polygraph</td>
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<tr>
<td>Examiner, Probation, Parole</td>
</tr>
<tr>
<td>Officer, Security Manager, Sheriff,</td>
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<tr>
<td>Deputy Sheriff, Victims’ Advocates</td>
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</table>

## Education

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<tr>
<th>Occupation</th>
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<tbody>
<tr>
<td>Admissions Counselor, Alumnus</td>
</tr>
<tr>
<td>Director, Financial Aid Counselor,</td>
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<tr>
<td>High School Teacher, Preschool</td>
</tr>
<tr>
<td>Teacher, Special Education Teacher, Teacher for the Hearing Impaired, Teacher for the Learning Impaired, Teacher for the Visually Impaired, Vocational Training Teacher</td>
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## Social and Human Services

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<th>Occupation</th>
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<tbody>
<tr>
<td>Case Manager, Child Placement</td>
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<tr>
<td>Social Worker, Child Protection</td>
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<tr>
<td>Social Worker, Community Worker,</td>
</tr>
<tr>
<td>Crisis Intervention Counselor, Geriatric Social Worker, Group Worker, Social and Human Services Assistant</td>
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## Children and Families

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<th>Occupation</th>
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<tbody>
<tr>
<td>Child Welfare Protection Worker,</td>
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<tr>
<td>Placement Counselor, Social Worker,</td>
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<tr>
<td>Child Development Specialist, Child Life Specialist, Professional, Adoptive Parent, Biological Parent</td>
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## Sport, Fitness, and Recreation

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<th>Occupation</th>
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<tbody>
<tr>
<td>Activity Director, Aerobic</td>
</tr>
<tr>
<td>Instructor, Coach, Soccer</td>
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<tr>
<td>Fitness Trainer, Personal Trainer,</td>
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<tr>
<td>Recreation Leader, Recreation</td>
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<tr>
<td>Leader, Supervisor, Recreational</td>
</tr>
<tr>
<td>Therapist, Vocational Therapist,</td>
</tr>
<tr>
<td>Specialized, Recreational Therapist</td>
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## Technology

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<th>Occupation</th>
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<tbody>
<tr>
<td>Computer Programmer, Data Base</td>
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<tr>
<td>Administrator, Data Base Design</td>
</tr>
<tr>
<td>Analyst, Software Developer, Data</td>
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<tr>
<td>Base Analyst, System Analyist</td>
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## Counseling and Therapy

<table>
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<th>Occupation</th>
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</thead>
<tbody>
<tr>
<td>Crisis Intervention Counselor,</td>
</tr>
<tr>
<td>Rehabilitation Counselor, Substance Abuse Counselor, Physical Therapist, Assistant, Recreational Therapist</td>
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</tbody>
</table>

## Military

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<th>Occupation</th>
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<tbody>
<tr>
<td>Army, Air Force Officer, Army</td>
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<tr>
<td>Medical Behavioral Health Council</td>
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<tr>
<td>Officer, Veterinary Contact Service Representative, Veterans Counselor</td>
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## Other

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<tr>
<th>Occupation</th>
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<tbody>
<tr>
<td>Actor, Airline Pilot, Animal</td>
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<tr>
<td>Trainer, Animator, Interior</td>
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<tr>
<td>Designer, Life Coach, Event</td>
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<tr>
<td>Planner, Photographer, Research</td>
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<tr>
<td>Assistant, Technical Writer,</td>
</tr>
<tr>
<td>Volunteer Coordinator, Youth</td>
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21
Careers for Psychology Majors That Require a Graduate Degree

Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis)

Teaching, advising, and mentoring, like any occupation, are not limited to careers that require a graduate degree. Many psychology majors become teachers, counselors, or mental health professionals. However, not all careers in psychology require a graduate degree. Some careers require a master's degree, while others require a doctorate. This article will focus on careers that require a graduate degree.

Graduate degrees in psychology are offered in various specialties, including clinical, counseling, educational, industrial-organizational, and forensic psychology. Each specialty has its own set of requirements and opportunities. For example, clinical psychology requires completing a supervised internship, while educational psychology requires completing a practicum in a school setting.

Graduate degrees in psychology can lead to a variety of careers, including: psychology professors, school counselors, clinical psychologists, industrial-organizational psychologists, and forensic psychologists. These careers offer a wide range of opportunities, from working with individuals to conducting research.

Graduate degrees in psychology require a significant investment of time and resources. However, the benefits of pursuing a graduate degree in psychology are numerous. Graduates of psychology programs are well-prepared to work in a variety of settings, from hospitals and clinics to research institutions and corporations.

In conclusion, graduate degrees in psychology are a valuable investment. They offer a wide range of opportunities and can lead to rewarding careers. If you are interested in pursuing a graduate degree in psychology, it is important to research the different specialties and programs available to find the one that best suits your interests and goals.
How to Use Your College Education to Develop the Skills that Employers Value

Drew C. Appleby, PhD (Professor Emeritus of Psychology, IUPUI)

Employers value seven basic categories of skills in college graduates during the hiring process (Appleby, 2014) and the presence or absence of these skills also determines whether new college hires succeed or fail on-the-job (Gardner, 2007). The three purposes of this poster are to (1) make you aware of these seven basic skill categories, (2) help you identify the specific skills within each of these categories, and (3) provide you with career development advice about how to use both the curricular and extracurricular activities you participate in during your college education to develop and/or strengthen these skills. If you lack these skills when you enter today’s very competitive job market, you risk unemployment, job dissatisfaction, the disturbing realization that your job is not related to your major, and the very real possibility of having to accept a less well-paying job that does not require a bachelor’s degree. Once you become aware of these skills—and begin to collaborate with an academic or career advisor to create a semester-by-semester plan to attain them—you can begin the process of including them in your cover letter and resumes that will convince employers to hire you. Do not postpone your attempts to develop these skills. Begin this process now, not tomorrow, not at the end of this semester, and absolutely not until after you graduate when your undergraduate education has ended and it will be too late to use it to develop these skills.

Communication Skills
Writing, speaking, listening, and reading

It is important to understand that people employed in the positions to which most college graduates aspire must not only write and speak clearly, coherently, and persuasively, but must also be able to read, listen, and understand and act upon the information they read and hear. All students take basic communication courses such as English Composition and Speech. Unfortunately, many students do not understand the relevance of the skills taught in these courses to their professional futures and devote time simply to “get them out of the way” rather than to learn from them. Please take these courses seriously; without the skills they teach, you will be put at a disadvantage at any job in which you apply. Practice your ability to read, listen, write, and speak (i.e., skills that require extensive reading assignments; information rich lectures, demanding written assignments, and oral presentations).

Critical Thinking and Research Skills
Applying content to solve organizational problems
Using content skills to summarize, organize, and analyze data
Finding, gathering, and organizing information from a variety of sources
Creating new knowledge by integrating existing information

Employers need people who can solve problems, analyze data, and create new ideas. One way to develop these critical thinking and research skills is to participate in research projects that require the following: (1) the synthesis and comprehension of information about the subject of the research; (2) the analysis and evaluation of the body of knowledge upon which the research is based; and (3) the synthesis and writing of new hypotheses and the development of research findings to advance knowledge and improve the quality of professional life. Often, the research requires a systematic and organized method of testing questions and answering those questions. It is not limited to the research method(s) of any particular academic discipline or area.

Collaboration Skills
Working well in groups
Dealing effectively with diverse populations
Exhibiting various forms of leadership, including supervisory, influencing, and motivating others

Your employer will require you to perform complex tasks that require teamwork. No one works alone, and almost all tasks are composed of people who differ in terms of gender, race, culture, ethnicity, religion, sexual norms, education, socio-economic status, social orientation, age, and physical or mental abilities. The skills necessary to be a productive member of a diverse team can only be acquired through practice and the best place to practice these skills is in course-based group projects or collaborative activities that involve working with groups composed of diverse individuals. You may find that you do not fit in with your classmates or feel uncomfortable or even angry with some of your fellow students. If this happens, you must try to work with your classmates, not against them. If you feel your classmates are being unfair to you, you must try to work with them and resolve your differences. If you feel that you are being unfairly treated, you must try to communicate your feelings to your classmates and your instructors. If you feel that you are being unfairly treated, you must try to communicate your feelings to your classmates and your instructors.

Self-Management Skills
Being flexible and adaptable
Learning new skills and information
Managing time, stress, and conflict successfully

Employees value people whose ability to manage time, stress, or conflicts comes from an ability to perform well on the job by making deadlines, exhibiting stress-related practices, or becoming workplace heroes. Strengthening your self-management skills in college by seeking out courses whose instructors expect you to perform at the same responsible, conscientious, and mature ways that your future employers will demand. Avoid classes taught by instructors whose classes are perceived on one side to be easy or on other side to be too difficult or challenging. You must study in advance, on your own time, and often throughout the semester, so it is important that you manage your time effectively and efficiently.

Professional Skills
Organizing, planning, and carrying out projects
Managing resources
Acting and dressing in a professional manner

Employers want to hire employees who can carry out tasks in a professional manner. Therefore, you should choose classes taught by instructors who have the same high expectations in your field. For example, if you major in computer science, you should choose classes taught by instructors who are known for their high standards in computer science. These instructors will help you develop the skills that are necessary for success in your chosen field. If you major in another field, you should choose classes taught by instructors who are known for their high standards in your chosen field. These instructors will help you develop the skills that are necessary for success in your chosen field.

Technological Skills
Computer literacy, word processing, and email

You must realize that testing your friends, checking social media, and shopping online are not skills valued by employers. In fact, the presence of these actions on your application or resume may lead to hiring discrimination. Employers want to hire employees who are experts in their field and have appropriate technological skills to identify, locate, acquire, store, use, and manage data; and evaluate, compare, and analyze information. Therefore, you should choose classes taught by instructors whose courses are perceived on one side to be easy or on other side to be too difficult or challenging. You must study in advance, on your own time, and often throughout the semester, so it is important that you manage your time effectively and efficiently.

Ethical Reasoning Skills
The ability to make ethical decisions based on appropriate ethical knowledge and the willingness to act on these decisions

Although the least often mentioned skill by employers during the hiring process, it is considered very important by employers. The ability to make ethical decisions based on appropriate ethical knowledge and the willingness to act on these decisions is an important skill that employers look for in candidates. Therefore, you should choose courses taught by instructors whose courses are perceived on one side to be easy or on other side to be too difficult or challenging. You must study in advance, on your own time, and often throughout the semester, so it is important that you manage your time effectively and efficiently.

References


* * * * *

If you would like copies of a simple cover letter and resume that have been created using skills in their organizational structure, please send an email to drawe@appleby.edu. These are Word documents you can modify to include your own current contact, career objectives, and skills.
A Skills-Based Cover Letter and Resume for Job-Seeking Psychology Majors

Drew C. Appleby, PhD (Professor Emeritus of Psychology, IUPUI)

There are several types of specific skills that employers value in new college graduates during the hiring process. If you plan to seek employment immediately after graduation, you should (1) become aware of these skills, (2) utilize your educational and employment opportunities to develop these skills, and (3) create cover letters and resumes that will effectively communicate your possession of these skills to potential employers in the occupation area you plan to enter (e.g., business, health care, education, or social service). Please note how the following documents clearly communicate their author’s awareness of the skills required by the job to which she is applying, the manner in which she obtained these skills, and—when necessary—the positive outcomes of her use of these skills. The purpose of this poster is to provide you with realistic examples of a well-written cover letter and an effective resume so you can use them as templates for your own cover letters and resumes without having to create them from scratch. Please feel free to capture these documents digitally directly from this poster or to obtain them as Word documents by contacting Drew C. Appleby.

Author’s Note: I would like to acknowledge the assistance of Dr. Lance Erickson (Director of the Idaho State University Career Center) for his expertise and guidance during the creation of these documents.

Kristen C. Kelly
2406 Magnolia Avenue, Atlanta, GA 30307
Residence: (678) 630-1467  •  Cell: (678) 469-3751  •  Email: kristy.c.kelly@gmail.com

April 11, 2018

Mr. Daniel Tinsman
Director of Human Resources
Rossi+Rocchio
1954 Alacantara Road
Atlanta, GA 30326

Dear Mr. Tinsman,

I would like to apply for the Department Manager position advertised in the Atlanta Journal-Constitution. I feel confident that I am well-qualified for your management position and can make a significant contribution to your team. As indicated by my enclosed resume, I will receive a Bachelor of Science degree in Psychology, a Minor in Communications, and a Certificate in Organizational Leadership and Supervision from Georgia State University on May 25, 2018.

The description of this position indicates that the successful applicant should possess strong communication, collaboration, critical thinking, leadership, and self-management skills and exhibit high ethical standards in a variety of contexts. The combination of classes, extracurricular activities, and work experiences I have chosen to engage in during my undergraduate education provided me with multiple opportunities to identify values, and develop these skills in a variety of academic and workplace environments. My enclosed resume identifies these activities and summarizes the specific skills and abilities I now possess.

I would also like to be aware that my high level of motivation and strong work ethic enabled me to complete my bachelor’s degree, minored, and my certificate in fewer years, and that I graduated with no student loans as a result of maintaining my academic scholarships with a 3.56 grade point average and working 20 hours a week at Starbucks.

I would be happy to meet with you to further describe my qualifications for this position. I look forward to receiving your reply to this letter.

Sincerely,

Kristen C. Kelly
Enclosure: Resume

Kristen C. Kelly
2406 Magnolia Avenue, Atlanta, GA 30307
Residence: (678) 630-1467  •  Cell: (678) 469-3751  •  Email: kristy.c.kelly@gmail.com

Objective: Seeking a Department Manager position in which I can utilize the professional skills I developed in my undergraduate education to manage people and processes effectively.

Education:

Bachelor of Science in Psychology, Georgia State University, Atlanta 2018
• Minor in Communications
• Certificate in Organizational Leadership and Supervision 2013

Work Experience:

Internship in the Director’s Office: Human Resources Department, Antioch 2017
• Night Manager, Atlanta Citywide Police Services
• Retail, Atlanta Digital Solutions 2009–2013

Skills:

• Communication Skills: developed in communication, interpersonal, institutional, and intercultural effective writing, oral, and interpersonal communication, working with others, and contributing to team success.

• Critical Thinking and Research Skills: developed in library research, critical thinking, and research. Effective in critical thinking strategies, research, and data analysis.

• Analytical and Problem-Solving Skills: developed in critical thinking, problem-solving, and decision-making skills. Effective in identifying and solving complex problems.

• Current Software/Technology: Proficient in Microsoft Office applications, including Word, Excel, and PowerPoint.

Leadership Skills:

• Developed my leadership and management skills through team management and leadership in various roles such as team leader, project manager, and assistant manager.

• Effective leadership, teamwork, and collaboration skills. Effective in leading and managing teams, building relationships, and motivating employees to achieve goals.

Professional and Soft Skills:

• Developed my professional and interpersonal skills through numerous roles such as team leader, project manager, and assistant manager.

• Effective leadership, teamwork, and collaboration skills. Effective in leading and managing teams, building relationships, and motivating employees to achieve goals.

• Strong communication, interpersonal, institutional, and intercultural skills. Effective in effective communication strategies, research, and data analysis.

• Analytical and Problem-Solving Skills: developed in critical thinking, problem-solving, and decision-making skills. Effective in identifying and solving complex problems.

• Current Software/Technology: Proficient in Microsoft Office applications, including Word, Excel, and PowerPoint.

References: Available upon request.
What Your Transcript Says About You, and What You Can Do If It Says Things You Do Not Want Other People to Hear
Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis)

You will share your transcript with important people in your future (e.g., potential employers and graduate school admissions committees), and it will tell them a great deal about your potential as an employee or a graduate student. Let me bring your attention to 11 different transcripts to (1) see what they communicate about their owners and then (2) identify four strategies you can use to “fix” the problems that exist in the first 10. Once you have addressed the quality of your transcript, it will be time to turn your attention to other documents you will use to convince others to say “yes” to your application for a job or graduate school: your resume, curriculum vitae, personal statement, and letters of recommendation.

Transcript #1: Low Grades ➔ This transcript contains mostly Cs, a few Bs, and an occasional D. It says, “My owner does not possess the ability and/or motivation to excel in a traditional college or university curriculum.”

Transcript #2: Mixed Grades ➔ This transcript contains a variety of grades ranging from very low to very high. It says, “My owner is capable of doing good work in some areas, but you will be disappointed in his/her performance in others.”

Transcript #3: Low Grades in Methods Courses ➔ This transcript contains low grades in content courses (e.g., abnormal, personality, and developmental psychology), but low grades in methods courses such as statistics, psychological testing, and research methods. This transcript says, “My owner knows a great deal of psychological knowledge, but is either uninterested or unable to apply the methods that psychologists use to discover knowledge.”

Transcript #4: Declining Performance ➔ This transcript reflects a high overall GPA, but shows much stronger freshman sophomore performance than junior senior performance. It says, “My owner is experiencing a motivational decline.”

Transcript #5: Withdrawals ➔ This transcript contains high grades, but is riddled with withdrawals from important and/or demanding classes (e.g., statistics and research methods). It says, “My owner is a grade protector who believes that grades are more important than learning and who escapes from challenging situations whenever possible.”

Transcript #6: Delay in Taking Difficult Classes ➔ This transcript reveals that difficult classes (e.g., statistics and research methods) were taken much later than the department intended. It says, “My owner tends to put off doing challenging things until the last minute or until they can no longer be avoided.” Neither potential employers nor graduate school admissions committees are likely to smile upon this combination of procrastination and avoidance of difficult tasks.

Transcript #7: Easy Electives ➔ This transcript contains electives that are easy and produced high grades, rather than to acquire specific skills or knowledge. It says, “My owner will choose the easy way out when given the choice.”

Transcript #8: Sporadic Academic Career ➔ This transcript reveals a sporadic academic career, with classes from a number of different schools, occasional gaps of several years between schools, and a combination of part-time and full-time class loads. It says, “My owner has lived a very complicated life and, if the best indicator of future performance is past performance, then this pattern will continue on the job or in graduate school.”

Transcript #9: No Attempt to Specialize ➔ This transcript shows the completion of the requirements for a bachelor’s degree, but does not reflect an attempt to develop an in a particular area of psychology (e.g., I/O psychology, neuroscience, or clinical psychology). It says, “My owner lacks direction, is not goal oriented, simply wants to earn a degree, or was unwilling to put forth the effort to develop a specialized set of knowledge and/or skills in a particular area of psychology.”

Transcript #10: No Application of Knowledge and Skills ➔ This transcript contains no evidence of the application of psychological knowledge or skills (i.e., no independent research projects, internships, practice, volunteer work, or service learning). This transcript says, “My owner has acquired the necessary book learning in psychology, but has not yet put this knowledge to practical use in an applied setting.”

Transcript #11: The Model Transcript ➔ This transcript reveals the opposite of what has been reflected in the previous ten. It says, “My owner has earned high grades in challenging courses with a minimum of withdrawals, has “found” himself/herself (as demonstrated by steadily increasing academic performance and the choice of relevant electives), has chosen classes to develop the skills (in methods classes) and knowledge (in content classes) necessary for a particular career or graduate program, and has progressed toward this goal in a steady and reliable manner.”

What Strategies Can I Use If I Need to “Fix” My Transcript? ➔ It is never too late to start creating your transcript in #11’s image. If you are a first-semester freshman, you have control of your transcript because it is blank. If you are an upperclassman, you still have time to create the rest of its contents so it can begin to look more like transcript #11 and less and less like the other 10. Below use four strategies you can use to help your transcript speak more positively about you.

Strategy #1: Report Courses ➔ This strategy pertains to transcripts that reflect weak academic performance (e.g., #1, #2, #3, and #4). If some of your grades are lower than impressive, you should consider repeating a few courses where grades speak poorly of your abilities in crucial areas (e.g., Math, English). With the aid of an advisor, you should be able to select a couple of courses where you can complete another 15 hours of course work and replace your old grades with these new ones. You may not relish the idea of repeating classes, but when you compare this cost with the difference between a high- or low-paying job or a rejection letter from the graduate school of your choice, you will quickly realize this may be one of the smartest investments you will ever make.

Strategy #2: Tell Your Story or Have Someone Else Tell It For You ➔ This strategy pertains to transcripts that reflect erratic or nonstandard enrollment patterns. If there are legitimate reasons for your withdrawals (e.g., your postponed classes (#6), your unchallenging electives (#7), and/or your sporadic academic career (#9)), your personal statement and letters of recommendation can explain the reasons why you chose a nontraditional path. If your choice of electives may be a concern, you can use your personal statement to explain how they relate to your career or graduate school aspirations, but be sure not to be defensive by blaming your past problems on other people or situations. You can also ask one of your letter-of-recommendation authors to address this issue, but be sure one of your personal is familiar enough with your educational and personal history to provide a genuine explanation.

Strategy #3: Add Courses ➔ This strategy pertains to transcripts that do not reflect a pattern of knowledge and skills in a particular area of psychology (#9). Some schools design their curricula to ensure a broad introduction to the discipline, which makes it difficult for a transcript to reflect a concentration in a particular area of psychology. However, electives from other departments can demonstrate the development of a particular pattern of knowledge and skills. Business courses would be appropriate if business resources are your goal. Biology and chemistry courses can provide supporting skills and knowledge if you plan to pursue behavioral neuroscience. A minor in one of these areas would be even more impressive.

Strategy #4: Document Your Experience ➔ This strategy pertains to transcripts that reflect no evidence of the application of psychological knowledge or skills (#10). This is where your supporting materials become crucial again. A letter of recommendation from your supervisor when you volunteered as an aid at your local psychiatric hospital or as a Big Brother or Big Sister could speak volumes about your ability to put your psychological knowledge and skills to work. A paragraph in your personal statement and a section in your resume that describes your responsibilities in your summer job as an administrative assistant in a human resources department would also be very impressive.

Conclusion ➔ It is important to remember that there is no such thing as a perfect transcript in the same way that there is no such thing as a perfect cover letter, letter of recommendation, or personal statement. No document is perfect, and no person is perfect. The lesson to be learned from this is that you must create your transcript —and your other supporting documents—in such a way that they portray you as a uniquely desirable job candidate or graduate school applicant. You can do this by:

1. Deciding what you want to do after you graduate.
2. Finding out how you must change yourself to accomplish this goal.
3. Determining how you can use the remainder of your undergraduate education to make these changes, and then
4. Doing everything in your power to accomplish these changes. If you take this advice to heart—and put it into action—your transcript will communicate very positive things about you to anyone who reads it.
**Five Services Provided by Your Career Center . . . and How to Use Them**

Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis)

You may not realize this, but part of your tuition is used to staff and maintain your college or university’s Career Center whose purpose is help you prepare for and enter the job market. It would be a real shame to waste this money by not taking advantage of what this office has to offer, especially if you are uncertain about your post-graduation future. The purpose of this poster is to bring your attention to the services that your Career Center offers and to provide you with advice about how to take advantage of these services to obtain the career of your choice.

**Career Fairs and On-Campus Interviews**

These might be large, semi-annual events scheduled months in advance, or they could be small, almost pop-up sessions with a single employer. To ensure you don’t miss any opportunities, sign up for electronic alerts and stay in touch with your career advisor throughout the year.

**Internships**

Almost all schools offer at least a basic internship matching program. The sooner you connect with your Career Center, the better, as some of these opportunities are competitive. Even without a formal program in place, it’s reasonable to ask your school for help in landing an internship for the summer after graduation. This can be an especially good strategy if you think your job search won’t produce an offer by graduation.

**Mentor or Alumni Matching Programs**

Even if your school doesn’t have a formal matching program, they should be able to link you with others in an occupation you would like to explore. Your goal in accessing this help is to jumpstart your networking while gaining helpful tips for entering and succeeding in your career.

**Job Matching, Job Leads, Direct Placement**

Depending on your program, you may find that your Career Center is able to link you directly to employers seeking candidates. The best way to receive this assistance is to make your goals known and check in often. Not all of these matches are made formally, so sometimes the student who is best known is the one recommended to employers who call.

**Job Search Preparation Strategies Such as Interview Practice, Resume Development, and Hidden Market Strategies**

In some schools, you can’t miss these offerings because they are bundled into required classes. Even so, it pays to access all the advice you can. Preparing your cover letter, resume, and LinkedIn bio early will make it easier to respond to last-minute opportunities, and participating in practice interview sessions will give you the confidence needed to succeed.

This poster is a modified version of an article titled *Make Use of Your College Career Center’s Services* by Amy Lindgren that appeared in the March 6, 2016 edition of the *Atlanta Journal-Constitution.*
How to Avoid the Kisses of Death in the Graduate School Application Process

Drew C. Appleby (IUPUI) and Karen M. Appleby (Idaho State University)

Psychology majors are offered many suggestions about what they should do when they apply to graduate school, but few about what they should NOT do. This poster summarizes the responses of 88 chairpersons of psychology graduate school admissions committees who were asked to provide “a brief description of one or two examples of things that otherwise strong applicants to your program included in their application materials that caused your admissions committee members to draw less positive conclusions about them than if they had not included these kisses of death.” Becoming aware of, understanding, and avoiding the kisses of death can increase your chances of being accepted into the graduate program of your choice.

Damaging Personal Statements

- Avoid excessively altruistic statements (e.g., “I just want to help people.”). Graduate faculty could interpret these statements to mean you a strong need to help others is more important to your success in graduate school than a desire to perform research and engage in other academic and professional activities.
- Avoid providing excessively self-reveling information. Faculty may interpret such information as a sign you are unaware of the value of interpersonal or professional boundaries in sensitive areas.
- Avoid inappropriate humor, attempts to appear cute or clever, and references to God or religious issues when these issues are unrelated to the program to which you are applying. Admissions committee members may interpret this type of information to mean you lack awareness of the formal nature of the application process or the culture of graduate school.

Lack of Information About the Program to Which You Are Applying

- Avoid statements that reflect a generic approach to the application process or an unfamiliarity with the program to which you are applying. These statements signal you have not made an honest effort to learn about the program from which you are saying you want to earn your graduate degree.
- Avoid statements that indicate you and the target program are a perfect fit if these statements are not corroborated with specific evidence that supports your assertion (e.g., your research interests are similar to those of the program’s faculty). Graduate faculty can interpret a lack of this evidence as a sign that you and the program to which you are applying are not a good match.

Flawed Letters of Recommendation

- Avoid letters of recommendation from people who do not know you well, whose portrayals of your characteristics may not be objective (e.g., a relative), or who are unable to base their descriptions in an academic context (e.g., your minister). Letters from these authors can give the impression you are unable or unwilling to solicit letters from individuals whose depletions are accurate, objective, or professionally relevant.
- Avoid letter of recommendation authors who will provide unflattering descriptions of your personal or academic characteristics. These descriptions provide a clear warning that you are not suited for graduate study.
- Choose your letter of recommendation authors carefully. Do not simply ask potential authors if they are willing to write you a letter of recommendation; ask them if they are able to write you a strong letter of recommendation. This question will allow them to decline your request diplomatically if they believe their letter may be more harmful than helpful.

Poor Writing Skills

- Avoid spelling or grammatical errors in your application. These errors are unmistakable warning of substandard writing skills, a refusal to proofread your work, or your willingness to submit careless written work.
- Avoid writing in an unclear, disorganized, or unconvincing manner that does not provide your readers with a coherent picture of your research, educational, and professional goals. A crucial part of your graduate training will be writing; do not communicate your inability to write to those you hope will be evaluating your writing in the future.

Misfired Attempts to Impress

- Avoid attempts to impress the members of a graduate admissions committee with information they may interpret as insincere flattery (e.g., referring to the target program in an excessively complimentary manner) or inappropriate (e.g., name dropping or blaming others for poor academic performance). Graduate admissions committees are composed of intelligent people; do not use your application as an opportunity to insult their intelligence.

A full-text copy of the article whose results are summarized in this poster (see its reference below) can be accessed at: http://www.mel.net/psyweb/psyhtml/Graduate_School_Application_Kisses_of_Death.pdf


Poster design courtesy of the James Madison University Department of Psychology
How to Avoid the **Kisses of Death** in the College Application Process
Drew C. Appleby, PhD (Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis)

Abundant advice is available to high school students about what they should do when they apply to college. But there is far less advice about the things they should not do (i.e., the Kisses of Death) that can decrease their chances of gaining admission to the college of their choice. The following slightly edited lists of don’ts by high school students and their parents come from an excellent book titled *Fake Countdown to College: 41 To-Do Lists and a Plan for Every Year of High School.* This book is particularly valuable for high school students whose parents and siblings have not gone to college and, therefore, cannot rely on advice from their family about the college application process. Although some items in these lists are written in a humorous style, do not allow their humor to distract you from their truth.

### The College Search Don’t List

Any one of the following five blunders can put a crimp in your college search.

- **Don’t Get Your Heart Set On Just One College:** There are hundreds of colleges where you could thrive. The忘记 of the college search is about getting into many schools. Even if you get beyond the name, little in campus vary among any particular place.
- **Don’t Get Fooled By Phony “Honors”:** Have you heard yet from “Who’s Who Among American High School Students” or “The National Youth Leadership Forum”? These and other organizations sell products you can buy, but honor you have won.
- **Don’t Obsess Over The Rankings:** Have you memorized the U.S. News & World Report rankings? We hope not. The rankings say little about where you would be happy. And besides, the rankings change every year for no obvious reason other than selling magazines.
- **Don’t Pick College To Impress:** Some people simply apply to the places their friends are looking at. The right college for a friend isn’t necessarily the right one for you.
- **Don’t Worry Too Much About The Weather:** Is the weather really that big a deal? If you want to pick a place to base on the weather, wait until you are ready to pick a nursing home.

### The College Visit Don’t List

You will be in unfamiliar territory and a little stressed. Try to avoid the following mishaps.

- **Don’t Be Late:** There are few worse things that being late for an interview. You’ll be lost, running to see the signs for the admissions office, andantically asking directions from passersby. Sound like fun? After this harrowing experience, your odds of escaping your visit will be low.
- **Don’t Be Intimidated:** You and your parents are about to buy a product that will cost anywhere from $50,000 to $250,000 over four years. Kick the tires and look under the hood. It is natural for you to focus on impressing the admissions office, but it is also the college’s job to impress you.
- **Don’t Have Knee-Jerk Reactions:** So what if the tour guide is not your favorite person? Or if the first two students you see look like geeks? Try to get the big picture while not being too swayed by little things which, though they are worth noting, may not have real significance. And try not to hate a school just because you visit on a rainy day.
- **Don’t Treat Your Parents Like Dirt:** You would be amazed at how many students have cringe-inducing conversations with their parents as admissions officers look on in horror. If you are accustomed to addressing your mother like a servant, it is best not to advertise the fact.

### The College Application Don’t List

Some of these are worse than others, but all will cause you stress and may harm your chances.

- **Don’t Have An Itchy “Send” Finger:** We know how badly you want to hit “send” and get it over with. Instead, at the first moment you are ready to hit “send,” don’t do it. Wait a moment, then proof again. We guarantee that you’ll find mistakes that you missed the first time.
- **Don’t Try To Pull Strings:** It’s rare that your dad is on a first-name basis with your local Congressmen, but if he is, he may not be able to help you get in. If your grandparents gave the school $1 million, that will help.
- **Don’t Fret About Where Others Apply:** Candidates become very protective of their “schools.” If they find out that Ginni Green is also applying to their top choice, they’re heartbroken. But colleges have huge applicant pools and don’t operate on a quota system that says only one student from a particular high school can get in. If your interests are different from Ginni’s you may be competing in a totally different segment of the applicant pool.
- **Don’t Apply First To See If You’ll Get In:** Talk about a waste of time and effort. And not just years; the high school counselor and the admissions office will also need to pull extra duty. Doesn’t everyone already have enough work to do? If you know you wouldn’t go if admitted, don’t apply.
- **Don’t Get Post-ED Prioritization:** When students apply early decision (or early action), they should understand that the process doesn’t end with filling the first application. Students apply and work on their other applications until they get an ED acceptance.

### The College Essay Don’t List

Even the smartest students are capable of writing nightmare essays. Avoid this fate.

- **Don’t Make Everything Peachy Keen:** Many students edit out of their essays any sign of uncertainty or discomfort. But there are no perfect people, and when those, cues, they would write boring essays. Take an honest look at both the good and the bad.
- **Don’t Pretend You Weren’t Hit By Lightning:** Essay questions that talk about “significant experiences” make students believe that they must write about a life-changing event. Most people don’t have experiences like this, but that doesn’t stop hapless applicants from straining to write about them.
- **Don’t Sound Flippant Or Nonchalant:** Humor is okay, if it’s funny, but sarcasm is generally not good. See your essay as a way to show your classmates. The best way to be funny is to pique humor at yourself, modestly aimed at others can fall flat.
- **Don’t Point Fingers:** If you are talking about a dip in your academic performance, never place the blame on the school or teachers. If you’re talking about a disciplinary incident, take full responsibility. If you must discuss circumstances that put others in a negative light, talk to your counselor and consider having him or her put it in a letter of recommendation.
- **Don’t Let Your Parents Write It:** In the days of paper applications, the lack of death was when two kinds of handwriting appeared on an application. Today, Mom’s and Dad’s signatures are less obvious, but they still show up in essays that suddenly change into the voice of a 50-year-old.

### The College Student Parents’ Don’t List

Here are a few ways that overzealous parents can make the college search process more difficult.

- **Don’t Live Through Your Son Or Daughter:** Parents talk among themselves about the college search long before students have a clue. Unfortunately, parents can confuse what their friends think—or what will impress their friends—with what is best for their son or daughter. Let your child start with a clean slate.
- **Don’t Be An Enabler:** Many students are passive because they know that eventually Mom or Dad will step in. If Mom and Dad do step in, some things will slip through the cracks as first, but once a student realizes that he or she is the responsible one, fewer balls will drop. Better to establish the new pattern now than to wait until next year.
- **Don’t Dismiss Colleges You’ve Never Heard Of:** Counselors try to convince students that the most famous colleges are not necessarily the best for them, but sometimes parents are an even tougher sell. Many excellent colleges are unknown to the general public because they don’t have big-time sports teams, but often have exemplary reputations among those who know higher education (including graduate school admissions officers).
- **Don’t Lose Patience:** Waiting for a team to take control can be like water torture. Every parent gets frustrated now and then, but try to minimize the number of times you do so. The true test of the college search is not the end result, but whether you and your son or daughter can get through it on reasonable good terms.
- **Don’t Overemphasize College Choice:** It is not the most important decision in anyone’s life. For students who do an intelligent search and assemble good options, the final decision isn’t significant at all. Success in life has less to do with where you go to college than who you are and what you can do.
their students’ parents. It is especially valuable for students who are the first in their family to pursue higher education.

Academic Advising Posters

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Please feel free to modify and use my posters in any way that will increase student success at your institution. Enlarging them to 18x24 appears to be a reasonable size for both viewing and posting, although some contain smaller fonts that may require printing in a larger size to increase readability.

The following slide is the poster that Kevin Apple and I used to introduce the concept of academic advising posters that originated in the James Madison University Psychology Department.

Section II
Assessment

1. Test Development as a Student Project in a Psychological Testing Course

2. Is Psychology a Science? An Assignment to Shape Students’ Perceptions of the Field

3. The Impact of a One-Hour Research Laboratory on Student Learning Outcomes in an Undergraduate Introduction to Psychology Course

4. What Predicts Introductory Psychology Students’ Appreciation that Psychology is a Science?

5. How Beneficial and Practical are Program Specializations in Psychology?

6. Tips for Optimizing Multiple-Choice Testing Both In-Seat and Online
Test Development as a Student Project in a Psychological Testing Course

Thomas A. Martin, Brooke E. Kohler, Cassandra B. Coombs, Brittany J. Gordon, Charis A. Gozzo, & Katherine M. Rogers
Susquehanna University
Poster presented August 4, 2017 at the 125th annual meeting of the American Psychological Association, Washington, DC

Psychological testing undergraduates developed measures of openness to experience and extraversion as they studied psychological testing. The items they developed, and several measures drawn from the International Personality Item Pool, were administered to fellow students enrolled in other psychology courses. The results indicate their measures performed well. The professor believes this experience allows students to more effectively learn the fundamentals of psychological testing. Moreover, he believes it demystifies psychological testing and inoculates students against the errors of placing too much or too little confidence in the results of psychological testing.

Undergraduate psychological testing courses review and elaborate concepts that students have encountered in other courses, and in turn introduce many additional concepts. This process is necessary to teach the rudimentary knowledge required to understand psychological testing results in the workplace or to perform well in a graduate-level assessment sequence. In the experience of the first author, a professor who has taught the course numerous times, undergraduates find many of these concepts quite abstract and struggle to grasp their relevance and interconnections. Hence, he has incorporated a test development project into the course for multiple years. This poster presents the process and outcome of the project completed in a recent semester. An unusually small group of students, five in total, enrolled in the class.

Approximately two thirds of class time was devoted to discussion of the text (Miller & Lovler, 2016) and one third to the test development project. Early in the semester, students selected constructs to measure, in this case openness to experience and extraversion as represented in the five-factor model of personality. They then were led through the steps of test development and completed the project by the semester’s end, a compact time period for an effort of this sort.

Hynan and Foster (1997) describe a similar project utilized in a psychological testing course, and White (1997) in an educational testing course.

Method

Participants

Participants recruited to take the tests developed by the psychological testing students were enrolled in other psychology courses at a small liberal arts university. The courses consisted of six at the 100 level, four each at the 200 and
300 levels, and one 400-level course. Instructors of the courses agreed to award extra credit for participation. Names and email addresses were aggregated from course rosters and other online resources. Individuals enrolled in multiple courses were flagged to avoid duplicate invitations to participate. The total number of individuals eligible to participate was 314.

Participants received two separate invitations by email, with links to Qualtrics surveys. The first survey administered the openness items, and the second the extraversion items. These surveys received 231 and 210 respondents, yielding 219 and 192 completed protocols, respectively, for completion rates of 69.7% and 61.1%. Moreover, 175 (55.7%) of invited individuals completed both surveys. Most of the respondents identified themselves as women, supplying 76.3% of complete protocols to the first survey and 82.3% to the second survey. More than 97% in each survey also identified themselves as 18 to 23 years of age.

**Measures**

Based on concise descriptions of the Big Five constructs (McCrae & Costa, 2010) and a review of items of the Mini-IPIP scales (Donnellan, Oswald, Baird, & Lucas, 2006), the students enrolled in Psychological Testing wrote 20 positively scored and 20 reverse-scored items in the style of International Personality Item Pool items (IPIP; Goldberg, 1999; http://ipip.ori.org) and critiqued one another’s items. They also selected the 20-item IPIP scales measuring extraversion and intellect (Goldberg, 1992) to gather convergent evidence for the validity of their scales, and the four-item Mini-IPIP scales to gather discriminant evidence for the validity of their scales.

The psychological testing students developed the necessary Qualtrics content and logic to administer their scales, with some help from the professor and review of previous student Qualtrics-based research projects. Each Qualtrics survey opened with a detailed consent page and a question about age. The surveys then presented the Mini-IPIP in four five-item pages, students’ 40 items in eight five-item pages (e.g., see Figure 1), the 16 remaining extraversion or intellect IPIP items (less those included in the Mini-IPIP), demographic questions, scales yielded alpha coefficients of .93 for extraversion and .84 for openness. The student-developed scales of extraversion and openness correlated well with their 20-item criterion measures, $r(190) = .90$, $p < .001$, and $r(217) = .84$, $p < .001$, respectively.
respectively. Correlations of these scales with the Mini-IPIP scales are displayed in Table 1.

![Image](image.png)

On the final days of class, we discussed all student-developed items for elements that may have contributed to their relative success or failure, referring to a spreadsheet of item descriptive statistics and item reliability and validity coefficients for all student-developed items. The spreadsheet will be available for review at the poster.

a page for selecting the course for which participants would receive extra credit, a debriefing page and a page thanking participants.

**Procedure**

Participants received emails inviting them to participate in the study. The emails were created and scheduled for delivery in Qualtrics, a web-based survey administration tool. The emails were delivered in the name of the first author and replies by recipients went directly to him. The messages provided essential information about the surveys’ purpose and benefits, as well as a link to the survey. Participants completed the surveys at a time and place of their choice using a computer, tablet, or smartphone. The few participants under the age of 18 were not tested but were allowed to claim extra credit. The survey links were distributed on successive Sunday evenings and followed by reminders two and four days later to individuals who hadn’t responded. Data collection was closed at noon on Friday.
Results

As described in the text (Miller & Lovler, 2016), students scored their scales and computed item descriptive statistics, item-total correlations, and item-criterion correlations to select the 20 items they judged to be their best. The Mini-IPIP yielded alpha coefficients ranging from .72 to .87 (see Table 1), retest reliability coefficients ranging from .75 to .88, and the expected factor structure. The 20-item Big-Five markers of extraversion and intellect yielded alpha coefficients of .93 and .88, respectively, while 20-item student-developed

| Mini-IPIP Extraversion | .87 |
| Mini-IPIP Agreeableness | .81 | .24 |
| Mini-IPIP Conscientiousness | .80 | .05 | .05 |
| Mini-IPIP Neuroticism | .72 | .09 | .08 | .23 |
| Mini-IPIP Imagination/Intellect | .79 | .09 | .29 | -.02 |

Discussion

The purpose of this poster is to describe what was done and to give attendees an opportunity to discuss the project with the professor and students in attendance at the convention. Due to the small number of students enrolled in the course and the fact that no comparison was made to a similar course without the project, it is not possible to differentially assess the outcome of this approach to teaching psychological testing.

Nonetheless, students reported the project enabled them to gain a better understanding of how to develop items that measure psychological constructs, employ SPSS to analyze data, interpret statistical results, and use these results to evaluate individual items and scales. They believed the project enabled them to perceive the concepts taught in the course as a cohesive body of knowledge. Students recommended an earlier start to the project to establish a closer temporal linkage between concepts taught in class and their application in the project.

The professor believes this project supports student experiential learning by
guiding them through a simplified version of test development in which they are invested because they write the items they evaluate. He suggests throughout the process that they will learn as much from their errors as from their successes. Moreover, he asserts that testing can best be conceptualized as a tool employed by psychologists, and that all professionals must thoroughly understand the strengths and limits of their tools in order to use them effectively. He observes that the most critical errors one can observe in the professional use of tests and the broad societal discussion of their utility are the tendencies to place too much confidence in tests or to completely reject them as ineffective or counterproductive. He hopes the project described above will demystify psychological testing and inoculate students against these errors in their professional and personal lives.

References


Is Psychology a Science? An Assignment to Shape Students’ Perceptions of the Field

Christie Chung
Mills College

Abstract
This paper presents an assignment designed to shape students’ perceptions of psychology. In the first part of this assignment, students read the article entitled “Can Psychology Become a Science” by Lilienfeld (2010) and wrote their reflections on it. The next part of the assignment was a report and analysis of their interviews with 3 to 5 people on their perceptions of psychology. They then described their views of psychology before and after the first few weeks of our Fundamentals of Psychology class. These reports demonstrated some biased, non-scientific initial views of psychology, which changed after completing this assignment and a few weeks in class. Keywords: scientific method, perceptions of psychology, psychology assignment

Is Psychology a Science?
An Assignment to Shape Students’ Perceptions of the Field

“What is Psychology?” is a common opening question many instructors use in our introductory psychology classes. We often get answers that are wide-ranging, for example “psychology is about counseling”, “psychology is a study of behaviors and disorders”, “psychology is a study of people’s minds”, “psychology is related to philosophy”. Although many of these answers are accurate, most do not adequately represent the scientific nature of psychology. When I share with my students that the Psychology Department at Mills College is housed within the Natural Sciences Division, and that I, as an Associate Professor of Psychology, hold an Endowed Chair Professorship in the Natural Sciences, they are often perplexed and intrigued. So, what exactly is Psychology?

Psychology is the scientific study of brain and behaviors, a tradition that began in 1879 in Leipzig, Germany, when Wilhelm Wundt started the first psychology laboratory. Why are students and the general public unsure of its status and origin? One of the main reasons may be its relation to other disciplines in academia. Boyack, Klavans, & Borner (2005) elegantly demonstrated using an extensive cluster analysis on scientific journal co-citations that psychology is a hub science. Back in the Middle Ages, sciences are organized around the disciplines of theology and philosophy (Leydesdorff, 2006). In the following centuries, philosophy collaborated with physics and mathematics to examine subject matters such as magnetism and gravity, which consequently became the new hub of science. Scientific research continued to expand exponentially and instead of one origin, Boyack et al. (2005) identified 7 hub sciences in our modern world: chemistry, earth sciences, mathematics, medicine, physics, psychology, and the social sciences. Yes, psychology emerged as one of the hub disciplines of science (Figure 1)!
Given psychology’s importance as a science, I thought it was imperative that we start teaching students as early as possible the scientific nature of our discipline. I, therefore, designed an assignment that would help shape students’ perceptions of psychology. In this assignment, students read the article entitled “Can Psychology Become a Science” by Lilienfeld (2010) and write their reflections on it. Lilienfeld (2010) systematically presents non-scientific practices that pose threats to psychology’s status as a science in clinical practices and our everyday lives. These examples come from the areas of political correctness, radical environmentalism, “common sense” and intuition as answers to scientific questions, postmodernism, and pseudoscience. Basically, Lilienfeld argues that our desire to feel comfortable should never trump our desire to seek out truth. Scientific thinking is an unnatural process that may require us to go against our natural tendency of confirmation bias and decision making based on heuristics. He then proposes educational practices that would help solidify psychology’s standing as a science.

After analyzing this article, students would write a report and analysis of their interviews with 3 to 5 people on their perceptions of psychology. This exercise allowed students the opportunity to experience the data/evidence collection phase of the scientific method. The exercise also demonstrated to students that people often hold biased, non-scientific views of psychology. Students asked their participants the following three questions: “What do they think the discipline is about?”, “Where do they think psychology came from?”, and “How is it similar or different from other fields of study such as biology, sociology, and philosophy?”. Students noted that although many participants would answer the first question with accurate statements such as “psychology is a study of behaviors and the mind”, very few participants actually had more in-depth answers beyond vague statements. Most participants believed that psychology originated from Sigmund Freud, and that it came from a desire to understand the relationship between the mind and behaviors. Participants would also often give answers such as “philosophy and psychology are soft sciences, while biology and chemistry are hard sciences”, and “psychology is a science that is evolving, while sciences such as biology are fixed”. The inaccuracies in these answers pointed to

Figure 1. Hub sciences are labeled in bolded large fonts, with nearby disciplinary topics in smaller fonts. From Boyack et al. (2005).
the growing need for us to educate our introductory students so that they could act as ambassadors in our society to uphold psychology’s status as a science.

After reporting these findings, students would describe their own views of psychology before and after the first few weeks of our Fundamentals of Psychology class. This part of the assignment was often fascinating to grade, as many students showed a dramatic change in their outlook of psychology only several weeks into the semester. Students commented on how they did not think critically about the scientific knowledge that was taught to them before learning about psychology. They reported an awareness of pseudoscience and non-scientific approaches to interpretation of data, which suggests that they were understanding and applying critical thinking in their daily lives. Also, as they learned about the stringent scientific method used to conduct experiments and interpret data in our discipline, they were more and more aware of the misuse of psychological concepts, approaches, and results in the media. Students often reported a newfound appreciation for psychology as an important science, and an interest in learning more about how the scientific method might be applied to examine topics included in this broad discipline. In summary, introductory psychology students are our discipline’s ambassadors. The class assignment I have presented offers one way to shape how students represent our field to the world.

References
The Impact of a One-Hour Research Laboratory on Student Learning Outcomes in an Undergraduate Introduction to Psychology Course

Barbara B. Oswald & Allison Dougherty
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Presented at: Southeastern Conference on the Teaching of Psychology
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Conducting research in introductory psychology should benefit student learning, but limited research exists. Theiman and colleagues (2009) found that conducting research in introductory courses increased scientific literacy and interest in psychology as a science. Conducting research in introductory courses may also help to create a cohesive psychology major (Hyers & Shivde, 2013). For example, Hyers & Shivde (2013) surveyed professors and students in psychology and found that professors believed that upper-division students generally lacked psychological literacy and would benefit by the opportunity in the introductory course to not only engage in research, but also to apply the scientific method, conduct literature reviews, and write in APA format. Upper-division students likewise saw less value in the introductory course as they advanced through the major, and desired greater emphasis on research and the research process in the introductory course. Yet as few as 5% of introductory psychology courses include the opportunity to conduct research (Theiman et al., 2009).

At our institution, changes in the curriculum moved Introduction to Psychology from a 4-hour survey course to a 3-hour survey plus 1-hour co-requisite “Foundational Experiences” course. The present study examined the efficacy of a using this 1-hour experiential learning course as a research laboratory in psychology. We designed the laboratory to engage students in active-learning exercises on research ethics and integrity, and we asked students to serve as participants in a minimum of three research studies (online or on campus). Following these modules, we led students through a series of scaffolded exercises that helped them to develop a research hypothesis and to find, summarize, and synthesize three scientific articles related to their hypothesis. Next, students worked in groups of 3-4 to design, conduct, analyze, and report the results of a survey that tested the hypothesis. We compared students offering consent (Miami University IRB protocol 01303r) and who completed the 3-hour lecture plus 1-hour lab (n=35) to consenting students (n=37) who completed a 4-hour introduction to psychology lecture course the previous semester. The same professor taught all courses.

As previous research suggested that adding a laboratory component can increase student interest in psychology as a discipline (Theiman et al., 2009), we compared student learning outcomes on 6 core concepts in psychology between groups via identical multiple-choice final exam questions. The 6 core concepts assessed were: historical antecedents and theories in psychology (9 questions), research design and analyses (6 questions), brain and behavior (12 questions), learning and memory (11 questions), motivation, stress and health (2 questions), development and personality (6 questions), and mental health (4 questions). As Nathanson, Paulhus, and Williams (2004) suggested that adding a required laboratory to

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Conducting research in introductory psychology should benefit student learning, but limited research exists. Theiman and colleagues (2009) found that conducting research in introductory courses increased scientific literacy and interest in psychology as a science. Conducting research in introductory courses may also help to create a cohesive psychology major (Hyers & Shivde, 2013). For example, Hyers & Shivde (2013) surveyed professors and students in psychology and found that professors believed that upper-division students generally lacked psychological literacy and would benefit by the opportunity in the introductory course to not only engage in research, but also to apply the scientific method, conduct literature reviews, and write in APA format. Upper-division students likewise saw less value in the introductory course as they advanced through the major, and desired greater emphasis on research and the research process in the introductory course. Yet as few as 5% of introductory psychology courses include the opportunity to conduct research (Theiman et al., 2009).

At our institution, changes in the curriculum moved Introduction to Psychology from a 4-hour survey course to a 3-hour survey plus 1-hour co-requisite “Foundational Experiences” course. The present study examined the efficacy of a using this 1-hour experiential learning course as a research laboratory in psychology. We designed the laboratory to engage students in active-learning exercises on research ethics and integrity, and we asked students to serve as participants in a minimum of three research studies (online or on campus). Following these modules, we led students through a series of scaffolded exercises that helped them to develop a research hypothesis and to find, summarize, and synthesize three scientific articles related to their hypothesis. Next, students worked in groups of 3-4 to design, conduct, analyze, and report the results of a survey that tested the hypothesis. We compared students offering consent (Miami University IRB protocol 01303r) and who completed the 3-hour lecture plus 1-hour lab (n=35) to consenting students (n=37) who completed a 4-hour introduction to psychology lecture course the previous semester. The same professor taught all courses.

As previous research suggested that adding a laboratory component can increase student interest in psychology as a discipline (Theiman et al., 2009), we compared student learning outcomes on 6 core concepts in psychology between groups via identical multiple-choice final exam questions. The 6 core concepts assessed were: historical antecedents and theories in psychology (9 questions), research design and analyses (6 questions), brain and behavior (12 questions), learning and memory (11 questions), motivation, stress and health (2 questions), development and personality (6 questions), and mental health (4 questions). As Nathanson, Paulhus, and Williams (2004) suggested that adding a required laboratory to
an introductory psychology course could dissuade non-majors from taking introductory psychology as a general education course, we compared attrition rate across groups. Additional dependent measures included perception of psychology as a science, total final exam scores, and final course evaluation questions assessing 6 metrics: course satisfaction, perceptions of instructor efficacy, topic appreciation, perceptions of course difficulty, self-reported gains in the ability to analyze complex processes, and self-reported knowledge gained.

We used Student’s $t$-tests for independent samples (with Bonferonni correction where appropriate) to evaluate group differences on demographics and other measures which included number of credit hours completed prior to psychology, overall GPA, number of declared psychology majors in the course, attrition, and final exam grade. We conducted one-way ANOVAs to compare group differences on student learning outcomes (SLOs) and course satisfaction. We evaluated belief in psychology as a science (yes or no) using a Mann-Whitney U-test.

Students in the 4-hour lecture completed an average of 21.95 (±22.09) credit hours prior to their psychology course, had an overall GPA of 2.75 (±0.933), and 7 were declared psychology majors. Students from the 3+1 lecture-plus-lab had completed an average of 22.71 (±17.79) credit hours, had an overall GPA of 2.98 (±0.68), and 8 were declared psychology majors. University records indicated that 3 students in the lecture and 3 students in the lecture-plus-lab withdrew prior to course completion. None of these differences was statistically significant (all $p$’s > .05).

Mean cumulative final exam scores were 72.98% (±12.7) for the lecture-only class and 69.5% (±12.86) for the lecture-plus-lab ($t_{(98)}=.889$, $p>.05$). Assessment across the 6 core learning objectives also revealed no significant differences between the groups, although it is interesting to note that students in the lecture-only course earned an average of 66% (±21%) correct on the 6 questions assessing knowledge of research methods, while the students in the lecture-plus-lab earned 55.7% (±24%) correct on these same questions. This could be because the research methods portion of the exam included several questions assessing knowledge of experimental design. Students engaged in the laboratory course collected and analyzed survey data, which may have made students more attuned to survey design and analyses at the expense of experimental. Additional research is needed to verify.

There were no significant differences between courses on student course evaluations, although student ratings dropped slightly on the 6 metrics for the lecture-plus-lab course. All ratings were above 3.1 on a 4 point scale in both courses, except for course rating, which dropped to 2.75 in the lecture-plus-lab, compared to 3.15 in the lecture-only. Qualitative comments from the lecture-plus-lab suggested that students felt a disconnect between the lecture and lab, since the lab was focused on a single, semester-long project that did not correspond with the topics covered in lecture.

Although not significant, student perceptions of psychology as a science increased from 30% in the lecture class indicating “yes” they believed psychology was a science as a result of the course (with 65% saying they already knew and 5% not reporting), to 44.8% in the lecture-plus-lab (with 55.2% reporting they already knew).
Together these results suggest that adding a laboratory component to an introductory psychology course may increase perceptions of psychology as a science without impacting student attrition (Nathanson et al., 2004). Adding smaller laboratory exercises that correspond more directly to topics covered in the lecture and that also include diverse research methodologies may increase student course satisfaction as well as knowledge gained regarding research in psychology and other core concepts.

References
What Predicts Introductory Psychology Students’ Appreciation that Psychology is a Science?

Allyson H. Schmidt, Katherine Kennon, & Karen Z. Naufel
Georgia Southern University
Presented at: Southeastern Conference on the Teaching of Psychology
For further information, contact: knaufel@georgiasouthern.edu

Introductory psychology courses should foster appreciation of psychology as a science. A research requirement in which students participate in psychological studies is one way to foster that appreciation (Bowman & Waite, 2003). Certain student attributes may predict the extent psychological science is valued. For instance, women, social science majors, and students expecting higher grades had a more positive evaluation of psychology than men, non-social science majors, and students expecting lower grades (Bowman & Waite, 2003).

However, Bowman and Waite’s (2003) study did not compare how STEM (science, technology, engineering, mathematics) vs. non-STEM majors viewed psychology. This comparison is important given that psychology is a STEM field but may not be recognized as one (Bray et al. 2010). Familiarity with a stereotypical science major may predict how students perceive a non-stereotypical science like psychology. Therefore, examining the extent that those familiar with stereotypical science majors (like STEM majors) could provide insight into the type of student that values psychological science.

Thus, the study had two purposes. First, the present study partially replicated Bowman and Waite (2003) by examining the extent that gender and current grade predicted appreciating psychology as a science following the completion of an introductory psychology research requirement. Second, the present study expanded on Bowman and Waite by also examining the extent that STEM, psychology, and non-STEM majors viewed psychological science.

Method

Study Overview
This study is a secondary analysis of an existing data set. After completing an Introductory Psychology course’s research requirement, the third author collected anonymous, online survey information from her students asking them to report the number of research requirement credits earned via online studies, in-person studies, or writing a paper based on research requirements; reflect on their experience; complete an eight item measure on the extent that they value psychology as a science (VPS measure); complete a brief multiple choice test section evaluating their knowledge of psychological research; judge the extent that psychologists use various types of research methods; and complete a demographic form. Students were then asked for their consent to allow their data to be used for research purposes. For this study, we only analyzed information from consenting participants, and we only looked at the VPS measure and information from the demographics form.

Participants
Four-hundred thirty students (192 men, 234 women, and 1 who did not indicate gender) participated. Of these participants, 226 were first year students, 140 were sophomores, 42 were juniors, and 19 were seniors. Additionally, 199 self-reported currently having a letter
grade of A, 179 had Bs, 44 had Cs, 2 had Ds, and 2 had Fs. Also, 128 were STEM majors, 261 were non-STEM majors, and 26 were psychology majors. We excluded 7 participants from analyses for not completing all measures of interest.

**Measures**
The VPS measure consisted of eight statements that evaluated how scientific and important participants felt psychology was. Figure 1 has a picture of the measure and the items. The scale ranged from 0 (strongly disagree) to 100 (strongly agree). However, participants could not see the exact number when making their responses. The question *Other sciences are more important than psychological science* was reverse scored, and a final score was calculated by then averaging the responses together. Cronbach’s α was .82.

**Predictor Variables**
Gender was dummy coded with 1 = male and 2 = female. One person did not indicate gender and was also excluded from all analyses. Current grades were dummy coded as 1 = A, 2 = B, 3 = C, 4 = D, 5 = F. Year in school was dummy coded as 1 = first year student, 2 = sophomore, 3 = junior, and 4 = senior. Finally, we categorized the listed majors into STEM fields, non-STEM fields, and psychology using an online list of STEM majors (What is a STEM degree?, n.d.).

**Results**
First, the study examined the extent that gender, current grade, and year in school predicted the valuation of psychological science. As Table 1 reveals, the overall regression model was significant with gender as the only significant individual predictor. Women valued psychology more as a science ($M = 79.08$, $SE = .95$) than men ($M = 74.65$, $SE = .94$).

The present study was also interested in how STEM majors, psychology majors, and non-stem majors differed in the extent that they valued psychology as a science. A one-way ANOVA revealed that major type did not significantly predict the valuation of psychology as a science, $F(2, 419) = 1.80$ $p > .05$. 
Figure 1. The Value of Psychology as a Science Measure

Read each item. Then, indicate the extent that you agree with the statement by sliding the bar to the location that best reflects your attitude.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological science is valuable to society.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology is important to solving real-world problems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology is scientific</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological research is important.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I learned something about psychology by participating in research.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other sciences are more important than the psychological science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My participation in research is important.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research is important to society.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1. Coefficient Table for Gender, Education Level, and Current Grade Regressed onto Value of Psychology as a Science Measure

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>69.80</td>
<td>3.29</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>4.47</td>
<td>1.39</td>
<td>.16*</td>
</tr>
<tr>
<td>Education Level</td>
<td>-.14</td>
<td>.83</td>
<td>-.01</td>
</tr>
<tr>
<td>Current Grade</td>
<td>.35</td>
<td>.91</td>
<td>.02</td>
</tr>
</tbody>
</table>

*p < .01

*Note. The model summary is F(3, 418) = 3.62, p < .05, $R^2 = .03$, Adjusted $R^2 = .02$

**Conclusion**

The current study examined the extent that gender, classification, and current grade in class predicted students’ valuation of psychology as a science. Similar to Bowman and Waite (2013), women valued psychology as more scientific than men. These results suggest that future research should examine why this discrepancy exists and how to bridge the gap for men to value psychology as a science.

We also examined the extent that STEM, non-STEM, and psychology majors valued psychology as a science. Surprisingly, major did not predict the extent that psychology was valued as a science. This null result may be a positive finding for the field of psychology. In general, students seemed to value psychology as a science. Our results showed students, overall, were averaging 77.04 on a 100-point VPS scale. STEM Majors were only slightly below that average at a 75.65. This result may suggest a possible shift in the multidisciplinary view of acknowledging psychology as a science. Perhaps more people are viewing psychology as scientific amongst all majors, regardless of the STEM, non-STEM, or psychology classifications.

Second, students completed this survey at the end of their Introductory Psychology course. Perhaps taking an introductory class may have shifted the view that psychology is a science. Unfortunately, the study did not have any pre-test measures to test this hypothesis. Research needs to continue to examine the extent that teaching style or learning techniques foster such appreciation of psychological science.

Finally, the study’s conclusions were limited by the small number of psychology majors in this sample. A greater number of psychology majors may be needed to be able to more evenly compare their results to the other categories of STEM and non-STEM majors.
References
How Beneficial and Practical are Program Specializations in Psychology?

Tammy Lowery Zacchilli, Lara Ault, Ph.D., & Antonio Laverghetta
Saint Leo University
Presented at: Southeastern Conference on the Teaching of Psychology
For further information, contact: Tammy.Zacchilli@saintleo.edu

As part of the Academic Program Review, the psychology faculty decided to revise the psychology major to include a B.A. degree with four specializations. According to Norcross et al. (2016), psychology is moving toward greater curricular specialization and diversity so offering specializations at the undergraduate level could be beneficial. Saint Leo University is a complex university with a residential university campus, and satellite - or continuing education center campuses in 7 states as well as exclusively online degrees. Prior to the review, the psychology major included the choice of a typical B.A. degree or a B.S. degree which prepares students for graduate school. However, the B.S. degree was only offered at University campus which limited opportunities for students enrolled online or at one of the Adult Education Centers. Thus, one goal of the specializations was to increase center and online students’ opportunities.

The four specializations include general, developmental, experimental, and clinical/counseling. All students complete Intro to Psychology, Foundations of Psychology, Research Methods I & II, and Current Issues in Psychology (i.e., senior seminar).

For the Clinical/Counseling Specialization, all students must complete Abnormal Psychology, Personality Theory, Interviewing and Counseling Skills. Students choose two courses from a list of courses related to this specialization. Sample courses include Forensic Psychology, Close Relationships, Human Sexuality, Childhood Disorders, Counseling Principles and Practice. Finally, students complete three upper division psychology electives.

For the Developmental Specialization, all students must complete Developmental Psychology (i.e., lifespan development), Child & Adolescent Development, and Psychology of Aging. Students choose two courses from a list of courses related to this specialization. Sample courses include Human Sexuality, Psychology of Parenting, Educational Psychology, Childhood Disorders, and Cognitive Psychology. Finally, students complete three upper division psychology electives.

For the Experimental Specialization, all students complete History & Systems, Research Methods III, Psychological Tests & Measurement, and 2 credits of Research Practicum. Students choose two courses from a list of courses related to this specialization. Sample courses include Physiological Psychology, Social Psychology, Experimental Design/Program Evaluation, Cognitive Psychology, and Sensation and Perception. Students also complete two upper division psychology electives. This specialization closely resembles the B.S. degree that was offered prior to launching this new program.

Finally, for the General Specialization, all students complete Social Psychology, Lifespan Development, Physiological Psychology, Learning or Cognitive Psychology, and Abnormal Psychology. They also complete three upper division psychology electives.

The purpose of the current study was to examine students’ perceptions of the tracks to examine track effectiveness and attractiveness.
Method

Participants
Participants included 46 female and 5 male undergraduate students enrolled at Saint Leo University. Eight students were from the main University campus, 20 were from center locations, and 23 were from the online program. Thirty participants were enrolled in the clinical/counseling specialization, 11 in general, 5 in developmental, and 1 in experimental. Four participants did not report their specialization.

Materials and Procedure
Participants completed a survey online (via Qualtrics), created by the researchers to assess student understanding and perceived usefulness of the tracks. Five items included a Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). These items assessed satisfaction with the specialization, advising, course offerings, and the instructors in the program. Students also responded to four open-ended questions that assessed students’ career goals, factors in choosing a specialization, and input regarding specific course offerings.

Results
A summary of the responses to the Likert-type questions are presented in the table below.

Table: Student Perceptions of Specializations

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>Standard Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe that I was given adequate information about the specializations from my academic advisor.</td>
<td>3.89</td>
<td>1.22</td>
</tr>
<tr>
<td>I think the choice of courses offered on my specialization meets my career needs.</td>
<td>4.19</td>
<td>1.06</td>
</tr>
<tr>
<td>My specialization is adequately preparing me for my career goals.</td>
<td>4.17</td>
<td>.94</td>
</tr>
<tr>
<td>I am generally satisfied with the instructors of the psychology courses in my specialization.</td>
<td>4.26</td>
<td>1.07</td>
</tr>
<tr>
<td>Overall, I am satisfied with my specialization.</td>
<td>4.23</td>
<td>1.01</td>
</tr>
</tbody>
</table>

There were no significant differences for these five items based on location or specialization. We also examined themes in the open-ended items. The majority of students indicated that they want to become counselors/therapists. Some students indicated interest in behavioral neuroscience. Many students indicated desire to attend graduate school. A few had interest in working with children/teaching. There were very few suggestions for additional classes although there were a few requests for more criminal based courses, evolutionary psychology, and I/O psychology, which are already offered at some locations.

Discussion
Currently, the general and clinical/counseling specializations seem to be the most popular. However, there are challenges in offering all four specializations across all delivery domains. For example, it is especially challenging to offer the experimental specialization online and at adult education centers. This specialization is the one most likely to lead to admission to a PhD or other advanced degree program. Specifically, we need to determine what resources are available for online and distance learning students to complete research projects and participate in psychology laboratories. Possibilities include focusing on replication of research in online format, creating virtual labs with video conferencing, and/or collaborating with other institutions. Finally, we
intend to continue data collection to examine satisfaction with the specializations given that this
new program was just launched this academic year. We also plan to assess faculty attitudes
regarding the value of these specializations.

Reference
Undergraduate study in psychology: Curriculum and assessment. American
Psychologist, 71(2), 89-101. doi:10.1037/a0040095
Tips for Optimizing Multiple-Choice Testing Both In-Seat and Online

Xiaomeng (Mona) Xu
Idaho State University
Presented at: STP Teaching Preconference at SPSP
For further information, contact: xuxiao@isu.edu

In this talk I will highlight some of the research on ways to optimize the construction and use of multiple-choice testing to benefit instruction and assessment, student learning and performance, and to more efficiently utilize instructor’s time and energy. I will also summarize the benefits and potential issues with using multiple-choice questions including concerns about cheating, ways to detect and deter cheating, and testing issues and strategies unique to online formats. This talk will be based on a recent Teacher Ready Research Review (Xu, Kauer, & Tupy, 2016; Scholarship of Teaching and Learning in Psychology).
Section III
Best Practices

1. Developing a Framework for Disseminating New Evidence-Based Practices within Graduate Training Programs

2. Integration of high-impact learning practices in the curriculum redesign of an undergraduate laboratory course

3. Blended Learning: Lessons and Applications

4. Everything I Needed to Know About Being a Professor I Learned in Intro
Developing a Framework for Disseminating New Evidence-Based Practices within Graduate Training Programs

Patty Ferssizidis, PhD & Lora Peppard, PhD, DNP
George Mason University
Presented at 2017 Annual Convention of the American Psychological Association
For further information, contact: pzorbas@gmu.edu
Integration of high-impact learning practices in the curriculum redesign of an undergraduate laboratory course

Suzanne Wood, Ph.D., Department of Psychology, University of Toronto

Background

Psychobiology Laboratory

- Third year course
- 12 students increased to 25 in future terms
- 1-3-hour meeting per week
- General focus of course: psychobiological experimental techniques with microscopy

Directive

- Update an "outdated" curriculum with new, innovative methods

Undergraduate Research

- While protocols were necessary established ahead of time, student-studies in class
- New opportunity for students to get hands-on experience with faculty (new opportunities in psychology or neuroscience departments)
- A significant increase in financial investment was made to upgrade the brain tissue analysis techniques previously using cell bodies with only死后 staining
- Students learned the latest in molecular biological techniques of staining for neural activity (e.g., F-actin)
- Department also investing in this course, purchasing, etc., updated equipment (e.g., open field boxes with automated scoring, radial arm mazes, etc.)

Our updated skill set necessary to be competitive as a graduate student

Psychobiology Lab

Writing Improvement Course

- Students turned in multiple writing assignments throughout semester
- Time was devoted during class to faculty-student, one-on-one meetings to discuss writing assignments
- Midterm improvement was highlighted
- Addressing weaknesses through semester was considered when assigning grades
- Improvement emphasized as a primary goal

Collaborative Projects

- Experimental day required participation from all students
- Students encouraged to work on statistical analysis together with time allocated in class to help facilitate
- Group discussions facilitated withholding best practices in scientific writing
- Only writing assignments were completed independently

Student Feedback

General Statistics

- 7 of 12 students responded to the institution-wide online evaluation
- I would recommend this course to other students: 5/5
- I found the course intellectually stimulating: 5/5
- The course provided me with a deeper understanding of the subject material: 4.7/5
- Course projects, assignments, tests, and/or exams improved my understanding of the course material: 4.9/5

Selected Comments

- "Such a great course that is unique from most other courses at UT!"
- "Excellent course providing students with a taste of an exciting field of research. Why aren't there more courses like this available to undergraduates?"

Field Trip & Career Exploration

- A trip to a local, off-campus neuroscience laboratory was scheduled during the course
- The Career Centre helped find the trip and assisted with logistics
- A preparation session was also hosted by the Career Centre during class the week before the trip to ensure greatest learning outcomes from trip
- Students were encouraged to learn not just about "traditional" academic/ research career paths, but also about the paths of people involved in science in nontraditional roles

Student-Faculty Interactions and Research

- This course offers undergraduates the rare opportunity to interact directly with a faculty member on a weekly basis in a research setting
- 3rd and 4th year courses tend to enroll 15-20 students (overall number of students enrolled in course)
- Direct group format allows for many informal discussions regarding research topic and related areas, career paths, etc.

More About HIPs and Student Engagement

NSSE (National Survey of Student Engagement)

- http://www.nssse.org/high/hips

George D. Kuh, Association of American Colleges & Universities

- http://www.aacu.org/leap/hips

For further information, contact: wood@psych.utoronto.ca

Integration of high-impact learning practices in the curriculum of psychology's ACT, 2016
Blended Learning: Lessons and Applications

Laura Chesniak-Phipps and Laura Terry
Grand Canyon University
Presented at: The Society for the Teaching of Psychology’s ACT, 2016
For further information, contact: laura.chesniakphipps@gcu.edu

Abstract:

Blended learning is a combination of traditional classroom methods and online digital media and technology. Opportunities are created for students to explore course topics in the classroom and outside of the classroom. Group work helps to enhance the understanding of course content/concepts and allows students to apply the information they are learning.

Technology is incorporated to help facilitate collaboration between groups. Blended learning has many benefits including student flexibility, customized learning and supports new generations of students who are increasingly connected to technology. Courses are blended by meeting one day a week in a traditional face-to-face format and on a blended day students work on their own to complete course activities. Clear class policies and expectations, multiple methods of communication and flexibility are important components for a successful blended semester. Courses can be blended for an entire semester, for specific modules that lend themselves well to blended learning or as a way to accommodate faculty absence.
Everything I Needed to Know About Being a Professor I Learned in Intro

Anne E. Stuart, Sandra Sego, & Melissa MacDonald
American International College
Presented at: The Society for the Teaching of Psychology's ACT, 2016
For further information, contact: anne.stuart@aic.edu

Body:

There are many institutional cultures across college campuses. As social scientists, our field of expertise gives us an advantage over our counterparts in other disciplines when navigating the challenges of faculty development. Flipping through the content of an Intro text can provide a guide for our adjustment to a new campus culture and development over our career. Using presentation and discussion, we will guide participants through Intro with an eye on using this content for professional development. This presentation is appropriate for those new to the faculty role as well as those further along in their careers.

Departments and institutions have diverse histories, hidden agendas, entrenched traditions, and head-scratching bureaucratic procedures. Some faculty members are fortunate enough to enter institutions that have strong supports and clear processes for faculty development. Others have few supports and unclear processes. Our institution is one of the latter.

From our perspectives as a new faculty member in sociology and full professors in psychology, we have reflected on what has aided our career development. Looking over the various factors, we have realized that the information that guided our adjustment to a new institution and progress in our careers comes from the foundational content of our disciplines.

The social sciences offer a practical perspective for learning the history and culture of an institution. The scientific method teaches us to observe and take an empirical approach to learning. This is the most important thing to do throughout one’s career. Sociology suggests that we understand the function and purpose of the institution and how it creates cultural and social norms.

As new faculty, one is constantly conducting ethnography on the institution. For instance, the thinking and language chapter of Intro Psychology reminds us to focus on pragmatics in communication with others. The language we use to represent ourselves, our departments, and our students effects how we can successfully market your accomplishments. We also need to be aware of how word choice can impact listeners or readers when sending electronic communications.

Throughout the presentation of content, participants will be encouraged to discuss their own challenges and successes. Perhaps the experience of finding, or being, a mentor is linked to organizational psychology. Aspects of sociology and social psychology can assist with understanding how committees work. Approaching our institutions as a case study in the social sciences may aid in understanding the motivations, agendas, and traditions we encounter. Focusing on how these processes work can help us better navigate the obstacles in our careers.
Section IV
Capstone Courses

1. Course Sharing: Senior Capstone in Psychology
Course Sharing: Senior Capstone in Psychology
Abigail L. Kerr & Amanda M. Vicary
Illinois Wesleyan University

Abstract
Illinois Wesleyan University’s senior thesis course enrolls approximately 10-12 students per year (25% of our senior class).
Students design and conduct a year-long research project that involves data collection, analysis, a proposal and defense, a final paper, and a poster or oral presentation at our school’s annual undergraduate conference.
The course is co-taught by two psychology faculty. Students also have a primary research advisor.

Structure
Class for two hours every other week.
During the Fall, students complete IRB or IACUC proposals, an Introduction and Methods section of a paper, begin data collection, and give an oral presentation of their proposed study.
During the Spring, students complete their paper, including Results and Discussion, and give an oral defense.

Weekly Class Activities
Students provide bi-weekly updates of research progress during which they practice explaining their projects (including rationale and methods) and answering questions regarding study design, logistics, etc. from instructors and peers.
Students identify challenges they are facing and use fellow students to help design solutions.
Formal instruction regarding writing various sections of the final paper, as well as giving oral presentations, is provided by instructors.
Formal instruction is accompanied by readings in “Dissertations and Theses from Start to Finish” (Cone and Foster).

Proposals and Defenses
Students give an oral proposal of their project to their course instructors and classmates (Fall).
Students give a final defense (30 minute presentation followed by Q&A to a committee of 3 or 4 faculty members (Spring).
The committee is comprised of one of the students’ thesis instructors, their research advisor, an additional psychology faculty member, and an extra non-psychology faculty member (Honors Theses only).

Final Paper & Conference Presentation
Drafts of students’ final papers are reviewed by their primary research advisor and the course instructor yielding at least 10 opportunities for revision.
Students do peer-reviews in class (once in Fall and once in Spring)
The final paper is usually 30-40 pages in length and near publication quality.
Students present a poster or oral presentation of their work at our annual undergraduate research conference at the end of Spring. The conference includes independent student scholarship from disciplines across the university and is frequently attended by other students, professors, and parents.

Faculty Workload
Research advisors supervise study design, data collection, and analysis. They provide feedback on written products at their discretion, although they are encouraged to read at least two drafts each semester.
Thesis instructors serve as a support system for students.
Act as a mediator between student and research advisor when necessary
Run bi-weekly class sessions
Serve on 5-6 defense committees each
Read and provide feedback on drafts of the written product throughout both semesters.

Conclusion
Annual end-of-year surveys of our thesis students indicate that almost all consider it a highly valuable and culminating experience.
Most students in the course (80-90%) go on to Masters or PhD programs and state that their senior thesis was often discussed during their graduate interviews.
Section V
Clinical/Counseling Psychology

1. Clinic for Handicap and Rehabilitation Psychology: A Master Degree Programme for Psychology Students in Denmark

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Clinic for Handicap and Rehabilitation Psychology: A Master Degree Programme for Psychology Students in Denmark

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The field of rehabilitation may be undergoing a paradigmatic shift from a strict biomedical focus on disabilities towards a more encompassing bio-psycho-social perspective. However, we found (authors, 2016) that actual rehabilitation practice in Denmark is almost exclusively based on biological and practical aspects. Rehabilitation psychology has been growing as a field in the US and several European countries but is yet to be developed in Denmark.

To help achieve this, we developed the programme Clinic for Handicap and Rehabilitation Psychology (CHaRe). CHaRe is a master degree program at the Department of Communication and Psychology at Aalborg University (AAU). CHaRe aims at qualifying students for future work as rehabilitation psychologists. The programme spans 4 semesters and is organized partly in relation to curriculum, partly in relation to clinical practice where students will offer a manual based intervention to clients with disabilities (acquired brain injuries) and their close relatives.

This close connection between research, education and practice rests on the didactic idea of problem-based learning. The students are dealing with authentic psychological problems as part of their professional training, intertwined with more theoretical parts of the education. This way of organizing teaching and learning holds some very interesting educational possibilities, for example, how students find motivation from the different cases, how their learning is structured by clinical practice, and how they feel prepared for a job after graduation rather than fear a practice shock.
Clinic for Handicap and Rehabilitation Psychology
A master degree programme for psychology students in Denmark

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Introduction
The field of rehabilitation may be undergoing a paradigmatic shift from a strict biomedical focus on disabilities towards a more encompassing biopsychosocial perspective. However, we found (authors, 2016) that actual rehabilitation practice in Denmark is almost exclusively based on biological and practical aspects. Rehabilitation psychology has been growing as a field in the US and several European countries but is yet to be developed in Denmark.

To help achieve this, we developed the programme Clinic for Handicap and Rehabilitation Psychology (CHARe). CHARe is a master degree program at the Department of Communication and Psychology at Aalborg University (AAU). CHARe aims at qualifying students for future work as rehabilitation psychologists. The programme spans 4 semesters and is organized partly in relation to curriculum, partly in relation to clinical practice where students will offer a manual based intervention to clients with disabilities (acquired brain injuries) and their close relatives.

The CHARe programme

BackUp! – the intervention manual

For adults with an acquired brain injury and their close relatives

© Clinic for Handicap og Rehabiliteringspsychology (CHARe)

Conclusion
This close connection between research, education and practice rests on the didactic idea of problem-based learning. The students are dealing with authentic psychological problems as part of their professional training, intertwined with more theoretical parts of the education. This way of organizing teaching and learning holds some very interesting educational possibilities, for example, how students find motivation from the different cases, how their learning is structured by clinical practice, and how they feel prepared for a job after graduation rather than fear a practice shock.

References

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National Institute on the Teaching of Psychology (NITOP), Florida, 2017
The Aalborg University Model of Problem Based Learning (PBL) Unfolded within an Interdisciplinary Children's Clinic at the Master Program of Psychology

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Introduction
Problem-based Learning (PBL) is applied in all study programmes at Aalborg University, with approximately half of the study activities consisting of project work in teams (2).

In 2012 Aalborg University’s Clinic for Developmental Communication Disorders was launched as a PBL Master programme within the psychology programme providing students a clinical setting for their compulsory internship during their two year Master programme, after a three years bachelor programme in psychology. Following the principles of the Aalborg PBL model (3) students’ work is anchored within the concrete challenges of children that grow up with a communication disorder and their families.

The objectives of the clinic are to ensure that students’ work is exemplary and transferable to situations encountered in their future professional career as a psychologist, that the students are self-reflective and responsible for their own learning, and acquire the ability to work in a team. The clinic also serves to link a particular gap within the Danish society by offering a Dynamic Assessment approach to school-aged children (1).

Frame of the internship on the 2nd sem. and the roles held by each student
Each student:
• works within a reflective team of 4 students lead by two staff supervisors.
• is responsible of planning and executing 7 dynamic assessment sessions with a school-aged child, that has a language or communication disorder.
• is responsible of providing consultation to the parents/families and carry out a structured interview.
• is responsible of on-line observations of student sessions.
• is responsible for the technic (video & microphone).
• writes final rapport and presents it to parents, teachers etc.
• receives supervision after each session.

All sessions are evaluated on-line by the reflective team through a one-way screen and video-recorded for use of supervision.

The programme, theories and methods
The theoretical departure of the clinic is motivated by Dynamic Assessment, e.g. Vygotsky’s concept of mediation and the zone of proximal development (1). Dynamic assessment has been shown to be beneficial for children with language disorders (4). Students develop concrete therapeutic tools specifically constructed to fit the needs of the individual child and its family.

The courses within the programme add up to a total of 55 ECTS-credit points (app. 1.375 work hours). The courses provide the student with relevant background knowledge concerning theory, practice and intervention with children and adolescents that grow up language onl and communication problems. The remaining courses are joint with students in the other Master programmes (See table 1).

Table 1. Overview of ECTS-credit points

<table>
<thead>
<tr>
<th>Joint courses for all Master programmes</th>
<th>ECTS-credit points</th>
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</thead>
<tbody>
<tr>
<td>Advanced Applied Psychology</td>
<td>10 ECTS</td>
</tr>
<tr>
<td>Advanced Psychology I, II ECTS</td>
<td></td>
</tr>
<tr>
<td>Psychological Testing, ECTS</td>
<td></td>
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<tr>
<td>Psychological Practice and Intervention Methods, 8 ECTS</td>
<td></td>
</tr>
<tr>
<td>1st Semester</td>
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<tr>
<td>Advanced Applied Psychology</td>
<td>15 ECTS</td>
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<tr>
<td>Advanced Psychology I, II ECTS</td>
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<tr>
<td>Psychological Testing, ECTS</td>
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<tr>
<td>Psychological Practice and Intervention Methods, 8 ECTS</td>
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<tr>
<td>2nd Semester</td>
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<tr>
<td>Theory, Practice and Scientific Method, 15 ECTS</td>
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<tr>
<td>Research Methods: Potentials and Limitations, 5 ECTS</td>
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<tr>
<td>Honours</td>
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<tr>
<td>2nd Semester</td>
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<tr>
<td>2nd Semester Textbooks, 10 ECTS (ECTS set)</td>
<td></td>
</tr>
<tr>
<td>Master’s Thesis, 30 ECTS</td>
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</tbody>
</table>

Qualitative examples of student’s reflections on their learning:
The internship course is passed through active participation during 50 workdays and a 10-page reflective rapport of learning outcomes during the internship. The following citations are examples of students’ descriptions of their learning outcomes:

“I’ve discovered the importance of supervision and collaboration with co-students in finding solutions, which I would not have found on my own”

“The largest and most challenging experience I gained from the clinic was having the role as the student-therapist... the first sessions made me nervous, but the supervisors and the reflective team made me feel confident.”

“I became aware that as a psychologist one needs to meet the clients where they are”.

“I’ve gained more confidence in becoming a psychologist, knowledge about a new area and large respect for the professional psychology practice”.

“I suddenly understood all the professional terms, the tests and how the psychologist had reached her conclusions in an earlier psychological report - the development from pure gibberish to comprehensible, professionally well-founded recommendations made a big impression on me.”

“Now more go-do attitude towards my future labor market”

Thanks to:
The participating students and children
Overview

Within a cross-cultural psychopathology study-abroad program, visits to psychiatric institutions can be used to humanize mental illness and induce disorienting dilemmas.

Disorienting dilemmas occur when recent experiences are incongruent with one’s preexisting beliefs and force the individual, via dissonance, to reconsider such beliefs (Moloney, 1987).

Clinic visits can be structured to intentionally induce such dilemmas as a means of pushing students to question culturally-based assumptions regarding mental illness.

Most Western students begin the program with a belief in universalism, the idea that mental disorders are essentially the same across cultures.

Through clinic visits, students can gain an appreciation of the extent to which socio-cultural factors influence the development of and optimal treatments for disorders.

I have led seven term-long cross-cultural psychopathology study-abroad programs in Prague and arrange multiple class visits to psychiatric institutions, four of which are described here.

Assessment of Paraphilias

Penile plethysmography refers to the placement of a band around the penis that continuously measures girth while various pornographic images are displayed on a screen (Jelalian & Scott, 2007).

Patterns of sexual arousal can help differentiate between sex offenders who have a sexual paraphilia vs. those who are motivated by power or anger.

At a “sexology clinic” in the Czech Republic, students learn that the images shown to patients depict heterosexual sex, homosexual sex, group sex, rape scenes, exhibitions, voyeurism, and child pornography.

The very possession of some of these slides (e.g., child pornography) by a clinician in the U.S. could be grounds for prosecution.

As such, the visit prompts students to consider whether the clinical use of such pornography should be condoned.

Treatment of Sex Offenders

In the Czech Republic, sex offenders with a paraphilic disorder are largely considered not responsible – in both an ethical and legal sense – for their sexual behaviors and are confined to a rehabilitation clinic (Nessa, 1999).

In contrast, offenders without a sexual paraphilia are considered responsible for their behaviors and are sentenced to lengthy prison terms.

We meet at an inpatient clinic with a group of offenders with paraphilias, primarily pedophilia and sexual sadism disorder. They tell their stories, often of being torn between lust and shame, and answer student questions.

The clinicians present data on the markedly low recidivism rates among patients who have been deemed rehabilitated and released.

Students often are surprised by the degree of sympathy they develop for some offenders and later express feeling torn about the moral responsibility of and proper judicial course for paraphilic offenders.

Treatment of Gender Dysphoria

The Czech health care system considers transgender individuals to have a psychological condition (a problem with the body), not a psychiatric one such as gender dysphoria.

The stigma associated with having a transgender identity is much less in the U.S. (Woody-Hallberg, 2010).

Further, the costs of biomedical treatments - including hormone therapy and SRS - have been covered for decades by the Czech state.

We visit an outpatient clinic and meet with transgender individuals in various stages of treatment and their clinicians.

The visit forces students to consider philosophical and medicolegal perspectives that may be different from their own.

Treatment of Eating Disorders

The rate of eating disorders in the Czech Republic doubled from 1986 (under communism) to 1995 (under democracy) (Parkhomov, et al., 2010).

We visit an inpatient clinic and meet with patients with anorexia nervosa and clinicians to explore the developmental impact of political change.

The theorist we discuss include the influx of Western media promoting the thin ideal (v.s. the muscular socialist worker ideal promoted under communism), of boutique clothing stores catering to tall, thin women, and of the diet industry pushing its wares on females.

The patients tell us, in their travels as students or as-pairs to W. Europe, encountering, internalizing, and eventually importing back to the Czech Republic thin, Western ideals.

The students, in turn, are confronted with the idea that communitarian served as a protective factor for certain types of psychopathology.

Pre- and Post-Visit Activities

Prior to each excursion, I assign relevant background articles and discuss with the class what they might expect.

Following each excursion, students write a brief paper in which they describe and reflect upon their thoughts, feelings, and perceptions.

In my evaluations of these papers, I emphasize depth (rather than content) of thought, as evidenced through discussion of pre-existing assumptions that were challenged, ethical or philosophical issues that were raised, deeper questions that persist, or contradictions that were observed.

References


Adult ADHD: Data from the Lab, Strategies in the Classroom

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Presented at: National Institute on the Teaching of Psychology
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Attention-Deficit/Hyperactivity Disorder (ADHD) is a developmentally disabling disorder of inattention, impulsivity, and hyperactivity. It is currently found in the DSM-5 and is defined by criteria of persistent inattention and/or hyperactivity. ADHD can manifest in three different presentations, based on most recent symptoms. Research suggests the disorder appears to be universal across countries and cultures, and it affects approximately 5 – 7% of children and 3 – 5% of adults worldwide. Many individuals are first diagnosed when they reach college. The symptoms of ADHD can make the college experience especially demanding for students with the disorder, impacting not only their academics, but other aspects of their lives as well. Furthermore, teachers and others working with these individuals may also be faced with particular challenges.

This session provided an overview of current research in the investigation of ADHD in adults, with an emphasis on brain mechanisms associated with the disorder. Differences in both brain structure and function, and potential impact on symptoms of the disorder were highlighted. Lab measures of concurrent quantitative EEG (QEEG) and electrodermal activity (EDA) during neuropsychological task performance were also used to illustrate the impact of this disorder. Findings were reviewed in context of challenges adults with ADHD may face in the college classroom, and beyond. The session concluded with a discussion of strategies that teachers can share with adult students with ADHD, and some ways teachers may be able to help these students be more successful in their classes.

Selected Resources


Section VI
Cognitive Psychology/Learning

1. Using Learning-Enhancing Techniques to Teach Learning and Memory
2. Teaching Negative Reinforcement Is Not Punishment
3. Metacognition: Do Students Know What They Don’t Know?
4. Course Sharing: Cognitive Psychology Lab
5. Using Psychology to Teach Psychology: Incorporating Mnemonics into Our Instruction
6. Building Frankenstein: Reconstructing the Learner from the Research on Learning
Using Learning-Enhancing Techniques to Teach Learning and Memory

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Six learning-enhancing techniques were used to improve student learning in a Learning and Memory course:

- **Hand-Written Notes**
  - If students chose to take notes during class, they were allowed hand-written notes only.

- **Daily Quizzes**
  - At the end of every class period, students were quizzed over key concepts from the lecture. These quizzes were open-book and accounted for a small percentage of the final grade.

- **Elaborative Processing**
  - Through in-class discussions and reflective writing, students related the course material to their own experiences.

- **Distributed Practice**
  - At the beginning of each class period, the instructor briefly reviewed information from the previous class period and gave students an informal quiz on key concepts.

- **Collaborative Review**
  - Prior to each exam, students took part in collaborative review in which they attempted to answer questions on a practice test alone, then with a partner before they could look up the answers in their notes.

- **Self-Correcting Exams**
  - Students were allowed to take the multiple choice portion of each exam twice: once in class without their notes and once at home with notes. The average of the two scores was used to calculate their grade.

Students reflected on these learning techniques throughout the semester. At the end of the semester, students were asked to write a final reflective essay evaluating the efficacy of each of the learning techniques. These reflections were used to assess each method. Each technique was given a helpfulness rating from 1 (not at all helpful) to 5 (extremely helpful).

- Ratings of the course increased significantly, $t(43) = 2.02, p = .04, d = .62$.
  - "Overall, I rate this course as excellent."

- Ratings of feelings toward the field of psychology increased significantly, $t(43) = 2.51, p = .02, d = .80$.
  - "As a result of taking this course, I have more positive feelings toward this field of study."

"Without the distraction of the computer in front of me, I was also more attentive while writing my notes."

"The quizzes we took everyday were a great reminder of the main things that we learned in that certain class period and gave me landmarks to study that day for that particular lesson."

"Elaborative processing is one of the best techniques when it comes to my personal learning. If I am reading information to something that I have personally experienced, I tend to remember the information much better."

"(Distributed practice) helped me connect the material together so that I had a better understanding of how the two topics are associated. It also helped with improving retention of information by providing another opportunity to review and learn the information."

"(Collaborative review) was beneficial for me since I learn very well when I teach information to my peers."

"The self-correcting exams made me realize the little mistakes I made [...]. It also made me realize the area of studies that I wasn't quite grasping."

**References**
Learning Reflection Prompts:

1. How did you study for the first test? How could your studying be improved? Reflect on whether you used any of the memory-improving techniques and how well they worked for you. If you didn’t use any memory-improving techniques, how could you improve your study habits for next time?

2. On the first day of class, I outlined several techniques that I use in this class to improve learning and memory (see syllabus). Reflect on at least two of these strategies. Describe how they are used in class. Are they working for you? Why or why not? How could it be improved?

3. On the first day of class, I outlined several techniques that I use in this class to improve learning and memory (see syllabus). Reflect on how other classes use at least two of these strategies. Describe how they are used in class. Are they working for you? Why or why not? How could it be improved?

4. On the first day of class, I outlined several techniques that I use in this class to improve learning and memory (see syllabus). Reflect on how each one of these strategies was used in class and how each worked for you. Talk about how at least one other learning and memory principle could be used in this class to improve your learning.

https://www.taskstream.com/ts/lapaglia2/LaPaglia

These are the techniques that were built into the class to improve student learning:

1. **Testing:** Testing/quizzing is a very powerful memory enhancer (when compared to re-study; Karpicke & Roediger, 2008). There were be pop-quizzes at the end of most class periods. These quizzes were just 5 points over the material covered that day. Hand-written notes were allowed to look up answers.

2. **Hand-Written Notes:** Hand writing (as opposed to typing) notes leads to a better understanding of the material (Mueller & Oppenheimer, 2014). Although students were free to type their notes, only hand-written notes could be used on the quizzes.

3. **Self-Correcting Exams:** Students took each exam once in class and again at home for a chance to improve their score. This self-correcting method has been shown to improve student learning because they need to spend more time on the material (Gruhn & Cheng, 2014).

4. **Distributed Practice:** At the beginning of each class period, the instructor reviewed material from the class period before. Distributed practice helps connect the material and improves retention of information (Cepeda et al., 2006).

5. **Multiple Modalities:** We discussed concepts in many different formats (e.g., video, activities, lecture, group projects and discussion) to help students with varying learning preferences. This aids in elaborative processing of the material (see #6).

6. **Elaborative Processing:** Relating the information learned in class and from the text to one’s own life can improve learning (Craik & Tulving, 1975). Reflections, in-class activities, experiments, and the group project reinforced this type of deeper understanding.

7. **Collaborative Review Sessions:** Incorporating both testing and elaborative processing during review sessions increases student understanding of the material by providing an initial retrieval opportunity followed by immediate feedback from peers (Maxwell, McDonnell, & Wieman, 2015).

References


Teaching Negative Reinforcement; It’s Not Punishment

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ABSTRACT

Introductory students often struggle to understand negative reinforcement and commonly misinterpret negative reinforcement for punishment. We tested the effectiveness of an interactive demonstration that simultaneously employs positive and negative reinforcement as a positive and negative punishment to alleviate a volunteer’s balking. Seventy-eight students from four sections of Introduction to Psychology completed a pre/post-concept quiz at baseline and three weeks later to assess the effectiveness of the demonstration. The demonstration cannot be attributed to significant changes in quiz scores and student understanding; unfortunately, there were confounding variables like course content and different instructors among the different sections. Although this study does not provide empirical evidence that the demonstration improves quiz scores, the demonstration may relate to memorable and longer-lasting distinctions between forms of operant conditioning.

INTRODUCTION

- Introductory students often struggle to understand negative reinforcement and commonly misinterpret negative reinforcement for punishment. Staber (1988) found that 78% of students believed that negative reinforcement was used to decrease behavior and 76% of students reported that people do not look forward to it.
- We developed a fun and interactive demonstration to simultaneously employ positive and negative reinforcement as well as positive and negative punishment to shape a volunteer’s behavior. Human demonstrations of operant conditioning are rated as more useful and enjoyable than virtual demonstrations (Lewis, 2015). The demonstration aimed to provide a concrete and visible example for students to help them make important distinctions about operant conditioning, especially between negative reinforcement and punishment.

DEMONSTRATION

- The class selected a novel behavior while a volunteer was outside of the room (e.g., doing jumping jacks or throwing darts in a cup).
- The class then simultaneously shaped the individual’s behavior with positive reinforcement (adding Skittles to a cup), negative reinforcement (removing bails from his or her backpack), positive punishment (adding boots to his or her backpack), and negative punishment (removing Skittles from a cup).

METHOD

- 78 students in 4 sections of Introduction to Psychology at Rockford University in Rockford, Illinois.
- Students completed a short operant conditioning quiz at the beginning of the chapter on learning and again an average of three weeks later.
- 60 students completed both the pre-demo and post-demo quizzes with 5 questions like the following: Police stop drivers and give them a prize if their seatbelts are buckled. Seat belt use increases in this town. All positive punishment, bi-positive reinforcement, CI negative punishment, DI negative reinforcement.
- 48 students observed the demonstration.
- 12 did not observe the demonstration and received regular course instruction.

RESULTS

A paired-samples t-test was computed to compare the pre-demonstration (M = 1.57, SD = 0.85) and post-demonstration (M = 2.46, SD = 1.50) difference in mean number of items answered correctly in the experimental group. This test reached statistical significance, (t(13) = -4.27, p = .001). A second paired samples t-test was computed to compare the pre-demonstration (M = 1.75, SD = 0.66) and post-demonstration (M = 3.95, SD = 1.07) difference in mean number of items answered correct in the control group. This test reached statistical significance, (t(13) = -7.77, p = .001). An independent-samples t-test was computed to compare the mean difference in pre-demonstration and post-demonstration mean number of correct items in the experimental Group (M = 0.94, SD = 1.62) with the mean difference in pre-demonstration and post-demonstration mean number of correct items in the control Group (M = 1.33, SD = 1.67). The results of the t-test did not reach statistical significance, (t(26) = 0.78, p = .42).

CONCLUSIONS

The findings were not significant, but there was a ceiling effect in our design; differences in course content and varied instruction among different sections. Different sections were taught by different instructors. Although, presently, these findings do not provide empirical evidence for short-term improvement in quiz scores, the demonstration may relate to memorable and longer-lasting distinctions between forms of operant conditioning.

REFERENCES

- Big Bang Theory Clip that introduces the common confusion around negative reinforcement and punishment. Tinyurl.com/negativereinforcement

OTHER RESOURCES

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Metacognition: Do Students know what they don’t know?

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Introduction

Two fundamental goals of undergraduate education are to improve communication skills and to improve quantitative literacy. We have been investigating ways to teach these in tandem.

We have previously reported that students often do not speak or write clearly about data (Cameron & Duffy, MBSDP 2015; Duffy & Cameron, ExoSci, 2015). For example, in an assignment for a Sensation & Perception course, students were asked to describe a graph from a journal article of their choosing.

This response does not explain the most important aspects of these data. The student does not demonstrate an understanding of the data (Cameron & Duffy, ExoSci, 2015). However, it was unclear whether students were aware of their lack of understanding.

Question: How well do students know what they do not know? Study 1 compares student responses to a skills questionnaire on a related test. Study 2 examines students’ self-assessment of exam preparation and performance.

Study 1 Methods

We used the Academic Skills Inventory (Perry, Post & Glicker, 2015) from the American Psychological Association’s Society for Teaching of Psychology Online (Office of Teaching Resources).

The inventory includes 7 categories:

- Communication
- Information Gathering
- Diversity Experiences and Awareness
- Critical Thinking/Problem Solving
- Research Methodology/Statistics
- Values, Ethics and Social Responsibility
- Personal Development

It is a check-list with dozens of items per category (see attachment).

Study 1a: Self-evaluation using the Academic Skills Inventory

- Used only Research Methodology/Statistics section
- Likert scale (1–4)
- Students in our core classes, Introduction to Psychological Science, Statistics, Experimental Psychology and Senior Thesis, completed the inventory.
- Each of the 157 participants (60 freshmen, 43 sophomores, 39 juniors and 15 seniors) indicated the extent to which they agreed with each of 47 statements.

Study 1b: Assessment of Knowledge

- We developed a 12-item test based on items in the Research Methodology/Statistics section of the inventory (see attachment).
- Each of 69 participants (20 freshmen, 23 sophomores, 10 juniors and 16 seniors) responded to questions modified from Study 1a to demonstrate their knowledge.
- Each response was scored from 0 to 3 and scores were averaged.

Study 2 Results: Metacognition versus Cognition

Study 1a (Metacognition): In general, students reported that they understood quantitative data.

The average of their self-evaluation did not vary with academic year.

For example, on Question 28:
(1) I feel confident in my ability to interpret quantitative visual aids charts, tables, figures, and graphs accurately.

The average test score was very low, regardless of their academic year.

But when asked to describe the data in the graph shown below, responses were not strong.

Moreover, most students could not indicate the appropriate statistic to analyse these data.

Study 2 Methods & Results

Students in an Introduction to Psychological Science course (n=97, 75 full responses) indicated how many classes they had missed, how many hours they studied, how many study sessions they attended and they estimated their exam grade and rated how prepared they felt before and after each of the three exams.

Students rarely missed class (average -1 class) and rarely attended office hours (total=9).

Students studied more after the first test (by about 40 min) and they also attended more study sessions before the third test, though on average it was less than one session attended.

Students rated themselves as relatively well-prepared before tests and only modified their response after taking the first exam. Students overwhelmingly overestimated their exam scores, even after the third exam.

Conclusion: Regardless of their academic year students believe that they understand concepts in methods and statistics even though their responses to test questions on those topics do not demonstrate a solid understanding. Students also overestimate their exam performance, despite lack of preparation, which they overestimate.

These results suggest that students’ metacognition is poor. An open question is whether or not improving their metacognitive awareness would improve their cognition.
Motivation

Understanding Graphs

The human cognitive system is limited in processing relationships between variables, with experts showing impairments with 4-way interactions, and chance performance with 5-way interactions. (Halfford, Baker, McClellan, & Baim, 2015)

In general, viewers find graphical display of scientific information challenging to understand. (Heagerty, 2013)

Students, in particular, find graphs of interactions difficult to understand and represent internally. (Shah & Carpenter, 1993)

Examples

An ongoing concern in psychological science is that results of key studies are replicable (Open Science Collaboration). The studies that are included in this laboratory unit either have repeatedly replicated reported patterns, or fail to replicate those patterns in ways that allow discussion of design and analysis issues (like removing long reaction times or differences in response modalities).

Stroop (1935): An early comparison experiment used to demonstrate how within-subjects data is formatted and converted to a bar graph.

Jiang, Saxe, & Kanwisher (2004): A psychological refractory period study showing an interaction between SOA and task. A useful experiment to demonstrate that multi-asking does not differ by biological sex.

Treisman & Gelade (1980): A three-way interaction that can be used to explain why interactions are always interpreted before main effects.

Implementation

Website

A number of recent studies have successfully replicated cognitive psychology experiments using JavaScript in a web browser.

(response times tend to be overestimated by 30-100 milliseconds, but browser type and hardware don’t seem to matter. (Reimers & Stewart, 2015)

To maximize control over all aspects of the experiment design and data output, I wrote an extensible set of scripts using the p5.js library.

Experiments

I have selected and tested experiments over the past five years that attempt to replicate important studies in cognitive psychology, demonstrate key types of data analysis in cognitive psychology, and work well with small class sizes (10 students).

The experiments are available on www.thecognolab.com.

Course Design

I spend the first month of my course teaching a laboratory unit (interactions, collecting data, and analyzing and interpreting the data with just enough theory to work with the data). Students develop, run, and interpret their own experiment as part of the course assessment.

COGNITIVE TEXTBOOKS

Interactions are the most common relationship between variables depicted in cognitive psychology textbooks.

Because students are expected to understand and construct these types of graphs as part of a cognitive psychology course, experience working with data from cognitive psychology experiments should help them with design and interpretation.
If you would like access to the Cognolab as a teacher, please email karl@thecognolab.com with the subject COGNOLAB TEACHER REQUEST

In the body of your email, please indicate (for each class):

Your Name
Your email address
Your institution (needed to create a class)
The course acronym/number (needed to create a class; include section number if needed)

REFERENCES


Original Sources for Cognolab Experiments:


Using Psychology to Teach Psychology: Incorporating Mnemonics into Our Instruction

Dennis Lowe  
Pepperdine University  
For further information, contact: dennis.lowe@pepperdine.edu

Beginning psychology courses introduce the benefits of mnemonic strategies. We hope that students will utilize these strategies on their own to remember course material.

But, how much do we incorporate these strategies into our teaching?

We can make our presentations more memorable by utilizing mnemonics during classroom instruction, including the use of:

- Music
- Images
- Symbols
- Humor
- Acronyms
- Phrases
- Stories

Instead of just presenting information, consider how to help students learn and retain the information.

In the middle column is a typical Power Point slide used to present information. [NOT THIS]

Improved slides are provided in the far right-hand column which help students learn the information. [USE THIS INSTEAD]

**NOT THIS**

**MAJOR DEPRESSIVE DISORDER (160)**
- During 2+ weeks, 5+ symptoms:
  - Depressed mood OR
  - Loss of interest/pleasure in activities - AND
  - Weight or appetite: decrease/ increase
  - Insomnia or hypersomnia
  - Psychomotor: slowed down (speech, movement) or agitated (pacing)
  - Fatigue, loss of energy
  - Worthlessness, excessive/inappropriate guilt
  - Difficulties: thinking, concentrating, decisions
  - Thoughts of death, specific plan, suicide attempt

**THIS**

**MAJOR DEPRESSIVE DISORDER (160)**

©Dennis Lowe, Pepperdine University
NOT THIS

MANIC EPISODE (124)
- For at least one week, elevated, expansive, or irritable mood & increased activity/energy plus ≥3 symptoms (4 if irritable mood):
  - Inflated self-esteem or grandiosity
  - Decreased need for sleep
  - More talkative or pressured speech
  - Flight of ideas or racing thoughts
  - Distractibility
  - Increase in goal-directed activities or agitation
  - Excessive involvement in activities w/ high potential for negative consequences

THIS

Panic Attack (214)
- Palpitations, pounding or racing heart
- Sweating
- Trembling or shaking
- Shortness of breath or smothering sensations
- Choking sensation
- Chest pain/discomfort
- Nausea or abdominal distress
- Dizzy, lightheaded, faint, or unsteady feelings
- Chills or hot flashes
- Numbness or tingling
- Derealization/Depersonalization
- Fear losing control or “going crazy”
- Fear of dying

What Makes People Happy?

Four steps:
1. Develop satisfying relationships
2. Engage in activities you enjoy
3. Fill your life with experiences, not things
4. Help others

Text Adapted from Social Psychology (3rd) by Aronson
Building Frankenstein: Reconstructing the Learner from the Research on Learning

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Science of Learning researchers deconstruct the individual learner into pieces B cognition, emotion, motivation, etc., and do so primarily in controlled contexts. SoTL studies examine discreet interventions in limited but more complex contexts. Both groups examine only pieces of what is a complex interaction. At present, it is no one’s job to put the pieces back together in the typical context of the learner. Yet, as teachers, we have an entire person, rather than just their cognition, in front of us every day. This presentation discussed the sorts of data available to teachers, the limitations of that data, and the likelihood of potential side effects or unforeseen consequences when relying solely upon such data to guide practice. The critical, though currently missing, role of translation, as well as that of the teacher, was stressed.
Section VII
Comparative Psychology

1. Educating the Public about Psychological Science Research at the Zoo

2. Does Engagement in an Applied Research Experience Affect Student Outcomes? Adventures at the National Aquarium
Educating the Public about Psychological Science Research at the Zoo

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Abstract

The zoo is a forum that provides access to a diverse and representative sample of the population and is therefore an excellent location to promote science education and expose a broader audience to scientific research. Much of the research conducted in a zoo setting relates to psychological science. Here we assessed how teaching visitors about the scientific research that takes place at the zoo influenced attitudes, knowledge and behavior towards the animals they observe and about science. The 3 conditions included a baseline condition in which facts about the animals were presented in a more static manner, a scientific video highlighting research carried out at the zoo (and paired with the same facts) and a control video condition that was not focused on scientific research, but again paired with the same facts. Data were collected on visitor behavior, knowledge and attitudes in each of these conditions and compared to assess the potential influence of exposing visitors to scientific research.

Results

- We collected behavioral data using an ethogram designed to monitor visitor actions while in the exhibit space and administered a survey to willing participants.
- Data collection has been completed for the baseline phase (Summer 2018) and is ongoing for the video conditions.
- Overall visitor behavior and attitudes are shown below.

Background

- The primary goals of zoological institutions are research, education, recreation and conservation.
- Zoo Atlanta houses two sun bears, Xander and Sabah, who have participated in research studies involving puzzle boxes and learning to use a touchscreen computer.
- This study focused on visitor knowledge and attitudes about scientific research at the zoo as well as behavior at a zoo exhibit.

Discussion

- The zoo has the potential to reach many visitors of wide ranging demographics.
- Public education about research is important and the zoo is a unique forum for achieving this goal.
- We hope to educate and inspire the public about psychological science research and continue to enrich and improve the lives of the sun bears through cognitive research.
Does Engagement in an Applied Research Experience Affect Student Outcomes?
Adventures at the National Aquarium

Sally Farley
University of Baltimore

**Introduction**

Experiential learning results in increases in student motivation (Drissner, House, & Hille, 2010), engagement, and course materials (Peckner, Biltz, & Folk, 2010), and evaluation of the course and instructor (Clements, 1995).

The benefits of experiential learning extend to environmental settings, as students may develop a greater appreciation for the natural world when they are immersed in real-world problem-based environmental education (Krampe, Tidball, & Srivastavarapu, 2009).

In addition, experiential learning interventions can also improve environmental attitudes (Drissner et al., 2010; Neiper & Dymond, 2012) and increase conservation behaviors from pre to post-test (Owen, Murphy, & Parsons, 2009).

**Purpose and Hypothesis**

The purpose of the present study was to compare two conditions of experiential learning, traditional semester-length group-based research projects and applied group-based research projects facilitated at the National Aquarium (NA) in Baltimore, MD. Although both of these conditions utilized hands-on problem-based experiential learning, NA projects may have possessed greater real-world relevance, thus translating into deeper learning.

Thus, I predicted that students participating in NA projects would experience greater gains in intrinsic motivation, cognitive engagement, positive environmental attitudes, and self-reported learning than those participating in non-NA projects.

**Method**

- Participants included two classes of students, an undergraduate student research methods and a graduate-level social psychology class (60.2% male, 97.6% aged 19-24).
- Students in the research methods class were matched on academic performance (grade in their previous methods class) and randomly assigned to one of six groups (3 aquarium groups and 3 traditional groups).
- Students in the graduate social psychology course self-selected their groups, with 4 students choosing to complete a project at the national aquarium and 10 choosing to work on one of the other applied projects.
- The content of the research topic was carefully controlled — all experiments tested the effectiveness of a social compliance technique.
- Students completed an intrinsic motivation scale (McEwen, 2011), the deep cognitive engagement scale (Johnson & Smets, 2013), and a variety of environmental scales (environmental self-efficacy by Paine & Chairy, 2005; environmental concern by Koeng-Lewis et al., 2014; environmental attitudes inventory by Milfont & Duckett, 2010) at the beginning and end of the semester. They also completed an item about self-reported learning at semester’s end.
- This yielded a 2 (research context: national aquarium vs. traditional) x 2 (pretest vs. posttest) x 2 (mixed-subjects) design.

**Results**

There were no significant differences between groups at pretest, thus groups were equivalent.

Although there were no significant effects for cognitive engagement or conservation attitudes, national aquarium students experienced significantly greater gains in intrinsic motivation in comparison to “traditional” students, F(1, 41) = 5.41, p = 0.025. See Figure below.

**Discussion**

Despite additional barriers to aquarium research (NA training, logistical issues, parking concerns), aquarium students’ intrinsic motivation increased over time, whereas traditional students’ motivators decreased. In addition, NA students perceived that they learned more than their traditional counterparts.

Intrinsic motivation is critical to the learning process because it mediates the relationship between perceptions of autonomy and deep learning (Nieto & Baca, 2015).

**Future Research**

This project is just one of many growing out of a unique collaboration between the University of Baltimore and the National Aquarium. Given the critical nature of climate change, coupled with the pedagogical effectiveness of experiential learning, improving students in important problem-based conservation research serves both students and our natural world.

This research was supported in part by a University of Baltimore Fund for Excellence Grant awarded to Dr. Sherry Gordon, Professor of Psychology, at the University of Baltimore, and Mr. Michael Sargent, former Director of Science Engagement in the National Aquarium. It was also supported by a Scholarship for Teaching and Learning (S4TL) Fellowship awarded to the author.
Section VIII
Critical Thinking

1. Click Away for Critical Thinking: An Alternative Use of Clickers in Small Enrollment Introductory Psychology Course

2. Creating Critical Consumers of Information in the Introductory Psychology Classroom
Click Away for Critical Thinking: An Alternative Use of Clickers in Small Enrollment Introductory Psychology Course

Kayoung Kim
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Biographical sketch: Kayoung Kim earned her Bachelor’s degree in psychology from Yonsei University, Master’s degrees in human development and psychology from Harvard University, and her psychology Doctorate from Texas A&M University. Her area of specialization is cognitive/experimental psycholinguistics, and her past research examined the relationship between literacy experiences and human cognition. Her most recent research explores various effective study skills and techniques for students of psychology at the college level. She joined the faculty at University of Wisconsin-Fond du Lac as an Assistant Professor of psychology in 2015.

Poster abstract

The effectiveness of using clickers (individual response devices) in the classroom instruction on students’ understanding of course concepts has been well explored by numerous studies in the past decade. Multiple findings suggest that using clickers greatly enhance students’ learning experiences, both at the individual and at the classroom level.

At the individual level, Lantz (2010) illustrated at least five different ways in which clickers could be a useful tool for promoting students’ active learning, including the cognitive benefits of the generation effect, maintaining a high level of attention during lectures, enhancing class attendance and preparation, providing immediate feedback, as well as framing a guided hierarchical organization of the course content. In particular, it was found that the immediate feedback delivered via classroom polling seemed to improve students’ overall academic performance in a college psychology course (Lantz & Stawiski, 2014). Furthermore, many have argued that clickers encourage students to become and remain proactive in their learning (Beatty, 2004; Bruff, 2009), increase students’ metacognitive self-regulation (Brady, Seli & Rosenthal, 2013), increase levels of comprehension of the course materials (Symister, VanOra, Griffin, & Troy, 2014) and long-term retention (Oswald & Rhoten, 2014), provide opportunities to exercise reasoning and problem-solving skills (Russell, McWilliams, Chasen, & Farley, 2011), and assist in students’ sense of perceived academic control, self-efficacy, and value (Buil, Catalan, & Martinez, 2016).

With these benefits in mind, using clickers became especially popular in large lecture-hall undergraduate classrooms, with the emphasis on learner engagement and academic performance. It was argued that using clickers enhances the quality of instruction by promoting in-class discussions of course concept (Smith, Wood, Adams, Wieman, Knight, Guild, & Su, 2009; Morse, Ruggieri, & Whelan-Berry, 2010), developing students’ problem-solving skills (Levesque, 2011), increasing students’ satisfaction level with the course and their academic performance (Powell, Straub, Rodriguez, & VanHorn, 2011), as well as encouraging students’ interactivity and collaborative efforts (Blasco-Arcas, Buli, Hernandez-Ortega, & Sese, 2013).

However, two important limitations exist in these findings. First, the majority of the studies report having explored the efficacy of clickers in large classrooms, but not as much in smaller classrooms. Second, while a considerably smaller number of studies report having
used clickers in smaller sized classrooms, the main focus of these studies are mostly centered around students’ content retention and academic performance (Smith, Trujillo, & Su, 2011; Flosason, McGee, & Diener-Ludwig, 2015); not much has been explored regarding the pedagogical efficacy of using clickers in smaller classroom for promotion of critical thinking (Mollborn & Hoekstra, 2010).

Therefore, the present study was conducted with these specific goals in mind: 1) to examine the usefulness of clickers in students’ enhanced understanding of core facts and concepts, 2) to explore the efficacy of clickers in facilitating and promoting students’ critical thinking abilities, and 3) to assess the overall efficacy of clickers in small enrollment classrooms.

Data were collected from two different sections of an introductory psychology course, taught by the same instructor. Of the 12 chapters covered throughout the semester, six chapters were taught using clickers, each of which presented half of the clicker questions in the multiple-choice format, designed to serve as a fast fact-checker; and the other half in an open-ended format, designed to serve as a small group discussion point, to which students responded by typing their answers via clicker software. At the conclusion of the semester, a total of 53 students’ academic performance on the two different types of exams (knowledge retention vs. critical thinking) were included for analysis.

The findings indicated that students’ performance in the knowledge retention exams did not differ on chapters they had received instruction with or without clickers. However, in comparing students’ critical thinking exam performance, students performed significantly higher on the chapters they had received instruction with clickers, compared to those that they had received without using clickers. Students’ self-reports further confirm that by using clickers students felt more engaged in the lectures at a much deeper level, allowing them to stay interactive during discussions, enabling and assisting in their development of critical thinking abilities.

These findings provide empirical evidence that evaluates the effectiveness of clicker use in college classrooms, particularly in small enrollment courses. In particular, the findings demonstrate that clickers can be effectively employed specifically to promote students’ critical thinking. These results provide further implications for pedagogical strategies that encourage both the learners’ factual knowledge retention as well as the higher-level critical thinking abilities.

References


Creating Critical Consumers of Information in the Introductory Psychology Classroom

Laura L. Namy
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Students typically enter the psychology classroom with little conception of what the discipline involves beyond psychopathology. Worse yet, myths, misconceptions, and faulty intuitions abound regarding fundamental psychological phenomenon. Few other disciplines suffer from this challenge of having to fight folk-convictions about how things work. The fight is real. Persistent are the “we only use 10% of our brain” myth, the notion that individuals are either left versus right brain, and the conviction (widely adopted by educators and more recently medical personnel) that people differ with respect to their optimal learning styles. People accept, and act based upon faulty adages like “Opposites attract” and engage in superstitious rituals. Such misinformed behavior has real world implications ranging from voting and dating behavior to medical decisions to career pursuits.

I argue that the Introductory Psychology classroom offers a unique opportunity and indeed a unique obligation to remediate these problems. Especially given that a large proportion of students enrolled in Intro Psych are not likely to go on to take additional Psychology courses, this is an important window in which to introduce students to not only the scope but the process of psychological science. My goal in the Intro Psych classroom is to equip students to become more critical consumers of information, within their classes and in their everyday lives. This calls for a significant shift in teaching approach. My instructional goals are to enable students to:

- Understand psychology as a science
- Reason about evidence and recognize fallacies
- Possess metacognitive awareness of their own cognitive vulnerability to heuristics and biases
- Recognize that conclusions are nuanced and not always cut-and-dried

Developing these skills in students requires careful scaffolding – time, practice, and reinforcement of concepts throughout the semester. As a result, a much greater proportion of classroom time is spent on psychological science as a process than on any other topic. Even when introducing topical areas and phenomena, the emphasis is on how we know what we know rather than simply what we know. For the purposes of this paper, I will focus specifically on training students to analyze research studies and assess the types of conclusions that are warranted from the findings.

In class, I present students with opportunities to identify the research design and logic of research studies. Early in the semester, the core focus is exclusively on this process and I will often present hypothetical research questions or study designs to familiarize them with the concepts and terminology. Later in the semester, when I begin to tackle topical areas, I continue to elicit analysis of the design and logic of studies discussed in class or read about in the textbook. There are a variety of different in-class and out-of-classes exercises I utilize to hone students’ analytic skills, described in greater detail below.
One skill is to recognize whether the particular research question is one focusing on description (observational), prediction (correlational) or explanatory (experimental). For example, “At what age do children learn talk?” is a question about description whereas “Why does depth of processing facilitate memory?” is a question about cause or explanation. Similarly, I reinforce that the same question can be tackled using a variety of different research designs that vary in their efficacy. For example, answering the question “Does learning a second language improve children’s grammatical proficiency in the first language?” can be answered using a quasi-experimental approach comparing bilinguals to monolinguals. But students come to recognize that a true experimental approach requires randomly assigning children to either become or not become bilingual. This helps them both to recognize the limitations of many kinds of research studies but also to apprehend that rigorous experimentation is not always feasible or reasonable.

Most challenging but in many ways the most useful exercise I use helps students to bear down on their understanding of the logic of how and why the research design answers the question. I train students to generate if-then statements where the ‘if’ statement is a particular hypothesis and the ‘then’ statement describes the specific outcome of the experiment that would support it. This requires a great deal of scaffolding in the beginning but over time, students become comfortable generating a comprehensive set of if-then statements for studies they read about, write about, and discuss in class. An example is depicted in Figure 1.

Question: Do infants understand that objects that are not supported should fall?

Method: Preferential looking between pairs of displays showing varying degrees of physical support

Predictions [if-then statements]:

If infants understand only that physical support requires contact, then they should look longer at A than at either B or C.

If infants understand that physical support requires contact and that the center of gravity must be supported, then they should look longer at A and B than at C.

If infants do not grasp the concept of physical support, then they should display no preferential looking among any of the choices.

Figure 1
I also ask students to engage in critical application questions either during class discussion or in written responses. For example:

- What advantages might there be to NOT remembering things literally?
- How can we assess what words children comprehend before they can talk?
- Is there an ethical difference between positive eugenics (encouraging those with “good genes” to reproduce) and negative eugenics (discouraging those with “bad genes” from reproducing)?

Students are also asked to propose alternative hypotheses and to consider how to design follow-up studies that would test these alternative accounts. For example:

- A study found that infants’ attachment styles could be predicted by interviews with the mothers while they were still pregnant. What might explain this finding?
- Those with depression report having been treated more harshly by their parents as children than those without depression. Propose a study to rule out retrospective bias as an explanation for this finding.

In summary, I am advocating a reconceptualization of Introductory Psychology that prioritizes process over phenomena. Indeed, I dedicate nearly the first third of my class to research design and scientific reasoning about psychological phenomena. Once I turn to the various content areas within psychology, I highlight the major phenomena and introduce major terms, but always with an emphasis on not only what we know but how we know it. This approach certainly limits the coverage of content in an already tightly packed syllabus. But giving students the tools and insights to critically evaluate information offers a lasting, broader impact on both their class performance and their everyday lives.
Section IX
Developmental Psychology

1. Do “Voices on Campus” videos effect developmental psychology students’ initial responses to controversial topics?

2. Two Magic Tricks Illustrate Object Permanence: Comparing Piaget’s Tasks & Baillargeon’s Habituation Method

3. The Effect of Gamification in General and Developmental Psychology Courses

4. Creating a Transformative (Not Just Informative) Pedagogy for Developmental Psychology

5. Promoting Empathic Concern for the Elderly through a Computer-Based Simulation Model

6. Integrating Prevention Science into Developmental Psychology

7. From the Classroom to the Living Room: Developmental Science Goes Live!
Do “Voices on Campus” videos effect developmental psychology students’ initial responses to controversial topics?

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Like many faculty, I struggle with igniting fruitful discussion in class. Discussion activities are considered best practices in online instruction (Hanna, Glowacki-Dudka, & Conceircao-Runlee, 2000, Ko & Rosen, 2001, Pratt & Palloff, 2001). In my online discussions, I frequently find students replying to discussion prompts with little thought about the prompt, and then only reading and responding to other students’ posts to reach the minimum requirements. I cannot seem to encourage and engage discussions in my online courses.

I stumbled across a method of engaging more students in classroom discussions. I made “Voices on Campus” video vignettes in which 10 or so students on campus are asked their opinions about the discussion prompt. Showing these videos before, launching the discussion, seemed to energize and engage the students. Perhaps it was seeing their own colleagues taking a stand on an issue or seeing that all the “Voices” did not agree that sparked their interest and attention.

Because the videos worked in the classroom discussion, I decided to use it in my online courses to see if it would spark a more animated and engaged discussion. I created 4 discussion-then-reflection paper assignments on 4 controversial issues in developmental psychology (Knight & Lee, 2008):

- is nature or nurture more important
- is spanking effective discipline
- does watching violent media increase aggression
- is the midlife crisis a real phenomenon or a myth

The lessons involved several steps: before reading the course material, watch or do not watch (counter-balanced) a “Voices on Campus” video interview of other students’ views on the issue; before reading the course material, respond in a discussion to a prompt about the controversial issue; complete the course material that includes information about the controversial issue but also includes all the information for a test; write a reaction paper that includes descriptions and explanations of specific phenomena relevant to the issue and in which students’ post their current, educated viewpoint on the issue.

The “not watching” groups were expected to serve as a control, showing what the average student would believe and how they would respond in discussions without the influence of the videos.

Our first question was whether the “Voices on Campus” videos would spark interest and attention, leading to more engagement in the discussion. Using the Learning Management System (Brightspace/Desire2Learn), we compared many different metrics of the discussion behaviors, such as number of posts read, number of replies posted, and length of time spent on the discussions. We found absolutely no difference between the video and no video conditions. Further, we found that the discussions were as weak as my previous attempts: students responded to the prompts with very little critical thought and they posted only 1 reply, which was the minimum required.
This was very discouraging in my hunt for ways to energize discussion. However, we noticed that there seemed to be differences in the opinions on the issues between the groups that did and did not watch the videos. To examine this issue, we coded responses to each issue for each student and compared them, separately for each issue, with a Chi Square analysis. We found no video effects on the spanking issue (most students felt it was effective), violent media and aggression (most students felt there was an effect), or the midlife crisis (most students felt it was a real phenomenon). So, for most of the assignments the videos did not affect the discussions in any way.

The single exception was the issue of nature vs nurture effects on development. The Chi Square approached significance and may have reached it with a larger sample size, $X^2(2) = .11$. Students who saw the video were more likely to emphasize nurture in their opinions and much less likely to endorse nature or give other responses such as “both nature and nurture” or response too vague to code.

Our next step in the research is to code the students’ reflection papers. Because most of the students voiced opinions in their discussions that are not supported by research presented in the course, it will be interesting to see if exposure to that information makes it into their reflection papers and if their opinions about the issues change.

References:


Two Magic Tricks Illustrate Object Permanence: Comparing Piaget’s Tasks & Baillargeon’s Habituation Method

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At what point do infants have their own mental representations, and realize that objects continue to exist even when not observed? Nearly every Introductory Psychology textbook describes this idea – object permanence. Jean Piaget (1952) suggested that acquiring representations requires an arduous struggle throughout infancy, with the basic object concept forming only around 8 months and taking 24 months to fully develop. Renee Baillargeon (1987), in contrast, suggested that object permanence may be built into human thought, and quickly becomes measurable by 4 months of age. Piaget’s ideas about the active child struggling to form his or her own knowledge laid the foundation for modern educational ideas (e.g., inquiry learning), Baillargeon’s nativist account laid the foundation for modern modularity hypotheses in Evolutionary Psychology. Here I describe two demonstrations to engage students in learning about object permanence, and leave them with a thought-provoking question: Is Piaget or Baillargeon right?

Before class begins I enter with an inflated balloon. Students volunteer to blow up an additional 5 balloons and I tape them along a classroom wall. A stuffed animal sits visibly across the room from the podium. I tell students they will see two magic tricks.

Piaget’s Description of Object Permanence & the Emergence of Representational Thought

For my first trick, I ask students to keep their eyes on the stuffed animal. I dramatically lower a cloth blocking their view. Next I scurry across the room with the animal, always keeping the cloth up covering it, until the cloth is dangling above the podium. There is a barely audible “clump” on the podium. I scurry back to the original location where I held the stuffed animal with the cloth still up and reveal with a dramatic whip of the cloth “Ta da! The stuffed animal has vanished!” The more you ham it up the better, because the more bizarrely students will look at you.

“What, it’s gone! Isn’t that amazing?” If no one shouts out that it’s just behind the podium ask, “Where could it possibly be?” If need be, nudge for students to point to it. “It’s not so remarkable? But perhaps your finding my magic trick so trivial really shows something quite remarkable about you. Even while the cloth covered the stuffed animal, you knew it was there. Even as I walked across the room, you couldn’t see the stuffed animal, but your mind nevertheless pictured its movement. Were we born with this miraculous ability to represent objects we can’t see, or did we need to figure it out? Piaget created a series of tasks demonstrating the gradual development of this ability.”

I proceed to show the famous Piagetian Object Permanence Task and the A-not-B Error. By the time infants can understand a version of my magic trick, they are about two years of age; we see the emergence of their representational thought across many domains, such as language, pretend play, and drawing (Figure 1).

Figure 1. Piagetian Sub-Stages of Infancy & Object Permanence
Baillargeon’s Description of Object Permanence & the Habituation Method

What if infants really know about objects, but Piaget’s tasks are too difficult? Could we make them simpler? If we don’t have infants do anything, how can we tap their knowledge? I ask the class, “Can I understand anything about your knowledge without having you do something?” I pull out a giant pin and walk to the left-most balloon I had affixed to the wall at the beginning of class. Pop! The balloon bursts and students shriek at the loud sound. “Note the large reaction; what does this tell me about you?” Pop! The next balloon bursts. “Note there’s still quite a reaction on the 2nd balloon.” Pop! “Much less of a reaction on the 3rd balloon. Pop! Pop! Barely a reaction on the 4th and 5th balloons.” Then ... I stick the needle into the 6th balloon, but it just hangs there —unpopped. Students normally have a big laughing reaction. Why? What happened?

During the popping of the first 5 balloons, students became habituated because they knew that needles pop balloons, and they came to expect the loud sound. But on the last balloon students dishabituated. Their large reaction illustrated a violation of their expectations. Without asking students, I discovered they have an understanding of how balloons pop. Incidentally, the explanation of this magic trick is that I made an X of transparent tape on the balloon I inflated before I came to class. I put the needle into the X, which prevented the pop.

Using the second magic trick as an analog, I explain Baillargeon’s classic study in which infants habituate to a drawbridge that moves through an arc of 180°. When an object is placed behind the drawbridge, even very young infants show surprise that it still goes through a 180° arc; they are illustrating their expectation that the hidden object would halt the bridge.

Object Permanence & the Broader Context of Psychology

We can address many broader aspects of psychology with object permanence as a concrete example. The habituation method evokes the competence-performance distinction, while Piaget’s tasks predict other aspects of development, like language acquisition (Gopnik & Meltzoff, 1986) and separation
anxiety (Lester et al., 1974). We can illustrate the value of designing tasks even they’re later used to challenge our hypothesis; performance on the A-not-B error task being explained with cognitive processes (Diamond, 1985) and intersubjectivity (Topal et al., 2009). Finally, we can demonstrate how radically “new” tasks such as Baillargeon’s build upon a foundation of prior tasks, such as Fantz’s (1961) box and Teller’s (1979) visual-acuity cards.

When teaching the myriad ideas in Introductory Psychology, it’s easy to lose the subject matter in a laundry list of concepts to memorize. We might make our classes more cohesive by continually returning to the same themes. The study of object permanence provides a perfect example of a crosscutting theme – how we understand a psychological phenomenon depends in large part on how we measure it.

References


The Effect of Gamification in General and Developmental Psychology Courses

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INTRODUCTION

The goal of gamification is to increase students’ engagement and motivation by applying the mechanics of gaming (Sheldon, 2012).

- Students act as players (against environment, other players, or part of a team) and instructor acts as Game Master (organizer, moderator, and resource).
- The purpose of this study was to test whether gamification increased student motivation, engagement, and final grades.

METHOD

Participants: Undergraduates enrolled in Developmental (N = 25; 20 women; 8 majors; 8 minors) in Fall 2015 and General Psychology (N = 35; 12 women; 1 major; 1 minor) in Spring 2016.

Procedure and Materials:

- Independent variable: Parallel course sections were either Gamified (used gaming terminology and theme) or not. All other course components were held constant across sections.
- Control measures: conscientiousness, achievement striving, and grade point average prior to semester (obtained via registrar).
- Outcome measures: final course grade (out of 100%), motivation, and engagement (1 = strongly disagree; 7 = strongly agree)
  - Adaptive cognitions, adaptive behaviors, maladaptive cognitions, maladaptive behaviors, enjoyment, participation, academic buoyancy, assignment completion (Martin et al., 2007)
  - Interest, liking for learning, liking for class, effort, and persistence, cognitive engagement (Hart, Stewart, & Jimerson, 2011)

DEVELOPMENTAL PSYCHOLOGY RESULTS

After controlling for GPA, conscientiousness, and achievement striving, the gamified section had:

- Lower final grades (β = -.27, p = .08).
- More maladaptive behaviors (β = -.66, p = .009).
- Less interest in learning (β = -.71, p = .005).
- Less liking of learning (β = -.58, p = .01).
- Less liking of class (β = -.50, p = .07).
- Less effort and persistence (β = -.48, p = .07).
- Less cognitive engagement (β = -.64, p = .01).

Results indicate several negative outcomes for gamified course.

Limitations:

- Gamified section taught at 1:00 pm; non-gamified section at 8:00 am
- Gamified section had lower (but not significantly) GPA, conscientiousness, and achievement striving behaviors.

GENERAL PSYCHOLOGY RESULTS

Models including only the control variables significantly predicted:

- Final grades (R² = .50, p = .001).
- Adaptive cognitions (R² = .31, p = .03).
- Adaptive behaviors (R² = .31, p = .03).
- Maladaptive behaviors (R² = .23, p = .09).
- Maladaptive cognitions (R² = .27, p = .05).
- Academic buoyancy (R² = .45, p = .002).
- Effort and persistence (R² = .59, p < .001).
- Cognitive engagement (R² = .32, p = .03).
- Interest in learning (R² = .37, p = .001).

GPA was generally the strongest predictor (β’s = .17 - .70).

After controlling for GPA, conscientiousness, and achievement striving, the gamified section reported greater completion of assignments (M = 6.25, SD = 0.86) than the non-gamified section (M = 5.24, SD = 1.03), β = .43, p = .04.

- No other significant effects of gamification.

CONCLUSIONS

Limited effects of gamification on student motivation, engagement, and grades.

- Structure of may be more important than game branding.
- Student characteristics best predictors of motivation and performance in the classroom.

Creating a Transformative (Not Just Informative) Pedagogy for Developmental Psychology
Rodger Narloch, Angelica D. Reyes, & Janna C. George

Introduction
A goal of higher education is to foster students’ personal growth rather than just focusing on acquisition of knowledge and skills. The field of psychology is well-positioned to address this goal. Indeed, it is difficult to imagine a psychology course that would not cover material that might contribute to the betterment of each student as a person. Yet, do we fully leverage this advantage of our discipline? To what extent do we intentionally and systematically structure our courses to be transformative experiences for our students rather than focusing on the transmission of information?

This paper describes an attempt at creating a pedagogy within a developmental psychology course that emphasizes personal transformation. This course de-emphasizes memorization of material and instead: 1) allows students freedom to explore their intellectual passions within the field and 2) utilizes service learning to facilitate understanding of the dynamics of different developmental stages through which others view the world, as each student works in a setting that provides sustained contact with individuals who are a significantly different age than the student.

Key Assignments of the Course:

<table>
<thead>
<tr>
<th>Grade Assignment</th>
<th>Purpose</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Integrative Assignments</td>
<td>Integrate Academic &amp; First-hand Knowledge</td>
<td></td>
</tr>
<tr>
<td>28 Service Learning Projects</td>
<td>Understand A Different Developmental Lens</td>
<td></td>
</tr>
<tr>
<td>21 Chapter Resource Papers</td>
<td>Identify &amp; Apply Relevant Course Concepts</td>
<td></td>
</tr>
<tr>
<td>21 On-line Open-book Midterm Exams</td>
<td>Exposure to Breadth of Course Concepts</td>
<td></td>
</tr>
</tbody>
</table>

These course assessments ensure exposure to a breadth of content, but more strongly emphasize writing assignments where students choose narrower sets of content tailored to their interests and to their service learning group. Furthermore, the assignments reflect on how knowledge of various developmental concepts help them better understand their service learning client as well as how course concepts could be used to help make the world a better place. Thus, I ensure that students are exposed to the requisite information, but my assessments stress experience and reflection and are more likely to facilitate transformation.

Method
Participants were 56 students randomly assigned to 3 sections of a lifespan development course at a Catholic liberal arts university with an enrollment of approximately 3,500 students. The course is 100-level but only has Introduction to Psychology as a prerequisite. Students frequently enroll in the course to complete a psychology major elective, a suggested pre-professional elective, or as an experiential learning requirement. The composition of students in the courses was:

- 58% women, 42% men
- 32% first-year, 36% sophomores, 26% juniors, 25% seniors
- 42% psychology majors

Among the emerging themes shown in Table 1, the two “Course Concepts” themes best reflect the informative goals of a traditional pedagogical structure, whereas the other 18 themes reflect more transformative elements. The sheen predominance of transformative themes provides some evidence for the transformative nature of the course. Furthermore, although students were only asked to write about their one most profound insight, students typically discussed their “one” insight in ways that encompassed multiple transformative elements. Specifically, 95% included more than one and, on average, students addressed 3.21 transformative themes in their response.

Results
Two researchers performed qualitative analysis independently reading the students’ responses and discussing the emergent themes. They continued this process until exhausting all themes that were reliably present across the papers. Interrater reliability for the themes ranged from .89-97 (mean = .85.1%). The themes that emerged were:

<table>
<thead>
<tr>
<th>Course Concepts</th>
<th>% of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Course Concepts in Real-Life Contexts</td>
<td>38</td>
</tr>
<tr>
<td>Better Understanding of Course Concepts</td>
<td>37</td>
</tr>
<tr>
<td>Reflection on Ourselves</td>
<td>23</td>
</tr>
<tr>
<td>Awareness of Personal Biases</td>
<td>48</td>
</tr>
<tr>
<td>Better Understanding of Self</td>
<td>13</td>
</tr>
<tr>
<td>Self-Improvement</td>
<td>13</td>
</tr>
<tr>
<td>Awareness of One’s Own Impact on Others</td>
<td>33</td>
</tr>
<tr>
<td>Open-mindedness</td>
<td>38</td>
</tr>
<tr>
<td>Increased Understanding of Others</td>
<td>23</td>
</tr>
<tr>
<td>Increased Perspective-taking Skills</td>
<td>17</td>
</tr>
<tr>
<td>Less Judgmental</td>
<td>14</td>
</tr>
<tr>
<td>Appreciation</td>
<td>20</td>
</tr>
<tr>
<td>Importance of Relationships in Life</td>
<td>14</td>
</tr>
<tr>
<td>Awareness of the Value of Programs</td>
<td>14</td>
</tr>
<tr>
<td>Increased Awareness of Social Issues</td>
<td>18</td>
</tr>
<tr>
<td>Awareness of One’s Own Privilege</td>
<td>18</td>
</tr>
<tr>
<td>Effect of Social Status</td>
<td>18</td>
</tr>
<tr>
<td>Application to One’s Own Future</td>
<td>12</td>
</tr>
<tr>
<td>Effect of Career Aspirations</td>
<td>12</td>
</tr>
<tr>
<td>Maturation of Priorities</td>
<td>8</td>
</tr>
<tr>
<td>Commitment to Self Improvement</td>
<td>5</td>
</tr>
<tr>
<td>Application to Future Roles in Life</td>
<td>18</td>
</tr>
</tbody>
</table>

In the context of the course, the same type of thinking can be used to understand a larger context. In this paper, we find the transformative element of understanding and appreciating how the world works and why things happen. This understanding is important to our own personal growth and how we view the world. The transformative element is the ability to reflect on our own actions and how they impact others. This is an important skill in any field, but is particularly important in psychology as it allows us to better understand ourselves and how we interact with others. Through transformative thinking, we can better understand the world around us and how our actions impact others. This is an important skill in any field, but is particularly important in psychology as it allows us to better understand ourselves and how we interact with others. Through transformative thinking, we can better understand the world around us and how our actions impact others.

Discussion
Thus, based on students’ responses about their “Most Profound Insight,” the pedagogical approach seems to create an educational experience that is transformative as well as informative. This approach may be especially useful within religious-affiliated colleges as many of the transformative themes could be couched within religious principles, thereby providing a meaningful and natural way of integrating the religious mission of the institution within a psychology course.

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Introducing Empathic Concern for the Elderly through a Computer-Based Simulation Model

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Introduction

We will describe the development of an experiential learning tool that aims to increase students’ empathy toward older individuals while also enhancing their knowledge of the psychology of aging.

Theoretical Background

Ageist attitudes and stereotypes are commonly held by emerging adults, which poses a challenge for instructors of lifespan Psychology and Psychology of Aging (Conchas, 2009; Wurtele & Maruyama, 2012). Students may be reluctant to relate to the course material, interact with older individuals during service learning, and less likely to seek out careers with the ever-growing geriatric population (Brinker et al., 2014). To address this issue, specialized “aging simulators” or “immersive virtual reality” board games, and role-playing activities have been created to help decrease negative attitudes and increase students’ empathy toward older adults (Dickinson, Schwarzmüller, & Martin, 2014; Douglas, Henry, & Kostiw 2008; Lavallière et al., 2016; Yee and Bailenson, 2006). For example, students have worn clouded goggles (simulating cataracts) and earplugs (to simulate hearing loss) while shopping in a mock store (Yee, Chatka, & Lestnick, 2006).

Although current tools are somewhat effective, they:

1) are often reliant on having a significant number of external resources (e.g., tutors, resources) and a large in-class time commitment;
2) rarely include structured learning components to enhance/correct students’ knowledge about the aging process, which is known to increase positive attitudes (Harris & Dollinger, 2001);
3) typically focus solely on aging decline, which may actually increase negative stereotypes (Brinker et al., 2014);
4) often address only a few age-related issues (e.g., physical ailments); and
5) give limited treatment to the full range of empathic responding.

Hypothesis

The proposed role-playing, computer-based simulation model will increase students’ empathy and positive attitudes toward older adults, and improve students’ understanding of the aging process.

Methodology

The computer-based simulation will require students to take the perspective of avatars that represent individuals over the age of sixty-five. These “elderly avatars” experience a variety of positively and negatively valenced age-related issues.

- **Age-related issues** pertinent to the following domains of lifespan development:
  - Physical (e.g., senses, overall health);
  - Cognitive (e.g., memory, learning); and,
  - Social (e.g., relationships, personality).

Note: Both positive and negative issues are highlighted to reduce empathic over-arousal, which may decrease empathic responding (Hoffman, 2000).

As students experience the simulation, they will be asked to attend to certain aspects of the scenario and to complete activities that are meant to increase students’ empathy.

Empathy is induced via Hoffman’s (2000) five modes of empathic responding:

1. **Mimicry:** Through observing the facial expression of the elderly avatar, the student engages in imitation, and through this process, experiences what the other is feeling (see also Lickona et al., 2012).
2. **Physical conditioning:** Upon observing the elderly avatar in distress, and experiencing his or her own distress, the student will pair their own feelings with those expressed by the avatar.
3. **Direct association:** The student will relate cues in the elderly avatar’s situation to comparable experiences in their past; which, in turn, will spark feelings in the student that correspond to the avatar’s situation.
4. **Verbal mediation:** The student is made aware of the elderly avatar’s situation via reading and hearing about his/her situation.
5. **Role-taking:**
   - **Self-focused role taking:** The student observes the elderly avatar and is asked to imagine how the other avatar would feel in their position.
   - **Other-focused role taking:** The student is given information about the elderly avatar and other elderly individuals, so he/she can imagine how others feel.

Sample Situations from the Aging Scenarios

- **Mimicry:** Students observe the elderly avatar’s emotional expression as the avatar speaks. In addition, students are instructed to identify how the other avatar feels from a list of emotions.
- **Climactic Conditioning:** Students observe the elderly avatar who expresses distress (via facial expressions and verbal responses) upon not being able to hear the pharmacist. After this observation, students are given an activity which requires them to indicate whether they think the pharmacist can hear the message that is presented three times.
- **Direct Association:** Students observe the elderly avatar who has difficulty learning new computer software and experiences agnosia. The students are then prompted to think of a time when they struggled to learn something new, feel bad about it, and perhaps thought that there was something wrong with them.
- **Verbal Mediation:** Throughout the scenarios, students learn about age-related issues that the elderly avatar experiences (e.g., ability to adapt to change, problems with proprioception).
- **Role-taking:** When observing the avatar and reading about age-related concerns, students are continually prompted to “consider the experiences of most elderly individuals, imagine that you experienced what just happened to the elderly avatar, and think about how this would make them feel.”

Discussion

- If implemented as proposed, this computer-based, role-playing simulation will be an effective and accessible way to increase students’ empathic concern for older adults.
- In doing so, this experiential learning tool aims to solidify course concepts learned in the classroom, dispel age-related myths that lead to negative stereotypes or beliefs, and also increase the students’ motivation to interact with and help the elderly.

References


Integrating Prevention Science into Developmental Psychology

Elizabeth T. Gershoff
University of Texas at Austin
Presented at: National Institute on the Teaching of Psychology
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Many students who take psychology courses, particularly developmental psychology courses, plan to go into helping professions, including as clinical psychologists, physicians, nurses, teachers, or therapists. Instructors who can make psychological science relevant to students' planned careers by linking it to real-world interventions have a better chance of getting and holding the attention of their students. In this talk, Dr. Gershoff demonstrated how the key components of prevention science can be distilled and communicated in a classroom environment. Dr. Gershoff suggested different ways to integrate prevention science into both introductory and advanced developmental psychology courses through lectures, activities, and assignments. She drew examples from her own work related to parenting interventions and early childhood interventions and from her own teaching of undergraduate and graduate students in the fields of human development and social work.
From the Classroom to the Living Room: Developmental Science Goes Live!

Roberta Michnick Golinkoff
University of Delaware
Presented at: National Institute on the Teaching of Psychology
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How do we cover important content in our classes while instantiating the principles of learning? How do we keep our students coming back for more? Can we bring in current events and help students link up their life experiences to the concepts they encounter in our classes? There is literature in the science of learning to support these practices and others we discussed. Our goal: Sticky learning!
Section X
Educational/School Psychology

1. Psychology Instruction and a Massive Open Online Course (MOOC) Enhance Math Learning
2. Grades in Online and Face-to-Face Courses by the Same Instructors
3. Distributed Questioning as an Instructional Methodology
4. Improving Student Mindset through Intervention: What Works and for Whom?
5. An Effective (and Popular) Method to Improve Retention in an Introductory Psychology Classroom
6. Narrowing the Achievement Gap in Introductory Psychology
7. A Comparison of Teaching Introductory Psychology with and without Critical Thinking Exercises and Deep Processing Practice
8. Factors That Influence Students’ Perceptions of Their Roles and Priorities as College Students
9. “So, That’s Why I Do That!” Using an Inverted Constructivist Curriculum to Explore Students’ Implicit Knowledge and Make Psychology Real
10. Points vs. Percent: The Effect of Course Grading Systems on Students’ Allocation of Priority to Academic Tasks
11. Raise Your Hand If You Think Participation Improves Grades: A Comparison of Different Participation Techniques on Course Performance

12. The Impact of Students’ Reading Comprehension on Academic Achievement in General Psychology

13. Effectiveness of Concept Mapping of Student Performance in Large Classes: A Naturally Occurring Experiment

14. Secondary Trauma in Undergraduate Psychology Courses: Strategies for Reducing Students’ Distress Surrounding Course Content

15. The Impact of Flipping the Classroom on a Social Cognitive Model of Academic Adjustment Variables

16. Can Using an Exam Wrapper Improve Students’ Studying Strategies and Performance?

17. Setting an Example: Linking Students’ Self-Reported Study Strategies to Exam Performance

Grades in online and face-to-face courses, by the same instructors

Lynne Honey, PhD, Department of Psychology, MacEwan University

In the U.S., roughly 1/3 of all college students are enrolled in online courses (CRCC, 2013) and numbers are nearing that proportion in Canada (Mortel, 2012). Despite the increased popularity of online courses, there is a surprising lack of information about their effectiveness. The evidence that does exist is difficult to interpret because of dramatic differences in type of course (MOOC vs. small institution-specific courses), academic level of courses (K-12, introductory postsecondary, specialized expert-level), delivery method (text only, video, supplemented by multiple choice exams, term papers, portfolios). Most studies that have compared online and FTF classes have used descriptive methods, have not controlled for a variety of demographic variables associated with course selection, or have ignored withdrawal rates (i.e., Xu & Jaggers, 2013). Further, most courses have focused on introductory-level university courses and have not been able to control for instructor variables (e.g., Coates, Humphreys, Kane & Veachir, 2004). This study examines grades from Psychology courses at the 2nd year level of university.

It has been demonstrated that grades in online courses tend to be lower than grades in FTF courses (e.g., Xu & Jaggers, 2011, 2013) and that some student variables, including ethnicity and SES, widen this achievement gap (Xu & Jaggers, 2014). Grades often reflect more than course quality and student ability. Grades are affected by student motivation, clarity of teaching, student access to resources – both academic and otherwise – and validity of evaluations. One consistent difference between courses is the style or pedagogical choices of the instructor. If an online course has a different instructor than a FTF course, then not only does the delivery method differ but so do the evaluation methods and other pedagogical choices. This study examines grades in both online and FTF courses taught by the same instructors, and FTF courses taught by different instructors.

Grade rosters from six academic terms (Winter 2014, Spring 2014, Fall 2014, Winter 2015, Spring 2015, Fall 2015) for four 2nd year university-level Psychology courses at the same western Canadian university. The four online courses are taught by four different instructors, and each of those instructors also teaches the same course as a FTF course. Other FTF sections of the same course are taught by various instructors. Registration numbers are identical for online and FTF classes (capped at 40 students). In addition to grade comparisons between courses, student records were used to determine the overall GPA for each student. Student age and sex (the only demographic information available in the student records) were also recorded.

As demonstrated in previous research, grades in online courses were lower, on average, than grades in FTF courses. One course did not follow this pattern, and this inconsistency is likely explained by pedagogical choices made by the online instructor (personal communication). The achievement gap between online and FTF classes does not appear to be explained by student ability, because students who chose the online version of a course do not have lower overall GPAs. Students in online courses are more likely to be female and to be older, which supports the hypothesis that online courses may appeal to students with busier lives or other barriers to choosing FTF courses. There were no apparent systematic differences in grade outcomes associated with age or sex.

Follow-up research will examine whether students who completed online courses perform more poorly in senior level courses (for which the online course serves as a prerequisite) compared to students who completed the FTF prerequisite course, and whether students in online courses are more or less likely to be Psychology majors.
Distributed Questioning as an Instructional Methodology

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Background

- The question effect has been a well-established laboratory finding for a century.
- In this century, the use of online course platforms and classroom personal response systems (clickers) has made it possible to integrate distributed questioning into classroom instruction.

Method

A within-student, within-question, counterbalanced experimental design is embedded in a two-section psychology course.

- Five related questions: Pre-Class, In-Class, Review, Exam, and Final form a set.
- All questions in a set were answered by the same fact statement.
- Pre-Class and Review questions presented online.
- Three unit exams and a final exam

Results

Distributed questioning increases exam performance

Factors that influence exam performance

- Whether the immediately previous set question was answered correctly
- The number of previous versions of the question answered correctly
- The similarity of the question stem to previous question (percent words in common)
- The similarity of the answer to previous question (percent words in common)

\[ R = .989, R^2 = .979 \]

Negative correlation with retention interval; positive correlation with study interval

However, neither the number of foils in common with a previous question nor the number of times a foil has been seen previously are correlated with the probability of a correct response.

Conclusion

Distributed questioning increases retention of correct answers generated by the student.
Improving Student Mindset Through Intervention: What Works and for Whom?
Lindsay C. Masland and Twila Wingrove
Appalachian State University

What is Mindset?

Fixed Mindset
- Academic ability is a genetic entity incapable of improvement
- Low self-efficacy
- Perceived test anxiety
- Avoidance of risk
- Decreased persistence
- Increased dropout

Growth Mindset
- Academic ability can be incrementally improved through meaningful effort
- High self-efficacy
- Perceived confidence to succeed
- Utilizing instructor feedback
- Difficulty as challenge
- Increased persistence
- Decreased dropout

Research Questions
- Past work has indicated that brief, online interventions can enhance academic mindset of university students, and these effects are often long lasting (Paik and et al., 2015).
- However, no two studies use the same intervention, so the active components of the manipulation are presently unclear.
- As such, the primary research questions are:
  1. Can viewing a short, growth mindset video improve motivation in university Psychology students?
  2. Does course performance also improve after viewing a growth mindset video?
  3. Does reading a growth mindset letter from a past student enhance the effects of the video on motivation and course performance?

Method

145 students across four Psychology classes

Control Group
- No intervention

Intervention Group 1
- Motivated Strategies for Learning Questionnaire (intrinsic value, academic self-efficacy, test anxiety)
- Implicit Theories of intelligence Scale (fixed and growth mindset)
- Short Grit Scale (grit)
- Patterns of Adaptive Learning Survey (goal orientation)

Intervention Group 2
- Video + Letter

Effects on Mindset

Fixed Mindset
- The intervention did not affect fixed mindset (F(2,137) = .379, p = .685).
- All participants did increase their fixed mindset over time (F(1,138) = 12.298, p = .001).

Growth Mindset
- The intervention did not affect growth mindset (F(2,137) = .138, p = .865).
- All participants did decrease their growth mindset over time (F(1,138) = 6.877, p = .011).

Fixed Mindset Among At-Risk Students
- Video + Letter

Growth Mindset Among At-Risk Students
- Video + Letter

Discussion and Future Directions
- Regardless of the format, the brief, online intervention was insufficient to affect motivation or course performance.
- Although student motivational profiles stayed relatively flat, students became more fixed- and less growth-focused in their mindsets throughout the semester—this is the opposite of what we would hope.
- More data are needed to confirm that a mindset intervention could inoculate at-risk students against these expected decreases in growth mindset.
- Cluster analysis may help to determine the motivational profiles of students who benefit from this type of intervention.
- Future work should refine the intervention with some of the following:
  - A longer, more detailed video
  - A research article on mindset provided to participants
  - A more personalized student letter
  - Multiple doses of the intervention

Support and References

This project was supported by a grant from the APS Fund for Teaching and Understanding of Psychological Science.


The mindset intervention did not affect course letter grade (F(2,137) = .379, p = .685).

Students with 2 or more motivation scores below scale risk point were labeled as motivationally at-risk (n=31). Trends were statistically insignificant but reflect past research indicating positive effects for at-risk students.
An Effective (and Popular) Method to Improve Retention in an Introductory Psychology Classroom

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An Effective (and Popular) Method to Improve Retention in an Introductory Psychology Classroom
TYLER M. MILLER
South Dakota State University

Abstract
Practice testing is a teaching and learning technique that helps students learn and retain course material. In this study, students (n = 180) in a large introductory psychology course completed unit exams and a final cumulative exam; importantly, the most commonly missed questions on the unit exams were included in a popular in-class activity in a class-period between the unit and final exam. Students actively responded to the question using a “clicker” system or simply re-read the question and saw the answer (exposure-control). The results indicated a substantial performance improvement for questions included in the testing activity versus those not included in the testing activity. The performance advantage for tested questions compared to non-tested questions was most evident for lower performing students. From comments on formative and summative feedback, students also reported enjoying the testing activity. The findings of the current study add to the mounting evidence in support of testing in the classroom as well as offering a specific effective (and popular) method to incorporate testing into your classroom.

Keywords: Testing, Introductory Psychology, Student Evaluation

Method

Participants:
- 180 students enrolled in introductory psychology began the study; 136 students completed all activities related to the study.

Design:
- Mixed repeated measures ANOVA with Question Type (active CMQ, exposure-control CMQ, non-CMQ) as the repeated measures independent variable and Performance Group (low or high performers) as the between-subjects independent variable.

The dependent variable was Performance Change.

Materials:
- Students completed four unit exams and one final cumulative exam on introductory psychology material. The questions on each exam were predominately four-alternative multiple choice questions with some true/false questions on formal information and some application style questions.

Procedure:
1. After each unit exam, the instructor identified 10 questions that were the most commonly missed questions (CMQs) using test statistics.
2. In a class period following each exam, students had the opportunity to earn back exam points by re-answering CMQs:
   a. For half of the items (active CMQ), students used clickers to answer the questions. Each question was on-screen for one minute for students to respond. After one minute, the answer was indicated on-screen.
   b. For the other half (exposure-control CMQ), the question appeared on screen but the answer was already indicated on the slide, hence students did not use clickers to respond.
3. Performance Groups (Low or High) were identified during the CMQ testing activity.
4. The final exam included all 40 CMQs and a selection of 40 non-CMQs from unit exams.

Results

Table 1. Unit exam performance for commonly missed questions (CMQ) expressed as a proportion. Low and High performers were identified by performance during the CMQ activity.

<table>
<thead>
<tr>
<th></th>
<th>CMQ</th>
<th>Non CMQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>.45 (.03)</td>
<td>.59 (.11)</td>
</tr>
<tr>
<td>High</td>
<td>.58 (.02)</td>
<td>.92 (.01)</td>
</tr>
</tbody>
</table>

Note: Standard error values are in parentheses.

Table 2. Final exam performance for commonly missed questions (active and exposure control) and non commonly missed questions expressed as a proportion.

<table>
<thead>
<tr>
<th></th>
<th>CMQ</th>
<th>Control CMQ</th>
<th>Non CMQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>.65 (.02)</td>
<td>.60 (.02)</td>
<td>.87 (.01)</td>
</tr>
<tr>
<td>High</td>
<td>.70 (.03)</td>
<td>.71 (.02)</td>
<td>.89 (.02)</td>
</tr>
</tbody>
</table>

Note: Standard error values are in parentheses.

![Figure 1. Mean performance change (as a proportion) from unit exam to final exam for each Question Type and Performance Group. Positive values indicate performance improvements.](image)

![Figure 2. Student Feedback](image)

Conclusions

- Re-testing students on commonly missed questions led to a substantial performance improvement on those questions when they appeared on the final cumulative exam.
- The performance improvement was most evident for lower performing students as identified during the most commonly missed questions testing activity.
- In both mid-term and end-of-semester evaluations, students reported enjoying the activity.

Poster presented at the National Institute on the Teaching of Psychology conference (January, 2017)
Narrowing the Achievement Gap in Introductory Psychology

Mark J. Starr & Caton F. Roberts
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Abstract
The achievement gap between undergraduate students from historically under-represented groups and their peers remains a stubborn problem in many large university courses. Here we report the development and assessment of an intervention that fostered collaborative learning environments and reduced the achievement gap among participating students in Introductory Psychology.

Background
Undergraduate students from historically under-represented groups (URGs; e.g. first-generation college students, students from under-represented minority groups) in Introductory Psychology earn lower final grades than their peers and are more likely to fail or withdraw from the course. One contributor to this achievement gap may be that students from URGs and their peers differ in the resources they use to study. In general, students from URGs are more likely than their peers to study alone and perform poorly in unstructured learning environments.

Methods
We explored whether encouraging students to participate in a peer-facilitated, highly structured, weekly study group would reduce the achievement gap. During the 2013, 2014, and 2015 academic years, all students in Introductory Psychology could— but were not required—to enroll in these study groups (No Study Group n = 1269, Study Group n = 638; Total n = 1907). We examined the relationship between study group participation, URG affiliation (Racial/Ethnic minority n = 237, 1st generation college student n = 347; Students from a URG n = 478), and final grades, while accounting for several moderating factors (e.g., grade point average, sex, and college entrance exam scores).

Results
Achievement Gap
Students from URGs earned fewer passing grades and fewer high grades than their peers.

Study Group
Students who participated in the study groups earned more passing grades and more high grades than their peers.

The odds of passing Introductory Psychology were nearly four times greater for URG students in a Study Group than those who were not.

Discussion
Overall, the achievement gap between students from URGs and their peers persists in Introductory Psychology; however, those data show that low-cost, peer-facilitated study groups can reduce that gap. Although the achievement gap persisted among students who did not participate in a Study Group, it was absent among those who did. Consequently, the odds of passing Introductory Psychology were nearly four times greater for students from URGs who participated in study groups than those who did not.

The benefits for students who participated in these groups may be long-lasting, as the effects of the achievement gap in courses like introductory psychology accumulate over time. Students from URGs are less likely to graduate, take longer to earn their degrees, and their grade point averages at graduation tend to be lower than their peers. Further, because passing courses like introductory psychology is a pre-requisite for entry into competitive undergraduate and graduate programs, reducing the achievement gap in courses like this broadens the career paths of students from URGs and increases the diversity within our departments and disciplines.
# Teaching Introductory Psychology with and without Critical Thinking Exercises and Deep Processing Practice

**Jutta M. Street, Ph.D.**
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## Introduction

As the fundamental knowledge base of psychology continues to increase, the teaching of Introductory Psychology, a course that is supposed to provide the student with a foundation in the discipline, has become a challenge that often boils down to quality versus quantity. The question examined in this study is whether a teaching approach that focuses on deep processing and critical thinking exercises can accomplish both quality and quantity.

## Background


- Guidebook (possibly textbook) for developing the skill of critical thinking. The premise is that critical thinking is a skill that can be learned (i.e., become procedural knowledge), like many other skills, with exercise and application of factual knowledge.


- Found significant improvement in critical thinking and affective engagement for 38 introductory students exposed to a problem-based learning approach.

## Research Question

Will deep processing and critical thinking exercises improve students’ attainment of both quality and quantity of content in an introductory psychology course?

## Method

Participants: Two sections of Introductory Psychology, with 30 and 31 students (finally 30, due to one withdrawal) participated in this study.

## Procedure

**Phase I:** For the first 4 weeks of the semester, all students were exposed to the traditional lecture-based teaching style. At the end of this period, students were given a test which yielded almost identical average (62.2 and 62.6) for both groups.

**Phase II:** For the remainder of the semester, Section 1 continued with the traditional lecture-based format. Section 2 covered the same content with a lecture-plus approach (i.e., traditional lecture plus exercises and applications students completed out of class and follow-up class discussion for each exercise/application).

## Materials

**Textbook:**

**Supplements for Section 2:**
- Exploration of APA website.
- Online learning styles inventory
- Nature/nurture exercise
- Videos on twins and blindsight
- Classical conditioning (main concepts)
- Operant conditioning scenarios
- “Piaget Meets Santa Claus” exercise
- Implicit Association Test (take one and reflect on your results)

## Results

<table>
<thead>
<tr>
<th>Section</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>74.3667</td>
<td>7.98914</td>
</tr>
<tr>
<td>Section 2</td>
<td>74.0333</td>
<td>8.51969</td>
</tr>
<tr>
<td>Total</td>
<td>74.2000</td>
<td>8.19011</td>
</tr>
</tbody>
</table>

End of course grades revealed no significant differences for the two groups.

## Conclusion

As these were pre-existing groups, this was a quasi-experimental study. Both sections met around midday (12:00 and 1:00 p.m.); thus, time of day probably was not a confounding variable. This study did not find statistically significant differences in end-of-course grades for students in traditional, lecture-based and lecture-plus classroom environments. The amazingly similar end-of-term results for both groups were surprising. Further study of this question with different methodologies is indicated.

## Contact

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Can Classroom Tools Minimize the Gap Between Comprehension and Metacomprehension?

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ABSTRACT

Students are not always able to assess their learning and be cognizant of what they understand. Soltano & McNamar (2012) found discrepancies between what students think they know and what they actually know. Other researchers have found that tools such as video lectures, PowerPoint, outlines, and embedded readings play a role in comprehension and metacomprehension. This study explored the role of classroom tools and student comprehension and metacomprehension in college. There are several implications for lecture-based courses and smaller classes.

INTRODUCTION

- Lectures get a bad rap
- Students find them difficult and struggle with note-taking
- Holding students’ attention is challenging
- Faculty strive to actively engage students

- Metacomprehension
- Involves an aspect of comprehension and understanding
- Difference in what a student knows and what they actually retain
- Student assessment of learning is not always accurate
- Classroom tools
- Can make lectures interactive
- Serve to structure material
- Impact student comprehension
- In previous work, PowerPoint and Outlines lead to greater comprehension

HYPOTHESIS

- Outlines will lead to higher comprehension and metacomprehension than other classroom tools

STUDY 1

METHOD

Participants
- 19 Worcester State University students
- Upper Level Psychology Course

Materials
- Classroom tools used
  - Exam 1 - Minute paper and Outline
  - Exam 2 - Minute paper
  - Exam 3 - Outline
  - Multiple choice and short answer

RESULTS

- Both vs. Minute paper t(19) = 1.91, p < .07, r² = .43
- Minute paper vs. Outline t(19) = 2.096, p < .05, r² = .29
- Both (M=74, SD=10.21) and Outline (M=73, SD=13.30) led to higher scores than minute paper (M=67, SD=17.06)

STUDY 2

METHOD

Participants
- 79 Worcester State University students

Materials
- 15 minute video lecture on financial planning
  - PowerPoint, Outline, Both
- Comprehension Test
  - Multiple choice and short answer
- Metacomprehension Test
  - Lickert Scale

RESULTS

- Comprehension
  - F(2,67) = 3.59, p = .03, η² = .09
  - Outline yielded higher scores (M=7.02, SD = 1.70) than PowerPoint (M = 6.19, SD = 1.44)
- Metacomprehension
  - F(2,67) = 4.00, p = .02, η² = .11
  - Outline yielded higher scores (M = 20.83, SD = 5.25) than PowerPoint (M = 24.42, SD = 5.07)
- Comprehension was correlated with metacomprehension, r(76) = .59, p = .001

DISCUSSION

- Research suggests that outlines are helpful in comprehension
- Outlines may be easier to follow than dense PowerPoints
- PowerPoints may be overwhelming and distracting
- Minute papers alone do not enhance performance as much as outlines
- Participants more confident about the material (metacomprehension) performed better on a test of comprehension
- In a lecture, outlines can
  - Provide overall organization helping students see overal framework and connections

FUTURE DIRECTIONS

- Consider other learning tools that can be used in the classroom to determine which may be most effective at refining metacomprehension skills
- Incorporate note-taking conditions to determine if this helps students recognize what information is important and/or unfamiliar
- Examine susceptibility to mind wandering or boredom proneness. Both may impact metacomprehension
- Examine differences between first year students and seniors. Differences in cognitive ability and experience in college may affect metacomprehension

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Factors That Influence Students’ Perceptions of Their College Roles and Behaviors

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Background

Students arrive at college with priorities and goals that impact their academic achievement, well-being, and motivation (e.g., D’Alessio, 2008; Winkle & Kissin, 2014; Morton & Markey, 2009; Savickis, 2001; Wright & Pitcha, 2012). These goals can change over time and are not always clearly discernible reasons (Kosin, 2016). We wondered how much influence professors have on shaping these goals, and thus, we tested the impact of external messages on students’ goals. We also wanted to explore how students’ goals related to their personality, past experiences, and college behaviors.

Teachers’ Emphasis

College teachers realize how important it is for students to graduate as educated citizens (91% agree). The more the students’ self-esteem, the more they agreed with this statement, (r(116) = .23, p < .001). The more sensitive students were to criticism, the more they agreed, (r(116) = .28, p < .002).

College teachers realize how important it is for students to be prepared for a career after graduation (99% agree). The more debt students had accumulated, the less they agreed that college teachers emphasize career preparation, (r(116) = -.21, p < .025). However, the more they felt that career preparation was emphasized, the more motivated they were to learn, (r(116) = .30, p < .001).

Gender & Class Comparisons

College teachers realize how important it is for students to earn top grades in their classes (74% agree). The more students felt their parents expected them to earn top grades, the more important they thought earning top grades was to their college teachers as well, (r(115) = .23, p < .012).

Predictors of Student Goals

- The more sensitive students were to criticism, the more important they felt it was to prepare for a career after graduation, (r(116) = .25, p < .007), and the more scored they were about getting a good job, (r(116) = .33, p < .001).
- The more worried students were about finding a job, the more important they felt it was to find a major in college, (r(115) = .29, p < .002).
- Placing importance on preparing for a career was not related to students’ willingness or interest in visiting Career Services on campus.
- The higher the students’ self-esteem score, the more important they felt it was to earn top grades in their college classes, (r(116) = .23, p < .001).
- The more students felt that their parents demanded top grades, the more important earning top grades was to them, (r(116) = .27, p < .001).
- Students who agreed that they were highly motivated to learn placed greater emphasis on becoming an educated citizen, (r(116) = .30, p < .001), and earning good grades, (r(116) = .33, p < .001), but not on career prep.
- Students who reported that they were optimistic about the future placed more emphasis on being an educated citizen, (r(115) = .20, p < .001).
- Students who were less optimistic about the future placed greater emphasis on earning good grades, (r(116) = .30, p < .001). However, students who reported that they were more optimistic about the future placed greater emphasis on career prep.
- The more important students felt it was to become an educated citizen, the more they would like to take advantage of academic resources, (r(115) = .48, p < .001), and that they enjoyed attending educational activities outside of class, (r(116) = .20, p < .001).
- More students believed that college was “more than just learning information,” (r(114) = .46, p < .001).
- More students agreed that they were more sensitive to criticism, (r(115) = .28, p < .002).

Closing Thoughts

Students agreed that whatever was written in their specific paragraph was the primary goal of a college education. Thus, printing had a temporary impact.

Despite their agreement with our primes, students retained their own priorities. Students were most concerned with career preparation and reported being the least concerned about earning top grades. Students generally agreed that their teachers shared their priorities; however, students placed more importance in those priorities than they felt their teachers did. In fact, students’ priorities correlated more strongly with what their high school teachers had emphasized than what they felt their college professors were emphasizing.

Students’ college goals could be predicted by their sense of entitlement, sensitivity to criticism, optimism, personal goals, and intrinsic motivation but not by their family income, year in school, or age. Gender emerged as a slightly more influential variable, with women being more sensitive to criticism and placing greater importance on earning top grades. Students’ goals predicted their campus behavior. For example, students focused on learning sought out campus resources, students focused on jobs looked for mentors, and students focused on becoming an educated citizen sought educational resources and activities.

These findings suggest that students’ goals may be largely formed prior to their college arrival and affect their classroom motivations and campus engagement.
"So, That's Why I Do That!": Using an Inverted Constructivist Curriculum to Utilize Students' Implicit Knowledge
Bonnie B. Laster
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For further information, contact: b.laster@wingate.edu

PSYC 101
Student View
- PSYC 101: dull, dry and boring theory
- Obligatory general education requirement

Instructor View
- Psychological inquiry is essential in examining the why and how of human behavior and cognition

Reconciling Views
- Use the actual student
- Students have an inherent and experiential familiarity of fundamental concepts via personal experience
- Instructors facilitate students’ awareness of their own knowledge making psychology tangible, relatable and memorable

The Inverted Constructivist Curriculum (IVC)
- Allows students to explore what they know, but don’t necessarily know they know
- Integrates students' existing experience with psychological concepts
- Implicit: begins with students' personal experience
- Instructor lead parameters: “Have you ever experienced?”

Inverted Instruction
Student lead
Students consider existing experience within instructor-guided parameters
Definitions and explanations come after examples
Students share personal examples with small groups
Self-assessment via psychological inventories

Inverted Topics
Experiential starting points: Personality, Social Psychology and Learning

Advantages
- Captures students' interest
- Encourages student understanding of self and others
- Creates personal meaning
- Offers spiral curriculum as concepts are revisited
- Not culturally bound

Disadvantages
- May not be as effective with tight schedule or curriculum
- Students must be willing to consider personal experience
- Group must be cohesive/willing to share
- Not for the passive student

Theoretical Foundations
- Bruner
  Knowledge is constructed by organizing and categorizing to make meaning
  Instructor as facilitator
  Discovery Learning
  Spiral Curriculum
- Papert
  Knowledge construction via experiential learning
  Existing knowledge facilitates construction of new knowledge
- Vygotsky
  Cultural and social mediation of knowledge
  Learning as shared experience
  Peer scaffolding
  Role of environment
- Plagett
  Epistemological relativism: multiple ways of knowing and understanding
  Schemata
  Discovery learning
- Dewey
  Interaction
  Continuity
  Experiential learning
  Unique qualities of experience

Objectives of the IVC
- Make psychology real and relatable
- Utilize the students as the creators of fundamental knowledge
- Tap into students' inherent and experiential familiarity of concepts
- Associate existing knowledge and interest with psychological foundations
- Organize concepts meaningfully

References
Points vs Percent: The Effect of Course Grading Systems on Students’ Allocations of Priority of Academic Tasks

Janna C. George, Rodger Narloch, & Angelica D. Reyes

College of Saint Benedict
Rodger Narloch
College of Saint Benedict

Introduction

"I didn’t have time to do my best on this paper because I had to study for a really important exam in another course." Most instructors have heard students make such statements that reveal the competing place of various academic tasks in their lives. Of course, students must also figure out how much priority to give academic tasks amidst the non-academic activities that consume their time. Typically, instructors explicitly convey the weight of each academic assignment in their syllabus to help students prioritize tasks when faced with competing demands. The two most common systems outlined either the number of points or the percentage of the course grade that each assignment is worth. Evidence suggests that college students may have difficulty accurately interpreting assignments’ weights, perhaps as a result of insufficient numerical skills (Tang, 2002) or an inclination toward the quick, instinctive System 1 thinking over the more logical, calculated System 2 thinking (Kahneman, 2011). If students do not understand the weight that particular assignments have on their final course grade, it may be difficult for them to determine the proper amount of priority to place on a given task. The objective of this study is to compare the effect of point vs. percent grading systems on the priority that students give to exams and papers of various weights.

Method

Participants

167 participants from the Intro to Psychology participant pool
- 103 women, 57 men
- 64% first-year, 26% sophomore, 10% junior/senior
- Mean ACT = 24.9

Procedure

This was a 2x3x2 mixed factorial vignette study where students reviewed different syllabus examples and rated the priority they would give to various assignments:
- IV (WGs): Grading System (Point vs. Percent)
- IV (WG): Assignment Weight (Low, Medium, High)
- IV (BG): Assignment Type (Exam, Paper)
- DV: Priority Rating

How much priority would you assign to Paper 2?
1. (Very Low Priority) to 7 (Very High Priority)

Administered online via SurveyMonkey
- Briefness questionnaire to prime students to think about how busy their lives are
- Student Prioritization of Academic Task Measure

Analyses

2x3x2 Mixed Factorial ANOVA, adding gender as the fourth factor:

Table: Student Prioritization of Academic Task Measure

Key Results & Discussion

1) The main effect of Assignment Weight lends validity to our newly-constructed Student Prioritization of Academic Task Measure. It also shows that students can generally distinguish between and alter their prioritizations based on low (0%), medium (14%), & high (20%) weight assignments regardless of the grading system or assignment type.

2) Results for Grading System
- The main effect shows that students give higher priority to assignments in Point Systems than in Percent Systems.
- This effect is more extreme for assignments of lower weight:

   - This effect occurs for women but not men:

3) Results for Assignment Type
- The main effect shows that students give higher priority to Exams than to Papers.
- Subsequent analyses showed that this is particularly true for Exams rather than Papers. Further research is needed to confirm this.

4) Surprisingly, Intrinsic/Extrinsic Goal Orientation, Learning/Grade Orientation, or Fixed/Growth Mindset were not correlated with how students rated the priority of assignments.

References


Note: Le, Med, & Hi Assignment Weightings were counterbalanced with Le, Med, & Hi Amount of Total Points in the course.
Raise Your Hand if You Think Participation Improves Grades:
A comparison of different participation techniques on course performance
Alisha Janowsky, Ph.D. University of Central Florida
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Statement of Problem
- “Clicker” technologies and online asynchronous discussions are often used to engage online and large classes.
- Student perceptions of these assessments are often mixed.
- If student resists, is there evidence that they lead to improved exam performance in high-stakes exams and writing assignments across modalities?

Method
- Three sections of Social Psychology (SOP 3004) were compared:
  - Face-to-face (F2F): No graded participation opportunities
  - Mixed-mode (M): Graded by participation (by unanimous vote) via Learning Catalytics (Pearson polling system)
  - Online (W): Graded participation via asynchronous online discussions
- Dependent variables:
  - Exams (3)
  - Average paper grades
  - Student evaluations

Results: Enjoyment
- M students preferred participating ($M = 1.97, SD = 0.86$) significantly more than W students ($M = 3.13, SD = 0.75; t(105) = 7.25, p<.001$).

Results: Helpful
- M students reported the polls were helpful, preferred exam-prep items and surveys, and, preferred “clicker” polling more than traditional discussions, and felt the polling helped prepare for exams.

Results: Performance
- M students believed the polls helped them prepare for exams
- But there was no significant difference in exam performance across the 3 semesters ($F(2, 413) = 0.05, p=.951$).
- There was a significant difference in paper grades ($F(2, 410) = 44.49, p<.001$) with the W ($M = 92.49, SD = 17.16$) and M students ($M = 88.72, SD = 8.63$) outperforming F2F students ($M = 73.43, SD = 21.91; p<.001$). There was no significant difference between W and M students.

Discussion
- Using the “clickers” seemed to increase efficacy but not performance in M students and they encouraged me to use it again.
- Although we would assume written discussions would increase high-stakes writing, I saw having any kind of participation did this. Assignment could have been a factor.
- Students enjoyed the polling and felt it kept them engaged in class and at home more than traditional discussions.
The Impact of Students’ Reading Comprehension on Academic Achievement in General Psychology
William S. Altman¹, Judith B. Pena-Shaff², Cassandra Domingo¹
¹SUNY Broome Community College; ²Ithaca College

Barriers to Success
General psychology is one of the most popular courses taken in college. Unfortunately, not all students are prepared for the required levels of work or academic rigor.

The ability to read, analyze, and think critically is critical for academic success (Payne & Stine, 1992), especially in psychology (de Oliveira & Dos Santos, 2006; de Souza, Szom, & de Oliveira, 2011; Gorev & Murphy, 1991; Stine, 1992).

Many postsecondary institutions administer ACCUPLACER tests to determine students for course placement decisions. Students whose ACCUPLACER scores indicated that they did not need remediation were more likely to enroll in general psychology with a grade of C or above (Graves & Cosgrove, 2008). However, successful completion of developmental course enrollments underprepared students to achieve the same levels of success (Avery & Long, 1998; Golden & Perl, 2008).

Unfortunately, students may be placed in remedial courses without regard for whether they will have difficulty reading the course materials. This has been the normal practice at SUNY Broome Community College for many years. We decided to investigate the wisdom of this.

SUNY Broome students take the ACCUPLACER placement tests, or they transfer with an English course with a grade of B or higher, or transfer English course credit with a grade of C or higher, or transfer to SUNY Broome Community College without taking a test, and about 70% of students take the College Board’s ACCUPLACER Reading Comprehension (RC) and Workplace (WP) exams, which are administered by the college.

Questions
- Is there a relationship between ACCUPLACER RC and WP tests cutoff scores and General Psychology grades?
- Are students who score below the cutoff for RC or WP more likely to fail General Psychology?
- Are students who score below the cutoff score for ACCUPLACER RC and WP more likely to pass General Psychology after receiving remedial education?

Data
We obtained administrative data from SUNY Broome Community College for 7971 students who took General Psychology between the years 2010 and 2015.

Methodology
- Data included demographics, placement scores, and whether students took remedial courses (if needed), grades obtained in remedial courses, and when students took general psychology and grades.
- The tests showed the demographics of this sample.
- A total of 5593 (57%) had scores for the ACCUPLACER RC and 4873 (54%) had scores for the WP test. We only included those with test scores on the exams.
- ACCUPLACER RC scores range from 20 to 120. At SUNY Broome CC, students with a score of 55 or below are encouraged to take a remedial reading course. We used the 55 as the pass/fail cutoff for RC.
- The WP test ranges from 0 to 150 with a cutoff 3. Three students are encouraged to take a remedial writing course. We used this score as the pass/fail cutoff.

- Although students who get the placement scores are encouraged to take remedial courses before enrolling in college as a result, noncompliance is an issue. Among students who failed the RC test (n = 664), only 395 (59%) did take or were taking remedial reading courses concurrently. Among students who failed the WP test (n = 440), 433 (98%) did take or were taking remedial courses concurrently.

Results

<table>
<thead>
<tr>
<th>Student Demographics</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>332</td>
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<tr>
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<td>Hispanic</td>
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<td>151</td>
</tr>
<tr>
<td>American Indian/Alaskan Hawaiian/Other Pacific/Other</td>
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<td>1145</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
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</tr>
<tr>
<td>Male</td>
<td>2851</td>
<td>278</td>
<td></td>
</tr>
</tbody>
</table>

The relationship between ACCUPLACER RC and general psychology grades was positive but weak, r = .203, p < .001. The correlation between WP and grades in general psychology was also positive but very weak, r = .119, p < .001.

Conclusions
- There is a positive but weak relationship between the ACCUPLACER RC and WP tests and students’ individual grades in General Psychology at SUNY Broome Community College.
- The percentage of students who failed General Psychology was greater than expected for students whose scores on the ACCUPLACER tests were below the cutoff. However, the effect size was small.
- Students who did the ACCUPLACER RC and WP tests but who received remedial education to address their difficulties prior to taking the General Psychology course are somewhat likely to do well in that course.
- Students who did the ACCUPLACER RC and WP tests but who receive remedial education to address their difficulties concurrently with taking the General Psychology course are more likely to do well in that course.

Discussion
Success in General Psychology does seem to be related to students’ ability to comprehend and produce written information. Based on our work, we believe that it may be productive to change the way remediation is offered to the community college. By incorporating remediation into a credit-bearing course, rather than a stand-alone course, students may benefit from greater relevance for the comprehension and writing skills they are building, and this may be more motivating to work on these skills. Designing such a course is the next step in our investigation.
Effectiveness of Concept Mapping of Student Performance in Large Classes: A Naturally Occurring Experiment

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Secondary Trauma in Undergraduate Psychology Courses: Strategies for Reducing Students' Distress Surrounding Course Content
Karen M. Davis, Ph. D.

Introduction
Secondary trauma refers to distress sometimes seen in those who are indirectly exposed to traumatic material. Although students may experience distress or signs of secondary trauma after being exposed to traumatic material via coursework, the inclusion of this material is crucial to some fields of study within psychology. Instructors should discuss the potential of distress resulting from exposure to traumatic material with students and utilize recommended strategies to reduce the risk for secondary trauma resulting from coursework.

Secondary Trauma in Students
- Research suggests that some students experience emotional distress, changes in one’s worldview, mental health symptoms associated with secondary trauma, or a re-emergence of distress related to personal experience with trauma in response to traumatic course material (e.g., Shannon, SimmelnkMcClary, In, Becher, & Crook Lyon, 2014).
- Secondary trauma may negatively impact students’ performance as they may experience difficulty attending to course content or avoid completing class requirements to lessen distress resulting from traumatic material.

Benefit of Presenting Traumatic Material in Class
- Understanding professional roles related to working with trauma survivors may strengthen a student’s commitment to pursuing a career path.
- Increasing students’ knowledge regarding trauma and how to work effectively with trauma survivors can strengthen students’ sense of competence and better prepare them for completing field work that requires the application of course material.
- Content regarding secondary trauma, including effective coping strategies, should be covered to educate students regarding this concept and ways to effectively cope with distress resulting from traumatic material (Zurbriggen, 2011).
- When organizing the presentation of course material, instructors should vary the intensity of the traumatic material presented in a particular class to lessen the chance that students will become overwhelmed (Agilas, 2012).
- Instructors should maintain a professional and respectful classroom atmosphere where students can feel comfortable expressing their viewpoints regarding course material.
- Instructors should provide students with contact information of appropriate resources (Agilas, 2012), such as the university counseling center or Title IX office, should students experience distress.

Recommendations for Instructors
- Instructors should explicitly describe the types of trauma that will be covered and adhere to the course schedule so students can prepare themselves for content that they may find particularly distressing (Zosky, 2013).
- Students should be made aware of the instructor’s self-disclosure policy at the outset of the class. Instructors should consult with relevant ethical and institutional guidelines to ensure that appropriate policies are put into place.

Conclusion
Given the likelihood that students who pursue a career in, or related to, psychology will work with trauma survivors, it is important instructors present traumatic material in a way that effectively prepares students for field work. Instructors also have the responsibility of presenting material in a way that minimizes the likelihood that students experience symptoms of secondary trauma and assists students in developing skills to cope effectively with distress associated with secondary trauma.
The Impact of Flipping the Psychological Statistics Classroom on Social Cognitive Model of Academic Adjustment Variables

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Introduction

While a number of studies have examined the flipped and traditional psychological statistics classrooms’ effects on grades and class enjoyment (e.g., Peterson, 2016), very few studies have investigated the impact of flipping the psychological statistics classroom on vocational psychology variables (Govine & Smith, 2015). The current study intends to extend previous research by bridging teaching of vocational psychology by examining the effectiveness of the flipped psychological statistics classroom on self-efficacy, interest, major satisfaction, and intentions to persist in one’s major based on the Social Cognitive Model of Academic Adjustment (Lent et al., 2013; 2015).

Method

Participants
- 10 students in 2 sections of Psychological Statistics
- Average age = 19.5 (SD = .97)
- 2 men and 8 women
- All participants identified as Black/African American
- 2 freshmen, 7 sophomores, 1 junior
- All students were psychology majors

Measures
- Demographic questionnaire
- 50-Item International Personality Item Pool Big 5 Factor Markers (Goldberg, 1999)
- Social Science Basic Interest Marker (Liao, Armstrong, & Rounds, 2008); Also with alternate self-efficacy wording
- Academic Major Satisfaction Scale (Nauta, 2007)
- 3 questions about persistence (Bowman, Hill, Denson, & Bronkema, 2015)

Procedure
- Flipped Section: Videos before and worksheets in class
- Traditional Section: In-person lecture
- Informed consent & pre-test questionnaire on 1st day
- Post-test questionnaire and debriefed on last day

Results

Independent Samples t Tests
- Class Type vs Post-Self-Efficacy: t(8) = -.24, p = .82
- Class Type vs Post-Interest: t(8) = .56, p = .59
- Class Type vs Post-Satisfaction: t(8) = 2.98, p = .02
- Class Type vs Post-Persistence: t(8) = .81, p = .44

Exploratory Analysis of Covariance (ANCOVA)
- Class Type vs Post-Satisfaction: F(1,7) = 6.41, p = .04
- Pre-Satisfaction vs Post-Satisfaction: F(1,7) = .01, p = .93

Discussion

Overall, flipping the psychological statistics classroom increased psychology major satisfaction, although class type did not have an effect on other measures at the end of the semester. An exploratory ANCOVA revealed that even when controlling for pre-existing levels of major satisfaction, class type retained an effect on major satisfaction at the end of the semester with students in the flipped class expressing higher levels of major satisfaction.

Limitations and Future Directions

Unfortunately, class sizes were very small, and some students opted to not participate, which negatively impacted our abilities to run sophisticated statistical analyses. We acknowledge that running multiple t tests inflates type I error. In the future, we hope to run more complex analyses to test the Social Cognitive Model of Academic Adjustment, while reducing type I error. While we found a significant effect of class type on major satisfaction at the end of the semester, it is possible that external factors throughout the semester contributed to this effect.

Research and travel supported by Xavier University of Louisiana’s Center for the Advancement of Teaching and Faculty Development

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Figure 1. Modified Social Cognitive Model of Academic Adjustment
Can using an exam wrapper & empirical feedback improve students' studying strategies and performance?

Keith A. Carlson, Valparaiso University

Abstract

Many college students use ineffective studying strategies. This study tried to improve students' studying strategies with reflective exam wrappers and empirical feedback sheets which provided studying recommendations derived from students' self-reported studying strategies and exam performance.

This study addressed 3 pertinent research questions:

1. Are self-assessment, distributed studying, and studying course themes associated with higher exam scores? [YES]

2. Is the subject in which students which studying strategies worked on an exam associated with their adopting those strategies on subsequent exams? [YES]

3. Is changing to effective strategies associated with better exam scores? (A qualified, YES)

Introduction

Many college students, even juniors and seniors, use ineffective studying strategies. Dunlosky, Rawson, Marsh, Nathan, and Willingham (2013) reported:

- the most commonly used strategies, re-reading chapters and underlining, are not effective.

- the known to be effective strategies of self-testing and distributed studying are rarely used.

Owens, Bower, and Block (1979) found that "themetics" sentences facilitated recall of studied and inferred propositions.

- suggesting that studying chapter and course "themes" may increase exam performance.

This study tried to improve students studying strategies by:

- Having students review missed exam items and determine why they missed each item (exam wrapper)

- Having students write what they could do differently to prepare for future exams (exam wrapper)

- Showing them which strategies were associated with better exam performance on course exams (empirical feedback)

- Providing course specific studying advice derived from empirical analysis of students' reported studying strategies and exam performance (empirical feedback)

Method

38 students in a cognitive psychology course participated.

One class session after each of 3 exams in a cognitive psychology course, students (1) indicated the degree to which they used each of a list of studying strategies to study for the exam, (2) reviewed the items they missed and determined why they missed each item, and (3) after reflecting, described how they might study more effectively for the next exam.

Empirical Feedback Sheets

One class session after the exam was completed, I provided students with a one page empirical summary of the specific studying strategies that were associated with exam performance. There were 3 pre-semester exams and 1 final exam.

Results

Is changing to effective strategies associated with better exam scores? [A qualified, YES]

I computed each student's studying strategy change scores for each exam and change scores for MC and Essay performance between Exam 1 (Baseline) and each of the other exams (Exam 2, Exam 3 and Final).

Correlations between change in studying strategy and change in exam performance

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<tr>
<th>Exam 1</th>
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<th>Exam 3</th>
<th>Final</th>
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<tr>
<td>MC</td>
<td>Essay</td>
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<td>a</td>
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<td>j</td>
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Did students report changing their studying strategies? [YES]

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<tr>
<th>Exam 1</th>
<th>Exam 1 vs. Exam 2 (p = .05)</th>
<th>Exam 1 vs. Exam 3</th>
<th>Exam 1 vs. Final</th>
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Conclusions

Exam wrappers and empirical feedback sheets did change students several reported studying strategies. Consistent changes in studying strategies were found in chosen reading strategy, increased focus on studying course frames, and greater distribution of studying across time.

Multiple paired exam strategies were correlated with actual exam performance on every exam, suggesting that students were NOT simply responding to demand characteristics.

For exam 2 and exam 3 changes in studying strategies from baseline strategies used on exam 1 were associated with increased performance. However, on both exams, this association was limited to a subset of distinct items.

References


JUSTIFICATION

It comes as no surprise to psychologists that some study strategies are more effective than others. Despite this, undergraduates often choose suboptimal strategies. For example, they may choose to go over the material multiple times rather than to self-test. Poor study strategy selection has been linked to poorer long-term retention.3,4

Perhaps more surprisingly, sometimes undergraduates choose poor study strategies even when they can report which strategies are most effective.5 In other words, they show effective metacognitive monitoring in the absence of metacognitive control.

A unique challenge for the instructor is to promote the use of effective study strategies. The goal of the present exercise is to encourage students to select effective study strategies by demonstrating the link between metacognition and achievement in a way that is concrete and personally relevant to students.

A SIMPLE, IN-CLASS EXERCISE

Primary goal: Demonstrate to students the link between their metacognitive, study strategies, and performance outcomes.

Students are given a short handout to complete during a graded assignment (e.g., an exam). Before seeing the assignment, students are asked to:

1) Estimate their performance (out of 100%)
2) Indicate the various study strategies used to study for the assignment (e.g., elaboration, rehearsal, spaced vs. massed practice)
3) Indicate how often they consider using the indicated study strategies (on a 1–4 Likert scale)
4) Indicate how often they actually use the indicated study strategies (on a 1–4 Likert scale)

After the exam, students are asked to:

1) Estimate their performance again (out of 100%)
2) Rate the difficulty of the assignment (on a 1–5 Likert Scale)

SOME QUESTIONS TO ADDRESS

- What study strategies do students actually use?
- Which reported study strategies predict better performance on the test?
- How are students’ performance estimates correlated with their actual performance?
- Do estimates become more accurate over time?
- Are students’ ratings of difficulty related to their performance?

GENERAL DISCUSSION

This exercise has the potential to show students the relationship between metacognition, study strategies, and achievement in a precise, personally relevant way. Data from this exercise can provide a unique opportunity for the psychology instructor to discuss a number of related topics, and can encourage students to:

1) Engage with the topics of metacognition, memory encoding, and retrieval
2) Strengthen knowledge of the effectiveness of various study strategies
3) Strengthen knowledge of the research methods used to evaluate study strategy effectiveness
4) Reflect on their own study strategies
5) Select more effective study strategies in the future.

REFERENCES

Smarter, More Effective Assessment: How e-portfolios Can Change the Way You “See” Students Learning

Beth Trammell
Indiana University East
For further information, contact: batramme@iue.edu
Section XI
Ethics

1. Developing the Next Generation of Responsible Professionals: Wisdom and Ethics Trump Knowledge and IQ
Developing the Next Generation of Responsible Professionals: Wisdom and Ethics Trump Knowledge and IQ

Robert Sternberg  
Cornell University  
Presented at: National Institute on the Teaching of Psychology  
For further information, contact: robert.sternberg@cornell.edu

In our training of students, we tend to emphasize the transmission of knowledge and, sometimes, analysis of that knowledge. Research on improving course performance typically involves trying to discover how students can better learn the knowledge base presented in the course, for example, spacing rather than massing of study trials, and using organizational strategies to chunk information together. But if we look at failed scientists, practitioners, and truly, people in any profession, we find that those failures are probably more likely due to lapses in ethics or practical wisdom than they are to lack of knowledge base. Indeed, recently there have been high profile scandals, touching some of the world’s most prestigious institutions, involving individuals who seemed to have everything, and yet threw it away through unethical behavior. Similar problems arise among practitioners, some of whom glide down the slippery slope that can lead to unethical practice. Dr. Sternberg discussed the critical importance and argued, the necessity of teaching students in our courses to reason and act wisely and ethically and to translate that reasoning and action into their professional as well as personal lives. Moreover, we should consider, in admitting students to graduate programs, not just their analytical reasoning skills, but also their ethical and wise reasoning skills as well.
Section XII
Gender

1. Using Experiential Learning to Teach about Gender Bias

2. Consent, Porn, and Language: Teaching Human Sexuality in an Ever Changing Environment
Using Experiential Learning to Teach about Gender Bias
Jessica L. Cundiff1, Matthew J. Zawadzki2, Cinnamon L. Danube2, & Stephanie A. Shields3
1Missouri Univ. of Science and Technology, 2Univ. of California-Merced, 3Penn State Univ.
Contact: cundiffjl@mst.edu

INTRODUCTION

- Teaching about gender bias can be challenging because information about bias can be threatening and elicit reactance.
- We tested whether these challenges could be overcome and whether better learning outcomes could be achieved by using experiential learning methods rather than passive learning methods to teach about bias.
- We implemented experiential learning by using the Workshop Activity for Gender Equity (WAGES-Academic version).

WHAT IS WAGES?

WAGES engages participants in a game-like simulation where they experience first-hand the cumulative negative effects of subtle gender bias in the academic workplace.

- The object of the game is to be the first person to reach the end of the academic career ladder and become Distinguished Professor.
- Players are divided into two teams (White and Green) and advance by drawing team-specific cards that describe scenarios of academic life, based on empirical research.
- Both teams face identical scenarios, but outcomes differ to give slight cumulative advantages to the White team.

METHOD

Participants

- Undergraduates (139 women, 36 men, 2 unreported) participated in the intervention phase and then 1-2 weeks later participated in the application phase. Most participants (86%) identified as white.

Intervention Phase

Participants were randomly assigned to one of three conditions:

- **Experiential Learning**: Participants learned about gender bias via experiential learning, i.e., playing WAGES.
- **Passive Learning**: Participants received identical info as WAGES, but in a passive learning format (i.e., read a handout).
- **No Info**: Participants did not receive any info about gender bias, but instead played Chutes & Ladders.

Afterwards, participants completed the following Measures:

- **Perceived Harm of Everyday Sexism**: 4 items (1=not harmful, 7=very harmful): "How harmful is it when [someone makes] stereotypes comments about women?"
- **Intentions to Learn More about Bias**: 10 items (1=not at all, 7=very much): "I intend to find additional info about bias"
- **Reactance**: 4 items (1=not at all, 7=very much): "Much of the info given today seemed exaggerated"
- **Self-Efficacy**: 5 items (1=not at all, 7=very much): "What I heard today provides opportunities for me to overcome obstacles"

Application Phase

1-2 weeks later, participants completed an ostensibly unrelated study on student impressions of the Promotion & Tenure review process. They read a review of a female professor, which was either blatantly sexist, subtly sexist or nonsexist.

After reading the reviews, participants completed the Measures:

- **Detected Bias**: 4 items (1=not at all, 5=very): "I re reviewer was sexist in his evaluation of the candidate"
- **Reported Bias**: 1 item (yes/no): "I have concerns that this review was unfair and want to officially report my concerns"

RESULTS

### Intervention Phase Outcomes

Note: Bars with different letters significantly differ, p<.05.

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<tr>
<th>Measure</th>
<th>Experiential</th>
<th>Passive</th>
<th>No Info</th>
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</thead>
<tbody>
<tr>
<td>Perceived Harm</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Intent to Learn More</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>Reactance</td>
<td>a</td>
<td>b</td>
<td>c</td>
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<tr>
<td>Self-Efficacy</td>
<td>a</td>
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</table>

### Application Phase Outcomes

As expected, differences emerged only for the **Sex in Review** condition, shown below. Note: Bars with different letters significantly differ, p<.05.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Experiential</th>
<th>Passive</th>
<th>No Info</th>
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<tbody>
<tr>
<td>Detected Bias</td>
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<td>b</td>
<td>c</td>
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<tr>
<td>Reported Bias</td>
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CONCLUSIONS

Our results suggest that information about sensitive topics such as gender bias can elicit negative reactions when the information is simply conveyed via passive-learning techniques. By contrast, active learning techniques, such as experiential learning, have the potential to reduce reactance, facilitate learning outcomes, and increase application to real-life situations.
Consent, Porn, and Language: Teaching Human Sexuality in an Ever Changing Environment

Linda Jones
Belmont University
Presented at: National Institute on the Teaching of Psychology
For further information, contact: linda.jones@belmont.edu

The relatively recent, highly publicized cases of sexual assault on college campuses have led academic institutions to revamp their curriculum surrounding consent and sexual assault and to update their guidelines on the consequences of engaging in unwanted sexual behavior. In spite of these efforts, there is literature to suggest that college students continue to be confused and are still unable to articulate the definition of consent. It may not be as easy as Ano means no and Ayes means yes. Adding to this complexity is the easy access to pornographic material and the ever changing vernacular in this age of emojis, chat acronyms, and text messaging shorthand. However, understanding consent is essential to disrupting and ending a culture of rape that is said to exist on some college campuses. This presentation began with legal definitions of consent followed by an overview of various programs and curriculum designed to teach consent. After a brief overview of how pornography and language influence the understanding of consent, I offered a model to teach this challenging topic in the college classroom. Since college classes on Human Sexuality cover a number of important topics in addition to consent, it is unlikely that one could spend several days facilitating a discussion in this one area. I offered a strategy to teach this often complicated subject that promotes critical thinking and active learning within a shorter timeframe.
Section XIII
History of Psychology

1. Course Sharing: Professional Development through ePortfolios
2. Experiencing History of Psychology
3. Adding the Her-story to the History of Psychology
Course Sharing: Professional Development through ePortfolios

Robert Bubb, Jamie Sailors, Sharon Wilbanks, Virginia Christian, Emily Cumbie, Margaret Vollenweider, & Hannah Ferry
Auburn University
For further information, contact: robert.r.bubb@auburn.edu

HDFS ePortfolio Committee
Auburn University

Poster presentation at NITOP
January 11, 2017

- HDFS ePortfolio Curriculum Roadmap.................................................. 2
  The roadmap provides HDFS majors a guide to developing their
ePortfolios as they progress through the major. It also provides basic tips
to help students get started and stay organized, suggestions for possible
artifacts by course, and a link to additional resources.

- HDFS ePortfolio Evaluation Rubric.......................................................... 6
  The rubric provides students uniform feedback on their ePortfolios across
courses. The rubric also informs students of the project guidelines and the
competencies students are expected to develop. The rubric is also used to
assign grades in HDFS 2030 (expectation is Developing) and HDFS 4920
(expectation is Professional).

- HDFS ePortfolio Evaluation Supporting Document...................................... 7
  The supporting document provides both faculty and students working
definitions to standardize grading and feedback while using and
interpreting the HDFS ePortfolio Evaluation Rubric.

Additional resources including guides, examples, and handouts regarding the ePortfolio at
Auburn University can be found at:

http://wp.auburn.edu/writing/eportfolio-project/
HDFS ePortfolio Road Map

Overview
As an HDFS major, you are required to develop an ePortfolio that identifies your professional goals and incorporates artifacts that showcase your preparedness for accomplishing those goals. Typically, your goals will focus on obtaining an internship, gaining entry into graduate school or attaining a position of employment. Your artifacts will be examples of work that you select from your undergraduate experience to communicate with a professional audience how your college experience relates to your goals. Most likely, you will begin developing your ePortfolio in HDFS 2030 – Professional Development and Ethics and finalize it in HDFS 4920 – Internship in HDFS.

Why an ePortfolio?
The benefits of an ePortfolio include:
- Clarity in understanding yourself, such as who you are, what you want and what you have to offer
- Appreciation of your undergraduate experience as a result of identifying how it relates to your future
- Capacity to organize your thinking about your skills and experience when presenting yourself as a candidate for a desired position
- Ability to create a unified, coherent and professional story about yourself as a professional by identifying how your various undergraduate experiences connect with one another
- Skills in developing a modern presentation of yourself and your qualifications through a professional website that is easily accessible by a professional audience

Developing your Artifacts
To successfully finalize your ePortfolio in HDFS 4920, you will need to plan and collect artifacts beforehand. This Road Map will help you identify opportunities available in your HDFS major classes for developing artifacts for inclusion in your ePortfolio, although all of the artifacts may not be useful for your purposes. You will want to select artifacts based on your personal goals and the professional identity you plan to portray in the ePortfolio.

You will use your artifacts to represent yourself as a member of a professional audience and to provide evidence of who you are, what you know and how you are prepared to accomplish your goals. Reflect upon your experience by answering questions such as:
- What did you learn and how does it apply to your professional goals?
- What does your work show about you to a professional audience?
- How did you meet a challenge you encountered?
- How did or how could you use the information to solve problems?
- What would you do differently in the future based on your experience?
- How have you changed as a result of your experience?

An overview of HDFS major classes with opportunities for developing and collecting artifacts follows. Specific course assignments may vary depending upon the instructor. The general principles outlined, however, apply regardless of the specific assignment you complete. In developing artifacts for your ePortfolio, it will be most helpful if you focus your assignments on topics and areas related to your professional goals whenever possible. For example, if you think your professional goals involve working with young children, complete a developmental assignment on that particular population rather than older adults. Make your course work meaningful and useful to you.
HDFS 1850 CURRENT ISSUES IN HUMAN DEVELOPMENT AND FAMILY STUDIES

Reflection Paper 1 asks you to research and define HDFS. It could be helpful to inform your audience about your major. Use the Current Issues Paper to display your critical thinking skills and your knowledge of a modern day issue that has the potential to impact human development and family relationships.

HDFS 2000 MARRIAGE AND FAMILY IN A GLOBAL CONTEXT

Reflect on how the class expanded your understanding of relationship development, diversity, and factors that influence family well-being. Contextualize your learning by discussing how your classroom experience relates to your career goals and/or influenced your approach to working with children and/or families.

HDFS 2010 LIFESPAN HUMAN DEVELOPMENT IN FAMILY CONTEXT

Use your Class Project to demonstrate your ability to collect, present and think critically about a specific stage of human development. Hint: It will benefit you most if you complete your project on a developmental period related to your career goals, e.g. infancy, adolescence, adulthood, older adults.

HDFS 2030 PROFESSIONAL DEVELOPMENT AND ETHICS

In this class, you will begin development of your ePortfolio. Many class assignments will help you in the process and they will be included in the first draft of your ePortfolio.

HDFS 3010 CHILD DEVELOPMENT IN THE FAMILY

HDFS 3010 offers several assignments you can use to demonstrate your ability to apply scientific knowledge to developmentally appropriate practice. Some of these assignments include: classroom Observation, the Film Critique, Advice to a Friend or After-School/Child Care Activities.

HDFS 3030 ADOLESCENT AND ADULT DEVELOPMENT IN THE FAMILY

Use your Daily Insights to show how classroom lecture influenced your thinking or enhanced your understanding of adolescents. The Final Paper is an excellent opportunity to demonstrate your ability to apply scientific knowledge to real life situations involving adolescents.

HDFS 3040 HUMAN SEXUALITY OVER THE FAMILY LIFE CYCLE

You can use the Reaction Papers, Film Critique or Literature Review to demonstrate your learning about sexuality, changes in your personal attitudes and/or ability to apply scholarly information to this intimate aspect of human relationships.

HDFS 3060 PATTERNS OF FAMILY INTERACTION

Reflect on how the class expanded your understanding of family dynamics across the lifespan and strategies for promoting positive relationships within family systems. Contextualize your learning by discussing how your classroom experience relates to your career goals and/or influenced your approach to working with families.

HDFS 3080 DEVELOPMENT OF INTERPERSONAL SKILLS

Reflect on what you learned about your own interpersonal communication style, the relational strengths you possess and how these apply to your performance as a professional. Provide examples of specific skills you learned and how they apply to professional practice.

HDFS 3460 EFFECTIVE GUIDANCE AND INTERACTION WITH YOUNG CHILDREN

Reflect on how the knowledge you gained and the lab hours you completed contributed to your ability to work effectively with young children. Use your Child Portfolio to demonstrate your ability to complete a developmental assessment and your Group Project to convey your skills in redirecting children’s behavior. Your Final Evaluation also can be a source of positive feedback on your ability to work effectively with young children.

HDFS 3470 LEARNING EXPERIENCES FOR YOUNG CHILDREN

Reflect on how your lab experience expanded your skills for working with young children. Use the classroom activities you created to convey your ability to implement developmentally appropriate curriculum. Your evaluations also can be a source of positive feedback on your ability to work effectively with young children.

HDFS 3910 PRACTICUM or HDFS 3930 SERVICE LEARNING IN HUMAN DEVELOPMENT AND FAMILY STUDIES

Discuss your responsibilities and what you learned about yourself, your profession and the population with which you worked. How did you apply classroom learning? What new skills did you gain? How did the experience contribute to your ability to be successful in accomplishing your professional goals?
HDFS 3980 UNDERGRADUATE RESEARCH AND STUDY or HDFS 4980 ADVANCED UNDERGRADUATE RESEARCH IN HUMAN DEVELOPMENT AND FAMILY STUDIES
Use your Mid-semester Writing Assignment to talk about the research project you assisted on. Incorporate your Professional Presentation/Team Discussion to show your understanding of confidentiality or professionalism. Use your Final Paper as a basis to review the tasks you completed, the skills you acquired, connect classroom learning with research and convey what you learned about conducting research. Your Performance Evaluation also can be used to reflect upon how you demonstrated a good work ethic and the ability to work effectively as a member of a team.

HDFS 4500 HOSPITALIZED CHILDREN AND THEIR FAMILIES/HDFS 4950 Advanced Seminar in Child Life
In HDFS 4500, you can use the Discussion Question assignments to demonstrate your understanding of medical play and procedural preparation. In HDFS 4950, you can use your Project and Handout to demonstrate your understanding of diagnosis and treatment for a specific illness, the coping concerns of children experiencing the illness at various stages of development and your ability to effectively assist children and their families who are experiencing the illness.

HDFS 4670 PARENT EDUCATION
You can highlight your research-based knowledge of parenting relationships through your Parenting Paper and your ability to develop and implement educational strategies to address common parenting concerns through your Parenting Article and Group Presentation.

HDFS 4680 FAMILY IN CROSS-CULTURAL PERSPECTIVE
Reflect on how the course expanded your understanding of diversity and patterns of relating in families across cultures. Contextualize your learning by discussing how your classroom learning influenced your approach to working with children and/or families. Use your Literature Review paper to demonstrate your knowledge of a specific cultural group, preferably related to your career goals.

HDFS 4700 GENDER ROLES AND CLOSE RELATIONSHIPS
Use your Reaction Papers and Literature Review to demonstrate your knowledge of gender-issues and how they influence child development and family relationships across the life-span. Reflect on how the course influenced your thinking and your approach to working with children and/or families.

HDFS 5200 PROGRAM DEVELOPMENT AND EVALUATION
Your Program Evaluation Paper and Presentation can highlight your ability to design, implement and evaluate a family life education program that is relevant to children, teens and/or families. Reflect on what you learned in the course about intervention programs and how it relates to your professional goals.

HDFS 5300 FAMILY AND SOCIAL POLICY
Reflect on what you learned in the course about how government legislation and policies affect families in modern day society. The Local and State Issues Group Project can highlight your ability to identify and analyze a specific policy and its impact on family life.

STAT 2010 STATISTICS FOR SOCIAL AND BEHAVIORAL SCIENCES
Discuss your ability to collaborate as a member of a team to create a work product. Summarize your Research Project, display your Research Poster and reflect on what you learned about research and how it applies to your professional goals.

OTHER ARTIFACTS
You also can include artifacts from other academic courses, volunteer experience for which you did not register for credit, leadership positions in student organizations, academic lectures, programs or conferences you attended, travel abroad, employment, or any other experience that supports your professional goals and fits with your ePortfolio.

The types of artifacts you include in your ePortfolio are limited only by your imagination. Other types of artifacts you may incorporate into your ePortfolio include: photographs of yourself in a professional setting, PowerPoint presentations, Prezis, videos, blog entries, conference presentations, membership in professional organizations, certifications, links to Organizations’ websites, etc.
Archiving Your Artifacts
As you work toward completion of your final ePortfolio, you will need to set-up a system for saving and organizing your potential artifacts. Start this process early in your undergraduate career. You can use a hard drive, jump drive, Drop Box, iCloud, Google Drive or any other reliable means of storing your artifacts for later use. Having a back-up storage system can prevent loss of important information. Organizing your artifacts into meaningful categories, or groupings, also can be helpful. For example, you may want to use an organization or grouping system that reflects what you want to demonstrate about yourself and/or one that is consistent with the layout of your ePortfolio.

Selecting Your Artifacts
As mentioned earlier, you probably will not use all of the artifacts you have archived. In selecting your artifacts, consider your professional goals and what you want to demonstrate about yourself. What skills, experience or learning do you want to convey? You also will want to consider your audience. Apply your empathy skills to target what your audience may want to see when evaluating how well you fit with their expectations. Every artifact included in your ePortfolio should be clearly related to your goals.

Keep in mind that your ePortfolio is a work in progress. You will want to add and possibly remove artifacts at various points of development. On-going development of your ePortfolio will minimize the amount of time you have to devote to it during your internship experience.

Contextualizing your Artifacts through Reflection
Remember that artifacts do not stand alone. You will need to apply critical thinking through reflection to provide the reader with context for understanding why you included a particular artifact in the ePortfolio and how it applies to your professional goals. Never leave the audience wondering why you included an artifact in your ePortfolio.

Critical thinking through reflection provides contextualization for the audience. Reflections are brief introductions that tell the reader why you have included an artifact, why it is important and how it applies to your professional goals. You can use reflection to convey what you know, what you can do, how you approach new situations, solve problems, or embrace opportunities, or who you are as a learner or employee. It also may highlight common themes across your experience and describe for the reader how your experiences tie together. Critical thinking through reflection helps you to tell a coherent, professional story about yourself. It tells your professional audience what you bring to the table.

Other Resources
This road map is designed to help you identify and develop artifacts for your ePortfolio across the HDFS curriculum and encourage reflection on how your experiences prepared you to accomplish your professional goals. There are other resources not included in this road map that will be helpful to you.

- Use the ePortfolio project website to see examples of other students’ work. You can get ideas for selecting artifacts, website design and critical thinking through reflection. Keep in mind that some examples are better than others. You also will find information on all aspects of ePortfolio design. The website address is http://wp.auburn.edu/writing/epfolio-project/
- Attend ePortfolio workshops offered to students by Auburn University and the ePortfolio project.
- Visit the Miller Writing Center in RBD Library for help in writing reflections for contextualizing your artifacts and to strengthen other examples of your written work.
<table>
<thead>
<tr>
<th>NOVICE</th>
<th>DEVELOPING</th>
<th>PROFESSIONAL</th>
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</thead>
<tbody>
<tr>
<td>□ The portfolio does not convey a professional goal</td>
<td>□ The portfolio somewhat conveys a professional goal</td>
<td>□ The portfolio clearly conveys a professional goal</td>
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<tr>
<td>□ Artifacts do not support a professional goal</td>
<td>□ Most artifacts support a professional goal</td>
<td>□ All artifacts support a professional goal</td>
</tr>
<tr>
<td>□ Artifacts are not appropriate for a professional audience: Written</td>
<td>□ Most artifacts are appropriate for a professional audience: Written</td>
<td>□ All artifacts are appropriate for a professional audience: Written</td>
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<tr>
<td>□ Visual</td>
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<tr>
<td>□ Written components lack attention to professional writing conventions and proofreading. Numerous errors are evident. Contextualization is too wordy.</td>
<td>□ Written components demonstrate some attention to professional writing conventions and proofreading. Occasional errors are evident. Contextualization is sometimes too wordy.</td>
<td>□ Written components demonstrate full attention to professional writing conventions and proofreading. No errors are evident. Contextualization is succinct.</td>
</tr>
<tr>
<td>□ The portfolio does not demonstrate careful integration of experiences, artifacts and goals</td>
<td>□ The portfolio sometimes demonstrates careful integration of experiences, artifacts and goals</td>
<td>□ The portfolio consistently demonstrates careful integration of experiences, artifacts and goals</td>
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<tr>
<td>□ The portfolio does not convey how experience relates to professional goals</td>
<td>□ The portfolio sometimes conveys how experience relates to professional goals</td>
<td>□ The portfolio consistently conveys how experience relates to professional goals</td>
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<tr>
<td>□ The portfolio does not convey how experience contributed to professional growth</td>
<td>□ The portfolio sometimes conveys how experience contributed to professional growth</td>
<td>□ The portfolio always conveys how experience contributed to professional growth</td>
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<tr>
<td>□ The portfolio does not demonstrate the ability to connect classroom knowledge to professional practice</td>
<td>□ The portfolio sometimes demonstrates the ability to connect classroom knowledge to professional practice</td>
<td>□ The portfolio consistently demonstrates the ability to connect classroom knowledge to professional practice</td>
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<tr>
<td>□ Weak technical skills are demonstrated in customizing the website</td>
<td>□ Moderate technical skills are demonstrated in customizing the website</td>
<td>□ Strong technical skills are demonstrated in customizing the website</td>
</tr>
<tr>
<td>□ The portfolio is not displayed consistently across multiple applications used for viewing</td>
<td>□ The portfolio is displayed consistently across some applications used for viewing</td>
<td>□ The portfolio is displayed consistently across all applications used for viewing</td>
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<tr>
<td>□ Navigation paths do not provide convenient access to any components of the portfolio</td>
<td>□ Navigation paths provide convenient access to some components of the portfolio</td>
<td>□ Navigation paths provide convenient access to all components of the portfolio</td>
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<tr>
<td>□ Links do not work as designed</td>
<td>□ Most links work as designed</td>
<td>□ All links work as designed</td>
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<tr>
<td>□ The portfolio shows poor understanding of design principles with respect to: color, typeface, layout</td>
<td>□ The portfolio shows moderate understanding of design principles with respect to: color, typeface, layout</td>
<td>□ The portfolio shows clear understanding of design principles with respect to: color, typeface, layout</td>
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<tr>
<td>□ The portfolio design does not assist the reader in navigating the story told</td>
<td>□ The portfolio design mostly assists the reader in navigating the story told</td>
<td>□ The portfolio design assists the reader in easily navigating the story told</td>
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<tr>
<td>□ The portfolio does not incorporate a variety of artifacts to convey experience</td>
<td>□ The portfolio incorporates a limited variety of artifacts to convey experience</td>
<td>□ The portfolio incorporates a wide variety of artifacts to convey experience</td>
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HDFS ePortfolio Evaluation Supporting Document

Effective Communication

Conveyance of a professional goal
The student clearly identifies a professional purpose for the portfolio framed as a professional goal on the home page, such as attending graduate school, obtaining a job or internship. Audience should not have to search the portfolio for a specific professional goal.

Artifacts support of a professional goal
Artifacts relate to and support effort or growth toward accomplishing the professional goal. Examples include courses completed, service learning experience, class assignments (e.g., papers, presentations, brochures, posters, observations, etc.), videos, evaluations, photographs of you in a professional setting, blog entries, membership in professional organizations, certifications, links to Organizations’ websites, etc.

Appropriateness of artifacts for a professional audience
Artifacts are appropriate for a professional audience (vs. personal). Artifacts are examples of work, experience and/or professional development that would be expected by employers or other professional reviewers. Images of student are in a professional setting.

Professional Communication
All aspects of the portfolio should demonstrate good grammar and sentence structure. There should be no typos and no spelling errors. All writing in the ePortfolio should demonstrate a professional language style (not too personal or cutey). Contextualization (page introductions and artifact explanations) should be succinct.

Critical Thinking through Reflection

Integration of experiences
The ePortfolio conveys how experience, artifacts and/or goals are related. Introductions should provide an overview and demonstrate the inter-relatedness among artifacts grouped together on a page (tie all the artifacts together and show how they relate one to the other). The ePortfolio should demonstrate a unifying message about you and your experiences through the contextualization of artifacts.

Relationship of artifacts to professional goals
An explanation is provided to demonstrate how each artifact relates back to the student’s professional goal as stated in the portfolio. The reader should not be left guessing why an artifact is included in the portfolio.

Conveyance of professional growth
Students demonstrate changes in their thinking, behavior, professional philosophy or similar as a result of learning and experience. This should be shown through artifacts incorporated and through the contextualization provided.

Connection between classroom knowledge and professional practice
The experience demonstrated in artifacts and contextualization should reflect how concepts and principles learned at Auburn University apply to professional practice.
Technical Competency

Technical skills for website customization
Overall ability to create a site that works well and creatively personalizes the student’s story. Microsoft applications of artifacts are converted to .pdf files in order to standardize viewing and prevent unintentional editing. Images are saved as .jpg files. Graphics are optimized for the web so that they are of appropriate size and can be viewed clearly. Links to relevant artifacts are included in written contextualization when appropriate. More than basic functions of website design are demonstrated. Basic functions include titles, text, single images or galleries, slideshows, map insertion, and contact form pages. Advanced functions may include page dividers, text columns, a search box, button links, use of audio, video, in-page document files, polls, forums, or surveys, and custom HTML.

Display across multiple applications
The portfolio works and displays correctly in different browsers and different applications, such as smartphones, tablets, and computers. The portfolio maintains integrity regardless of the application used for viewing.

Convenient access from navigation paths
Links and layout guide the reader easily through the site. The reader can follow a logical path through the site without having to wonder how to get to a page or how to get back to a page previously viewed. Links and files should be clearly and consistently labeled, and they should open in a new page.

Link functionality
Links and files work as designed and open easily. Hyperlinks should use a consistent set of colors to indicate visited/non-visited sites.

Visual Literacy

Understanding of design principles
Fonts, colors and layout that are typically considered “standard” for web design are used:
- **Color**: A limited color scheme is used that includes simple, non-distracting, neutral background and font colors. Color should be consistent throughout the portfolio and appear professional.
- **Typeface**: The typeface should be easy to read and a consistent font (sans or sans serif) should be used across website. There should be good contrast between text and background.
- **Layout**: A consistent layout should be used across the website that makes navigation easy. The layout should include a balanced use of spacing and white space, and pages should not be cluttered. A limited number of navigation tabs (3-4) should be provided on the homepage.

Navigation of story told
The portfolio should “flow” and inspire continued reading. The story told within the portfolio should be easy to follow visually across pages, artifacts, and links. The portfolio should not confuse or aggravate the audience, nor be overly lengthy. Navigation of the story is more than “convenient access”, but it also includes how well text and graphics on a page guide the reader and directs the viewer to relevant information. Text and graphics on a page or in clusters on a page should be visually cohesive.

Use of variety of artifacts
A variety of different artifacts should be incorporated such as text, images, videos, audio files, and PowerPoints, etc. Every portfolio element incorporated has an obvious purpose and adds to the story told. Less than 3 different appropriate artifacts is a rating of “novice”, around 3 to 4 different appropriate artifacts is “developing”, and 5+ different appropriate artifacts is “professional.”
Definitions

ePortfolio
The ePortfolio is a 21st century method for demonstrating learning and showcasing skills that support professional goals. The ePortfolio is directed to a professional audience and through reflective contextualization it presents a variety of artifacts that convey how learning and experience have contributed to preparedness for professional practice.

Artifacts
- Artifacts are examples of work and experience that support preparedness for professional practice. Artifacts can include an overview of relevant courses completed, service learning experience, class assignments (e.g., papers, presentations, brochures, posters, observations, etc.), videos, evaluations, photographs of you in a professional setting, blog entries, membership in professional organizations, certifications, links to professional organizations’ websites, etc. The types of artifacts you include in your ePortfolio are limited only by your imagination, but keep in mind that all artifacts must be professional in nature.

Contextualization (context)
- Demonstrated by Critical Thinking through Reflection, especially in the introductions and explanations provided across the ePortfolio
- It helps to tell a student’s story and guide the reader through it
  - It is important not to leave the reader guessing
  - It tells the reader what they are seeing and why it is important
  - It conveys professional learning and growth through experience
  - It demonstrates preparedness to accomplish professional goals

Effective Communication
Students will demonstrate competence in communicating to a professional audience outside of the academic community through the use of a professional language style and through the selection and presentation of artifacts that support their professional goals.

Critical Thinking through Reflection
Students will demonstrate competence in integrating learning and experiences across multiple settings in order to craft a professional identify, to convey preparedness for accomplishing professional goals and to promote audience understanding of ePortfolio content.

Technical Competency
Students will demonstrate competence in using a variety of technology tools to create artifacts and display artifacts and to create a personalized ePortfolio website that is easily accessible to the targeted audience.

Visual Literacy
Students will demonstrate competence in using design principles to combine a variety of artifacts and visual materials in a manner that smoothly and consistently conveys the story told throughout the ePortfolio and inspires continued review by a professional audience.
Course Sharing: Professional Development through ePortfolios
Robert Bubb, Jamie Sailors, Sharon Wilbanks, Virginia Christian, Emily Cumble, Margaret Vollenweider, and Hannah Ferry
Auburn University

Abstract
Most employers (81%) report that an electronic portfolio that summarizes and demonstrates key skills and knowledge (e.g., teamwork, oral and written communication, critical thinking) would help determine the best applicants to hire (AUC, 2015). One indicator of success for university departments is the employment rate of students. The following proposal introduces the ePortfolio project initiative at Auburn University (AU) and how the project can be implemented within departments at other universities. An ePortfolio is a personal website that showcases student skills, experiences, and learning through the contextualization of artifacts. An ePortfolio is a requirement in the HDFS department at AU and is introduced in an introductory course, reinforced throughout the major curriculum, and finalized in the internships capstone course. Students use a free access platform to create the ePortfolio. Pages of the ePortfolio display and contextualize evidence to a professional audience about the skills and knowledge students learn from their college experience. Conceptualization explains how an artifact relates to the student’s goals and to the skills needed for successful employment.

Learning Objectives
Students completing the ePortfolio project will potentially demonstrate the following competencies:
- Students will articulate a professional philosophy that identifies and evaluates professional goals
- Students will engage in self-reflection to identify personal strengths and areas for improvement
- Students will think critically about their accomplishments and how they relate to their career goals
- Students will write effectively to convey a clear message to a professional audience
- Students will apply classroom knowledge to professional practice
- Students will demonstrate technical competency in basic web design and presentation
- Students will exhibit visual literacy to inform their message

Project Progression
- Basic ePortfolio required in HDFS 2030: Professional Development and Ethics—an introduction course to the major
- Developed through assignments, projects, and experiences throughout the major curriculum
- Finalized in HDFS 4920: Internship in HDFS—a student’s capstone experience in the major
- Students graduate with an ePortfolio to share with potential employers and graduate schools

About Me
- An introduction of the student that highlights the connections between the student’s skills, experience, and knowledge
- Discusses important biographical information relevant to the student’s professional goals such as major, interests, and future plans
- Presents navigational links to evidence of skills, experience, and knowledge
- Includes an overall theme that ties all aspects of the ePortfolio together

Content Pages
The ePortfolio includes several content pages that contain artifacts to support student’s skills, experiences, and knowledge. Artifacts can take on many forms including text, images, PowerPoint links, course papers and assignments, and conference poster and paper presentations.

- Professional Experience
  - Highlights internships, employment, and research and teaching assistantships
- Volunteer and Service
  - Highlights volunteer work with charities and other organizations, and membership to professional organizations that relate to a student’s career
- Study Abroad
  - Highlights experiences that demonstrate cultural competency and diversity
- Interests and Honors
  - Highlights interests, honors, and awards that relate to a student’s career and demonstrate relevant skills, abilities, and knowledge

Websites
There are four free platforms supported by Auburn University:
- Students may choose other platforms or create their own webpage; however technical support is not provided

Rubric
- Promotes clear communication with students about expected outcomes
- Guides faculty in supporting ePortfolio development across the curriculum
- Tested with an inter-rater reliability of 0.88
INTRODUCTION
One of the challenges of teaching history is that it can be perceived as a dry and boring process of memorizing irrelevant facts. Studying the past gives us better understanding of today. History and Systems of Psychology is not always a required course in undergraduate psychology curriculum. PSYCH 439 is a capstone course at Penn State Beaver and taught as a seminar for advanced psychology majors.

In taking advantage of regional (within 2-3 hours) resources to Penn State Beaver, students have richer experiential learning opportunities. The ability to immerse oneself in the past by visiting one of the last standing Kirkbride Plan psychiatric hospitals in the country (Trans-Allegheny Lunatic Asylum) and access one of the largest collections of psychology artifacts and archives help bring history to life. In an age of technology and information sharing, current students are more able than ever to really see the impact of psychology beyond what is in a textbook.

LEARNING GOALS
- Increase understanding: historical roots and evolution of the study of human behavior
- Connect key figures, significant studies and events in the history of psychology to current/contemporary events
- Increase knowledge of the sub-fields of psychology
- Strengthen writing and presentation skills appropriate for field of psychology
- Strengthen and utilize cumulated skills for understanding and interpreting peer-reviewed research studies and apply critical thinking to understand broad impact

COURSE COMPONENTS
I. Project-Based Learning—paper/presentations
   A. Asylums & Mental Health (Individual)
   B. Seminal Research Studies (Group)

II. Field Trip(s)
   A. Trans-Allegheny Lunatic Asylum
   B. Center for the History of Psychology (U. of A)
      i. Archival Data Activity (e.g., John B. Watson)

III. Online quiz at the end of each unit

IV. Readings—Textbook and additional original works (e.g., archival letters, research studies)

CONCLUSION
First, student engagement is key. Students commented on the positive impact of tangible and experiential learning in this course. Second, students leading dialogue that emphasize the relevancy of psychology history to contemporary times supports proactive learning. As advanced students, this course provides the opportunity for them to apply psychology knowledge in wider context to society as well as discover personal relevancy. If an instructor takes advantage of the fascinating nature of the stories, drama, triumphs and failures in psychology, there is some ease with increasing proactiveness in student learning.
SEMINAL RESEARCH STUDIES – Paper Symposium  
PSYCH 470– SPRING 2017

There are research studies that are so well-known that even the general public has some level of familiarity with it. In this group presentation project, you and your peers will select one study and research it in depth. The purpose of this is to understand the context at the time of the study (what led up to the study, why it was or was not impactful at that time) and tie in the relevancy to contemporary Western culture. How did this study contribute to shaping our understanding of human behavior? You will be expected to use multiple sources the general public might find and integrate this information with research based information (e.g., peer-reviewed research literature that is inspired, based on, replicating, related). In this sense, you should want to include any information uncovered since the time of the study that may change how people understand this study. You are expected to obtain the original study (research article) or significant publication resulting from the selected study.

As part of tying in this seminal research project, you will identify a current event or trend that demonstrates a strong connection to the findings of your selected study. For example, the Stanford Prison Experiment was widely cited in the controversy of Abu Ghraib. Another is discussion of the Clarks, their Doll Test, and Brown v. Board of Education. Below are studies you may select from. If you feel there is a specific study not on this list that you would like to use, please prepare a brief proposal and discuss this further with the instructor. This project is a presentation that will have a wider audience (this is not a classroom presentation but one in the main meeting rooms on campus). Faculty, staff, non-psychology majors, and students from other psychology courses may be in attendance. Those in the audience will be asked to provide feedback and a portion of your project grade will be drawn from their ratings. You must prepare a handout summarizing the key points of your study and your presentation for the audience.

(1) Introduce an event, trend, societal behavior that is currently happening that has roots relating to your selected study.
(2) Describe the social/cultural climate of the times (Zeitgeist) that primed the circumstances for your study
(3) Succinctly summarize and critique your original study. Describe the major findings of this study. Discuss how these findings have since influenced change in our culture.
(4) What replication studies have ensued? Or studies inspired largely by your original study? Were results upheld or unsupported by the newer studies?
(5) Tie together the implications of your original study to the event, trend, and/or societal behavior you first identified. Does it look like we learned our lesson?

Late work for this assignment will be subject to an automatic 10% deduction in your score. Your paper will NOT be accepted if it is more than 3 days late. All citations must be fully referenced. Do not reference what you did not cite. Please refer to the current edition of the American Psychological Association Publication Manual for further information on APA citations.

STUDIES TO SELECT FROM:
Milgram Shock Experiment
Stanford Prison Experiment
Bobo Doll Experiment
The Doll Test (Clarks)

Coca-Cola Caffeine and Mental Deficiency
Bystander Effect (Darley and Latane)
Loftus (studies on memory)
Robber's Cave Experiment

The Marshmallow Test
Little Albert (Watson & Rayner)
Asch Conformity Studies
Seligman Learning Helplessness
PAPER SCORING RUBRIC (50 points)

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<th>CRITERION</th>
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<td>11 Exemplary and Exceeds Expectations</td>
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<td>10 Above Standards</td>
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<td>6 Approaching Standard/Needs Improvement</td>
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<td>1-4 Does Not Meet Standard/Absent</td>
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The Original Study (10)
The original research work was utilized and correctly reviewed. The major findings are clearly delineated. The original researcher(s) of the study are briefly discussed (to give background to the work – why were they significant?)

Zeitgeist of the Times (10)
Identify at MINIMUM 3 sources you discovered that helped you increase your knowledge and understanding of the times that led up to your selected research study. Strongly discuss the economic times, political climate, major world or country events as well as social culture. Discuss the reliability and accessibility of these resources. Was it difficult for you to find these resources?

Research Synthesis (15)
Students are expected to use AT MINIMUM 3 major research works that replicated or was inspired by your selected original study. These studies should directly relate and results of these studies either support the original study OR the findings could not be replicated. Why is this? Be critical in the research design and how the study was conducted. Also speak to the possibility that over the decades, societal thinking may have changed, and so results may be different due to that.

Contemporary Implications and Social Change (10)
Discuss thoughts on how your selected study has influenced contemporary times. Use psychological concepts and phenomenon. You can talk about the impact (or lack of impact – so lessons of history were not learned...). You can talk about repeated events since then that continue to demonstrate the findings of your study leading up to the major contemporary event, trend, or societal behavior. PLEASE BOLD CONCEPTS in your text.

Flow/Technical Writing (5)
Organization; logical, well structured; ease of flow; concise but effective in conveying pertinent information. Conform to APA Guidelines; citations within text are correct; spelling and grammar; word-processed and timely uploaded into Canvas; appropriate margins and fonts; in reference list – only original sources you used in your paper

PRESENTATION & HANDOUT (50 audience average/50 instructor=100 points)

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<th>Creative (Presentation is engaging, kept your attention and interesting)</th>
<th>Professional (appearance, articulate, confident, organized; you feel confident they have some level of expertise)</th>
<th>Content (Beyond what could be found in a Psych 101 Intro; content seems reliable to science)</th>
<th>Comprehensible (Clear articulation of focus, enough background to understand impact on field)</th>
<th>Memorable (Found information you feel you may use in another class or even share with another person)</th>
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Presentation and Handout Peer Grade – 50 points [Score 4-10]
10 = Accomplished and well done
8 = Great effort, element is there but inconsistent or haphazard
6 = Some effort but confusing, looks more like a draft or has noticeable errors
4 = Completely disorganized, absence of the described elements, many errors detracting from the value of the presentation
Journal Article Review

For this upper division course, students have been asked to review one research study published from peer-reviewed empirical research journals. The purpose of this assignment is that each student access quality studies in the field of psychology and demonstrate the abilities to read, thoroughly comprehend, critically analyze, and communicate effectively the significance of the research study.

Submitted works will conform to basic APA 6th Edition Style manual. 12-point font (Times New Roman or Calibri or Arial only), double space, and one-inch margins on each side. A separate final page should include references of work you cite (consistent with APA) within your written work. This paper is expected to be 3-5 pages at minimum (not counting the reference page(s)). Final product will be uploaded and submitted via Canvas by the due date identified in the course syllabus. A copy of the journal article must be submitted along with the student’s journal article review. At the top of the page, please cite your selected journal article per APA guidelines:

Last name, A. B. (year). Title of the journal article. Peer Reviewed Journal, 1, 2-15.

In general, a student should identify the basic elements of a research study. Things to consider when carefully reading the study include: The research question (what are the authors trying to answer); the hypothesis (what do the authors think they will find); literature review (what already exists in other published studies that support their hypothesis and what exists that supports other alternatives); methodology (the research design and how are they going about to answer this question); results (what did they find); and implication (so what does it mean- how will these findings make impact in research and in life). A strong discussion integrating the study’s findings and the student’s psychology knowledge should be demonstrated. A student should be able to summarize important information, but more importantly demonstrate understanding of the content, analyze and evaluate the work, and communicate critique of the study.

On a separate additional page, a student will translate their understandings from the review of their study into a useful resource handout page that is “family friendly”. Disseminating empirical studies helps consumers (families, teachers, etc.) feel more confident. Demonstrating your understanding of a specific disorder and combining it with your understanding of interpreting the study so that it is useful in every day application is important.

The scoring rubric below will be used by the instructor to evaluate a student’s work. The journal article review is worth 25 points.
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Clozapine: Is it right for you child?

A study conducted by Teixeira and colleges has supported the claim that Clozapine is successful in treating aggression for children with conduct disorder. Although this study focused in on conduct disorder, they do mention that we should not limit Clozapine’s benefits to just this disorder. It may be helpful for children with schizophrenia, bipolar disorder, and autism who are exhibiting aggression.

This research resulted in:

- A decrease in the amount of physically aggressive episodes
- Positive impact on the quality of life for both the child and family members
- Decrease in verbal aggression and antisocial behaviors
- Improvements in social interactions and school performance

There are mild side effects along with this medication including somnolence, weight gain, and increased salivation. These side effects outweigh the benefits of the medication though. If untreated, conduct disorder can lead to personality disorders, mental disorders, and delinquency in adulthood.

Clozapine is FDA approved in the United States.

For more information, you can read the full study at [http://search.proquest.com.ezaccess.libraries.psu.edu/docview/1366356700?pq-origsite=summon](http://search.proquest.com.ezaccess.libraries.psu.edu/docview/1366356700?pq-origsite=summon)
1. **Summary of treatments and education on obesity.**

2. **Obesity Health Risks**
   - 85th-95th percentile is considered overweight, but above 95th percentile is obese.
   - Cardiovascular Disease, Hypertension, Hyperlipidemia, and abnormal glucose tolerance are all immediate health consequences that may arise.
   - Ischemic stroke, joint disease, cancer, coronary heart disease, and many others are long term effects of being obese.

3. **Prevention**
   - Lifestyle change for the whole family will produce the best results.
   - Follow Dietary recommendations.
   - Increase of physical activity.

4. **Pharmacological Interventions**
   - With the addition of medication added on to the recommendations from the prevention category there is a decrease in the overall body mass index at an increased rate.
   - There is short term benefits, but there has not been any studies done to see about long term benefits.
News Coverage and Fear

Today’s world is filled with information that we as citizens are able to access in many forms to keep up with current events. Television news is one of the most popular methods for gaining this information, and many parents watch the news on a regular basis.

- Based on current research we know find that 50% of people surveyed after 10 years remember watching a news story that frightened them as a child.
- Often parents watch news with children in the home sometimes unaware that children are watching.
- 54% of adults surveyed mentioned being scared for up to 7 days after watching a specific news story as a child.
- Children can be more frightened of a “real” news story as opposed to a fictional movie or television show.

We all like to keep current on events surrounding us. Please remember to use caution when watching news stories around young children, and always be ready to talk about what they have seen so that they understand while feeling loved and protected.
Family Friendly Guide:

Understanding the Outcomes of Stressful Home Environments for Children

This study looked at the different outcomes children may face when exposed to different stressors in the home.

Two stressors that were addressed in this study included parental conflict and parental depression.

Inter-parental Conflict: Occurs when parents of the child do not get along, may constantly bicker or fight, and it affects the child in a way that is sometimes negative.

Parental Depression: Occurs when one or both of the parents are suffering from depression and may not be able to provide the child with the right type of emotional support due to lack of energy, sadness and other symptoms accompanying depression.

In both of these situations, two possible outcomes may arise in the child. This is not to say that either of these situations will happen in any and every child, but they are the scenarios observed in this study.

1. The child blames themselves for their parents’ arguing, and may exhibit symptoms such as:
   a. Externalizing: Aggression, behavioral problems, etc.
   b. Internalizing: Depression, anxiety, etc.

2. The child uses coping mechanisms, which help lessen their risk for showing negative emotional or behavioral symptoms.
Journal Article Review


**Research Question/ Focus:** With obesity on the rise and inactivity on the decline in adolescents with ASD Strahan and Elder thought of a study to help to decrease or slow the weight gain in these children. This study sought to examine the effects on active video gaming in adolescents with Autism Spectrum Disorder (ASD). Obesity has tripled over the last two decades and estimated to be 40% more likely in adolescents with ASD. Many caregivers and parents are more concerned with the effects of ASD and less about the overall health of the individual. There was no specific hypothesis in this study, however based upon another study done by Maddison et al. they determined that the creative intervention has a potential to slow weight gain.

**Background:** Previous research on sedentary adolescent gamers supported that when given an active video game their BMI decreased while the control group continued to gain weight. However, there are no known studies to date done on the effects of video gaming on obese adolescents with ASD. Male adolescents with ASD spend 41% of their free time playing video games. With this in mind, this intervention of replacing their normal sedentary video game with an active one is very promising if they are willing to embrace the active version. Three quarters of adolescents continue their obesity trend into
adulthood and spend on average 13 hours a day sitting. While the inactivity in children with ASD is not solely to blame because of their motor skills, low muscle tone and numerous other factors, but also the medication they are on. Many of the medications have the side-effect of weight gain, such as Risperdal.

Research Design: The authors conducted their investigation using one participant, “JD”. This was a single-subject A-B-C design. JD was diagnosed with mild-moderate ASD when he was five years old and at the time of the study was 15 years of age. At the start of the study he was clinically obese with a BMI of 28.7kg/m^2. Along with ASD, he had diagnoses of OCD and ADHD. He is on a number of medications for his medical issues. JD attends a public school and does not participate in any extra-curricular activities. His diet is extremely lacking in nutrients and is mostly filled with high carb foods. JD and his mother were not told about the hypothesis of the study and were told not to change any of his physical activity or eating habits. The gaming consoling used for this study was the Wii and its accessories. JD had his choice of any rated G game that was active. Data was collected during the study weekly including BMI, weight, height, triceps skinfold, and waist to hip ratio. JD was instructed to play the chosen inactive video game for four or more days a week for a minimum of 30 minutes each day for a total of six weeks. Then, he played an active video game for four or more days a week for a minimum of 30 minutes each day for a total of six weeks.

Results: JD had four baseline assessments that resulted in an increase in weight every week except the final baseline week, in which there was a loss of 0.30 pounds. Inactive video game playing resulted in a steady state in which his weight only changed by 0.20 to 0.30 pounds in all but two weeks. JD’s weight dropped by 2.20 pounds the second week and 2.30 pounds the fourth week of inactive video game playing. He gained weight during the first two weeks of active video game playing by 1.70 pounds and 4.10 pounds; however, the final two weeks produced a weight loss of 0.90 pounds to 4.20 pounds. The
percent of weight change for JD from the final baseline assessment to the end of inactive video game playing was a 1.2% increase and for active video game playing was a 0.1% increase. BMI for JD remained in a stable state during baseline with a little variation of only 0.01 kg/m² in the first phase and in phase 2 a variation of only 0.30 to 0.40 kg/m². Active video game playing resulted in an increased BMI for the first two weeks and then a decrease for the remaining weeks. JD demonstrated minimal changes across all phases for waist-to-hip ratios and with triceps skinfold measurements only ranging from 0.20 to 0.40 mm.

**Discussion:** This study presented some interesting findings for parents and caregivers and provided some outside the box thinking on how to get adolescents physically engaged. However, the results did show that overall JD did not lose as much as originally anticipated; however, the prolonged effects of this could prove to be beneficially. JD’s mother reported in her food logs that he was eating more when he began the active gaming. He began to compensate for the calories he was burning by eating more and also consuming foods that are not good for him. Also, the weight increase could also be attributed to the gaining of muscle. The active gaming overall accomplished the goal of slowing the weight gain and reducing BMI. These results demonstrated that active gaming could be a viable and feasible way to reduce obesity in adolescents with ASD. However, the intervention also proved that the increased physical activity did not change the stress or anxiety level in JD. This study could be improved by expanding it to include both females and males and have more participants. Also, more research needs to be done on this topic to prove the results can be replicated since there are no other studies on this exact issue at this time.

**In Application:** The growing trend of obesity is a large problem in our country, especially in adolescents with ASD. Any way of reducing or slowing this problem should be explored and researched upon in order to find the solution to this problem. Many adolescents with
ASD are inactive so incorporating something they enjoy, such as playing video games, would most likely be much more appeasing to them than going to a gym. If they do choose to embrace active video gaming they can slow their weight gain and decrease their BMI.

References


Does your child with ASD LOVE video games but hate exercising?

Obesity has tripled over the last two decades and is estimated to be 40% more likely in adolescents with ASD. A study conducted by a Florida college found a way to incorporate the benefits of exercising with playing video games. The Wii gaming console has many interactive games that gets your child off their feet and moving without even realizing they are exercising.

The case study’s results:

- Reduced weight and BMI when switching to active gaming
- Valid option to produce weight loss
- Weight-loss helps prevent against serious health problems

To view full case study: file:///C:/Users/student/Downloads/128365.pdf

http://dx.doi.org/10.4172/2165-7890.1000155
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Journal Article Review


**Research Questions/Focus:** This study examines the negative stigma among adolescence that suffer from mental disorders such as behavioral and emotional disorders. Moses main focus of analysis throughout this study is how youth diagnosed with mental illness are treated negatively due to the preconceived stigma attached to mental illness. The study is broken up into three sections where the bases of analysis lies within the answers provided by youth currently experiencing mental illness. These questions are regarding the difference in treatment they receive by their peers/friends, family and school staff once they are diagnosed.

**Background:** Previous studies have been conducted involving adults who suffer from mental disorders and the negative stigma attached to it. The bases of these studies were to examine how the negativity affects their perception of society and themselves. The results of these previous studies indicated that adults who experience perceived stigma often are associated with poorer treatment outcomes, low self-esteem, shame, and less social support. However, not many studies have focused on youth. Youth face a whole different set of challenges, which is why their experience is different from the challenges that adults face. Adolescence with mental disorders may face perceived stigma as well as challenges such as peer acceptance, identity, and social image. The different set of obstacles one faces in youth and adulthood may need a different set of coping strategies implemented to make treatment as affective as possible. The research that has been done
on youth regarding this issue reflects an element of “different” treatment when it comes to family, social, and school settings. However, the paucity of research in this area (Chandra & Minkovitz, 2007) has prompted Moses to conduct a study in hopes to find more information on how this perceived stigma affects youth.

**Research Design:** Moses conducted a cross-sectional study of 60 adolescents from a mid-western American city. The voluntary participants were between the ages of 12-18 years old and had been diagnosed with one or more mental disorders that contributed to some type of functional impairment. The sixty adolescents chosen for this study participated in semi-structured interviews conducted between February 2006 and August 2007. The interviews last about 60-90 minutes and all participants received a $20 gift card. Of the 60 participants 56 of them completed data through out these interviews that allowed the author to continue her analysis. The next portion of the study was broken up into three stigma interpersonal domain categories. Interpersonal domains: family, peers, and school. The responses given were broken up into three categories: 1-No stigma, 2-Some stigma, 3-Substantial stigma. Once participants were asked questions in each interpersonal domain their response was classified in categories one, two, or three.

**Results:** *Interpersonal domain:* Family – No stigma: half of the participants (n=30) reported that they did not receive any different treatment from parents, siblings, and extended family. This answer was based on whether they were treated differently than other siblings or treated differently than they were before their diagnosis. Some stigma: A third of the participants (n=19) reported that they were treated differently by some family members but were treated normally by other family members. Most of the stigmatizing behavior reported was rejection, mistrust, avoidance, and pessimism. Substantial stigma: A minority of the participants (n=7) reported that their overall experience with their family was negative. Most of the participants that reported this (n=5) were living in out-of-home placements. They reported feeling blamed, neglected, and rejected due to their mental illness.
Interpersonal Domain: Peers-No stigma: More than one third of participants (n=21) reported that they experienced no negative treatment from peers. Participants who responded with no stigma reported that their friends were mostly indifferent or supportive and accepting of their mental illness. Some of the participants (n=7) stated that they did not disclose their mental health status to their peers. The majority of participants had friends that identified with the same mental health experiences as them. Some stigma: A lot of the participants (n=25) reported feeling rejected by some of their friends. This led many participants in this category to find friends that were accepting. Some of this negativity was due to their peer’s social status. Often these participants gravitated toward groups of friends that were accepting of who they are. Substantial stigma: A minority of participants (n=10) reported substantial negative treatment from peers. They described feeling alienated and rejected due to their mental illness.

Interpersonal domain: school, due to the fact that it was difficult for the author to differentiate between some and substantial negative treatment these responses were grouped together differently. No stigma: Some participants (n=20) reported no negative treatment in school. Different treatment in school-positive: Other participants (n=10) reported feeling very supported. Often they described their treatment as “special” in a sense that school staff held them to higher standards and showed flexibility and support. Different treatment in school-negative: Other participants (n=16) reported substantial negative treatment in school. They commonly described this treatment as underestimated, feared, avoided, and disliked.

Findings and Implications: (A few sentences summarizing all the technical results above. For example, “The current study examined the relationships amongst these three domains. In general, when an adolescent endorsed experiencing high stigma in any one domain, they generally reported higher stigma across all domains.”)

Throughout this study the questions asked were not specific to friends or specific family relationships. There was a wide variation of participants that took part in this study because of this some youth may have been exposed to negative treatment due to their involvement in the justice system and not their mental disorder. Further studies will need done in their natural environments to gather a better picture of their treatment. Also, studies on specific relationships, disorders, and settings may contribute a clearer picture of the negative stigma adolescence may face.
What the author has found throughout this study is that there needs to be a greater effort to assist youth with the negative stigma’s they are faced with. To combat the issue of perceived stigma family interventions may be necessary to fully develop an understanding of the disorder and the symptoms. Anti-stigma interventions can be held at school to help raise awareness and provide a better understanding of mental disorders to peers and staff. Continued research must be done on this topic to learn how to fully aid such interventions.

Discussion (strengths and weaknesses): I found this study to be interesting because the negativity one may face while growing up can really affect how one adjusts later in life. I found throughout this study that providing students with an understanding that it is okay to be different is a concept that can help youth grow and learn in a stable environment. I appreciated that it looked at youth who struggle with mental disorders because this is a problem that so many face, yet it is not talked about as much as it should be. I would have liked to see throughout the study focus on specific disorders due to the fact that one who is placed in the juvenile justice system can skew the data from the initial stigma of mental disorders. I believe that this is an issue that needs farther research to raise awareness in school and in their home life.

In application (real life), growing up is a difficult process in its self. Youth are faced with finding out who they are, while navigating through the challenges of social acceptance and identity. These issues alone can cause a lot of anxiety especially for those that suffer from mental illness. When one experiences negativity from their family, peers, and school environment throughout this process it makes it much more challenging to focus on the growing process that we all go through when we are adolescence. The results of this study shed light onto the awareness that is needed to combat the negative stigma that youth face when diagnosed with a mental disorder. I hope to see more research in the future that implements a specific plan to raise awareness (Hinshaw, 2005).
References


Family Friendly Guide:

Understanding youth diagnosed with mental disorders and the negative-stigma

His study examines the negative treatment youth may face once diagnosed with a mental illness. Youth can experience negative treatment from three sources:

Family: can cause a feeling of rejection and blame due to their mental health status.

Peers (friends): can cause a feeling of social isolation, harassment and alienation.

School: can cause a feeling of fear, dislike, and avoidance.

Negative treatment due to mental illness in any social group can cause a barrier between the adolescent and the progress of their treatment. During this developmental period youth need to feel safe and secure so that they may continue to progress in treatment and adjust in later years. There are a few ways to combat this negative treatment:

1. Family intervention: provide information on the disorder and an understanding of symptoms.

2. Anti-stigma intervention: provide awareness in schools of mental disorders and the struggles youth face.
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Journal Article Review


**Research Question/Focus:** Many studies have been conducted to see if any type of physical activity will help to combat the effects that go along with autism spectrum and the study conducted by *Autism Open Access* is no different. They set out to see if the calming and relaxing purpose of yoga could really help children and adults on the autism spectrum. Since the cost is so great and the resource so limited for those with an autism spectrum disorder, they hope to find yoga as an affordable and fairly easy treatment tool. The authors did a literature review to find empirical studies looking at yoga as an intervention for children with ASD.

**Background:** For many years now, yoga has been seen as a way for people to relax their mind, body, and soul and this study shows set out to determine if it could do that for people with Autism Spectrum Disorder (ASD). Yoga obviously cannot cure ASD, but can it help with the symptoms associated with it ASD as well as other psychiatric disorders that may or may not be presenting symptoms along with an ASD. Since there are very few evidence based interventions for ASD that are actually proven to work many people often turn to alternative and ineffective
treatment for the symptoms associated with an ASD. No previous research has been done on the effects yoga has on autism, making this the first of its kind in the field.

Research Design: The authors of this study used a combination of online databases to collect information including: PsychINFO, PubMed, CINAHL, Scopus, and Google Scholar. These databases were used to find particular studies and selection criteria that met the following: “Autism Spectrum Disorder or Asperger syndrome, implemented a standardized protocol, assessed clinical outcomes, and utilized either a control group or the subjects as their own control.” All of the studies were peer reviewed and given in the English language or with a translation-to-English option.

After this was done those studies and participants that met the set criteria for this study were further analyzed using Oxford Centre for Evidence Base Medicine 2011 Levels of Evidence. The use of that tool allowed researchers to find that only two studies met their selection criteria and two studies that nearly met selection criteria.

Results: The research results showed minimal evidence that yoga improved the accompanying symptoms of an ASD. One of the two studies that had met the selection criteria was a blend of yoga therapy with music therapy and evidenced definite improvement among those in the study. However, because it was combined with music therapy these is no way to definitively show that yoga therapy alone as an intervention was helpful. The second of the two studies did not focus enough on the symptoms associated with ASD and was therefore not influential enough to support the data. The authors of this study believe the limited number of studies that met their search criteria was a contributing factor to these results.

Findings and Implications: This study ultimately found no direct results supporting yoga as a direct intervention to help with the symptoms of ASD or the accompanying psychiatric conditions that may be present. It is hoped that future studies will be done to see the short and long-term effects
of yoga will be done allowing for a more accurate view into its helpfulness. There are other factors that the authors of this study would like to test such as the intensity of the yoga, how long the yoga session lasts, how often the patient is doing yoga, and where the patient is doing yoga (school, home, yoga studio, etc.). These factors could one day open up a connection between yoga and the treatment of autism symptoms. There are many reasons why it is believed yoga could be an aid in helping with the symptoms of ASD there really just isn’t enough current evidence and research in today’s world to make a direct correlation. Future trials would have many questions to answer before the link could be made and supported and that’s why the authors of this study believe more specific controls and methods need to be taken. There are many questions yet to be answered, but yoga could possibly be a good alternative treatment for ASD symptoms in the future.

**Discussion (Strengths and Weaknesses):** Overall, I don’t think the quality of this study was as high as I was hoping. Since I have two siblings on the autism spectrum I’m always trying to keep up to date on possible treatments and activities that may include their quality of life. This study did not show me enough evidence and support to show that there could ever be any real correlation between yoga and ASD symptoms. I can see that it may be helpful for centering the mind and allowing them to kind of free their senses, but not it as a possible treatment. I don’t believe their selection criteria was wide enough to collect sufficient data and I really think that was a major weakness in my eyes. I do believe that future studies could show an improvement in things such as mood or attitude, but I think that the symptoms of ASD vary so much from person to person that it can never be linked to one specific treatment.
References

Can yoga help your child with an autism spectrum disorder?

A study recently published in Autism Open Access (or name the authors) sought to connect yoga with the treatment of autism spectrum disorder symptoms and possible psychiatric conditions accompanying ASD. The results, at this point in time, indicated there are not enough studies to support yoga as an effective intervention for improvement of ASD symptoms. However, future studies will look into these possible factors to make a connection:

- Intensity of yoga session
- Frequency of yoga session
- Duration of yoga session
- Location of the yoga session
  - School
  - Home
  - Yoga Studio
- Child's individual mood
- Child's individual attitude

Future studies may link yoga to a positive outcome, but at this point in time it is not necessary to run out and put your ASD child in a yoga class based on this study. It may help your child to put their mind at ease, but for now there is no empirical evidence to support this claim.

For more information or to read the study in its entirety, please follow the link below.

<table>
<thead>
<tr>
<th>CRITERION</th>
<th>LEVEL OF PERFORMANCE</th>
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<td>Identify factually the elements of the study and concisely summarize. Identifying the purpose of the study, what was done (including what kind of research design implemented), results, and conclusions by author. Organization; logical, well structured; ease of flow; concise but effective in conveying pertinent information.</td>
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<td><strong>Evaluating and Critiquing Study</strong></td>
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<td>Comment on the strengths and weaknesses of the study. Comment on what and how it could be improved. Student should draw and from what they have learned in psychology. Student offer a thoughts on relevance of this study. Thoughtful reflection of how this study adds and/or challenges the student’s current knowledge and skills.</td>
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<tr>
<td><strong>Family Friendly – Summary</strong></td>
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<tr>
<td>Taking technical jargon of the field and making it more friendly to non-psychology people; thorough without being overwhelming</td>
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<td><strong>Family Friendly – Resource</strong></td>
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<tr>
<td>The practical applications of the study findings; will this be something than can help guide a family in decision making; how can you arrange the information in a way that helps a family be more critical of “google research”</td>
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Adding the Her-story to the History of Psychology
W. Matthew Collins & Leanne Boucher
Department of Psychology and Neuroscience, Nova Southeastern University

GOALS
(1) Make the case we should teach students about overlooked female contributions to psychology;
(2) Illustrate the current imbalance of coverage in some history of psychology textbooks;
(3) Provide teaching resources to rectify that imbalance in the context of a history of psychology class.

CONTENT ANALYSIS
As an extra credit assignment, 10 students in a fall 2016 History of Psychology course reviewed five history of psychology textbooks. They were instructed to count the number of content lines devoted to female historic figures (individuals mentioned in passing were not included).

History of Psychology Textbooks reviewed:

RESULTS OF ANALYSIS
The table below shows the mean number of lines (standard deviation) devoted to female historic figures included in two or more of the textbooks we reviewed. In brackets next to the name of the author is the total number of female historic figures in the textbook.

FEMALE PSYCHOLOGISTS COVERED IN OUR HISTORY OF PSYCHOLOGY COURSE

<table>
<thead>
<tr>
<th>Name and picture</th>
<th>Quick facts</th>
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<tbody>
<tr>
<td>Christine Ladd-Franklin</td>
<td>Completed graduate work in 1882; Grantee of a 1906 travel grant; Evolution of color vision</td>
</tr>
<tr>
<td>Lilien Jane Martin</td>
<td>First American Psychologist to be awarded a Ph.D. by a German university; Opened first old age counseling center</td>
</tr>
<tr>
<td>Margaret Foyle Washburn</td>
<td>First woman to earn a doctorate in psychology (1894)</td>
</tr>
<tr>
<td>Ethel Puffer (Hawes)</td>
<td>Founded Institute for Coordination of Women's Interests at Smith College</td>
</tr>
<tr>
<td>Leta Stetter Hollingworth</td>
<td>Challenged views regarding intelligence and sex; Developed educational strategies for gifted children</td>
</tr>
<tr>
<td>Barbara Stoddard Burks</td>
<td>Examined impact of nature vs. nurture on intelligence in foster children</td>
</tr>
<tr>
<td>Mary Whiton Calkins</td>
<td>Opened first lab at women's college; Invented paired associate learning technique; First female president of the APA</td>
</tr>
<tr>
<td>Mamie Clark</td>
<td>Black doll/white doll study; Instrumental in efforts to desegregate schools</td>
</tr>
<tr>
<td>Bluma Zeigarnik</td>
<td>The Zeigarnik effect; Gestalt psychology</td>
</tr>
<tr>
<td>Dorothy Dix</td>
<td>Advocate for institutional reform; mental illness</td>
</tr>
<tr>
<td>Melanie Klein</td>
<td>Psychoanalysis in children; good breast/bad breast</td>
</tr>
<tr>
<td>Anna Freud</td>
<td>Psychoanalysis in children; ego Psychology</td>
</tr>
<tr>
<td>Karen Horney</td>
<td>Womb envy; Adjustment patterns to anxiety</td>
</tr>
</tbody>
</table>

MOTIVATION
In a 2002 Review of General Psychology article that ranked 100 of the most eminent psychologists of the 20th century using criteria such as journal citations, APA presidency or awards, and mentions in introductory psychology textbooks, only 6 were women. The people ranking these individuals were 1,725 members of APA.

We asked 10 students in a fall 2016 capstone Experimental Psychology class to write down as many psychologists as they could remember in a 5 minute period as a proxy for measuring "influential psychologists that psychology students learn about". Of those psychologists students recalled, 14% were women.

Are there really so few influential women psychologists? Or is the coverage of women's contributions to psychology lacking in instruction?
Section XIV
I/O Psychology

1. Using Engaged Learning to Teach Industrial/Organizational Psychology: Revisiting the Use of Fantasy Organization

2. Looking for Opportunities to Use Discrepancies between EFA and CFA Outcomes to Illustrate Organizational Psychology Phenomena
Introduction and Methods

- Wann (1993) described a class activity in which students developed a “fantasy organization” in an attempt to learn multiple course concepts.
- Students formed teams of six on the first day of class and were given 40 minutes at the end of lecture each week to apply course concepts to discussion questions posed by the instructor.
- Students followed a similar group project approach to learning Industrial/Organizational (I/O) Psychology in the current research.
  - Students were assigned to groups (three per group) based on personality assessment and asked to create a fantasy organization.
  - Students then worked as consultants a number of I/O Psychology projects throughout the semester, including three I-related projects and one O-related project.

- **Industrial Psychology Projects**
  - Creating a Needs Assessment and developing Job Descriptions for positions in their organization.
  - Developing a performance appraisal instrument for one specific position in their organization.
  - Creating a multi-hurdle selection strategy and structured interviews for one specific position in their organization.

- **Organizational Psychology Project**
  - Development of a Diversity Training program after diversity-related problems arose in their fantasy organization

- Students (N = 16) presented their results of each project to the class and completed evaluations at the end of the semester which measured the perceived quality of the course, quality of instruction, and the group project.

Results: Course and Instruction Quality

Five items measured quality of course and instruction. All items used a 7-point Likert Scale (1 = Lowest Rating, 7 = Highest Rating). The results were compared to the first time the instructor taught this course at a previous institution.

1. Rate the overall Quality of this course.
2. Rate the clarity of the instructor’s presentations
3. Rate the organization of course material
4. Rate the instructor’s skill in emphasizing main points in lectures and discussions.
5. Rate the adequacy of the amount of information learned in this course as compared to other courses you have taken.

Results: Group Project

Seven items measured student perception of the group project. All items used a 9-point Likert Scale (1 = Not at all, 9 = Very Much) The results were compared to Wann’s results.

1. I believe the group project increased my understanding of the material.
2. I believe the group project increased my interest in the course content.
3. I believe the group project was an effective learning tool.
4. I believe the group project was enjoyable.
5. I believe the group project was worthwhile.
6. I believe the group project compared favorably to activities in other college courses.
7. I believe the group project should be used in future courses.

Discussion

- The results of this study are mixed. While students seem to rate the quality of the course and the instruction higher than when the course was taught using a traditional lecture format, their ratings for the group project were lower than Wann’s results.
- It is possible that the approach to learning about I/O Psychology is more engaging to students, but the group format is less desirable. Future research should investigate how students feel about this project when working on an individual project.
Looking for Opportunities to Use Discrepancies between EFA and CFA Outcomes to Illustrate Organizational Psychology Phenomena

M. Audier & S. Atkins
Otago Polytechnic of New Zealand
For further information, contact: satkins@op.ac.nz

Our final results were achieved via the aggregation of medical staff responses (N = 207) from a medium-sized hospital located in an affluent Austral-Asian community. Data was aggregated from sequential years of administering an annual workplace environment survey (some items rotate).

Our initial views of the first year of such data suggested that we could anticipate either a nine factor outcome (via manual thematic analysis within a single year’s relatively small sample) or a two factor outcome (i.e., an omnibus factor of a half dozen common organisational climate questions contrasted to a 3 question sub-test of job satisfaction). Point here is that if we had opted for a confirmatory factor analysis (CFA) approach, we would not have seen the interesting dyad evident in our EFA outcome (see Table 3).

Using a CFA approach here would be reasonable given the maturity of these commonly used organisational climate questions. However, some subsets of these questions only appear triminally or binomially, so multi-year aggregations reduce the number of questions available is one CFA or EFA. The former is preferred where questionnaires are mature and their factor structures are presumably well understood. CFA allows direct competition of alternative models. But there would be no a priori justification for compelling the model in Figure 1 to that in Figure 2 (i.e., no theory we are aware of suggests the dyad seen as the second factor in Table 3 should exist. We now propose to use, as a classroom activity, student development of strategies to investigate if such a theory might hold promise.

References:
1. Accept or reject: An experiential activity for teaching about intersectionality and privilege

2. Effective Multicultural Education: Intergroup Dialogues as a Four-Unit General Education Course

3. Courses with Embedded International Travel Enhance a Global Perspective on Psychology

4. A Creative Project on Diverse Psychologists: Incorporating Diversity and Inclusion in a History of Psychology Course

5. Evaluating the Effectiveness of a Humanizing Homework Assignment to Reduce Transprejudice Among Students Taking an Introductory Course in Abnormal Psychology

6. Research and Culture 6,514 Miles from Home: The Student Learning Perspective on Embedded Travel

7. Teaching Psychology in Developing Countries

8. You Are Not Alone: Lessons on Diversity for All Students
9. The “Crossing Borders” Program: Developing Intercultural Competence for Both Domestic and International Students

10. Very Brief Exposure to Individuals with Severe Mental Illness (SMI) Starts to Reduce Students’ Stigma
Accept or reject: An experiential activity for teaching about intersectionality and privilege

Thomson J. Ling, Ph.D., Maxine L. Alonso, BA, & Elizabeth A. Kocis  
Caldwell University

For further information contact: EKocis@caldwell.edu, TLing@caldwell.edu, MAlonso1@caldwell.edu

Keywords: Diversity, Intersectionality, Privilege, Difficult dialogues

The need for the infusion of diversity in higher education has been well-documented (Hurdato, 2005; McTighe Musil et al., 1999; Smith & Wolf-Wendel, 2005). In addition, multicultural competence is essential to psychological practice. As such, psychologists are expected to demonstrate respect for diversity in professional presentations, and to incorporate multicultural perspectives in teaching from high school through post-doctoral training. Many activities have been developed to facilitate the understanding of diversity and culture (e.g., D’Andrea & Daniels, 2007; Zalaquett, Foley, Tillotson, Dinsmore, & Hof, 2008). However, privilege may prevent students from discussing diversity, and even create barriers to the awareness of diversity (Accapadi, 2007; Watt, 2007). In fact, research has found that students may be unaware of their privileged statuses (Ancis & Szymanski, 2001; Loschiavo, Miller, & Davis, 2007). Because social privilege includes a multitude of dimensions (Black & Stone, 2005), a challenge facing instructors is how to effectively address multiple dimensions of diversity (Llera, Saleem, Roffman, & Dass-Brailsford, 2009).

The accept or reject activity asks students to review profiles of college applicants and determine a cohort of applicants to admit. Each profile includes information about applicant accomplishments, grades, test scores, as well as information that explicitly or implicitly reveals the applicant’s diversity statuses. For example, an applicant profile may state that the applicant is an African male, has a 3.4 GPA, has an SAT score of 1150, plays a sport in high school, volunteers at a school, and who moved from a war-torn country several years ago. Another profile may state that the applicant is a White female, has a 4.0 GPA, has an SAT score of 1560, is the captain of her high school sport team, and is an equestrian.

The number of profiles presented to students may vary, but the totality of profiles should capture the various dimensions of diversity salient to the instructional context. Students are first asked to review profiles and individually rank order them from most to least likely to admit. Students must be prepared to provide an overview to their peers for their individual selections. Next, students are asked to form small groups and act as a group admissions committee to determine a consensus to admit a subset of profiles. Groups should be instructed that they must come to a unanimous decision in identifying their admitted cohort.

As students review and discuss which applicants to admit or reject, opportunities arise for discussions on self-examination and the initiation of difficult dialogues. Because this activity involves a level of risk, the group dynamic should be such that students have rapport with one
another. The effectiveness of this activity is predicated on the ability to facilitate a discussion that allows students to consider their motivations and assumptions in making their selections. Instructors should refrain from stating that an admitted candidate or cohort is correct or incorrect. Rather, students should be asked to consider what default assumptions they have about candidates. For example, if information is lacking on a profile, what is assumed about that missing information? Instructors should be cognizant in the amount of direction provided in conducting this activity. A helpful strategy may be to introduce this exercise in small segments (e.g., asking students to individually rank order without explaining the subsequent small group discussion that follows).

In conducting this activity, students commonly debate whether they will admit a cohort by only examining candidates in isolation. This can be a point of discussion as many institutions may consider the diversity of the overall admitted cohort. In addition, students may feel frustration if a unanimous decision is not reached. However, instructors can note that the discussion and process are the crux of this activity. Students may also feel anger if their choices are not included in an admitted cohort. Overlooking a particular candidate may become unsettling and uncomfortable. This may occur because students have identified with select profiles. This identification may be the source of assumptions and biases that are applied when students rank order profiles. By elucidating these assumptions, students are able to reflect on which aspects of diversity are most salient for them.

After sufficient discussion has occurred, instructors may shift to debriefing. A helpful way to process this activity is through sentence stems; for example, “I found myself focusing on dimension...”. Questions that can be asked of students include, “What was the most difficult aspect of this activity?”

This activity may lead to a discussion on how admissions decisions affect institutions and societies. Consistent with literature recommendations, this activity allows students to engage in the process of self-examination (Goodman et al., 2004), increase awareness of their own biases and values (Shaules, 2007), and engage in difficult dialogues (e.g., Carter et al., 2007; Henry et al., 2007).

References


Biographical Sketches

Thomson J. Ling is a Professor and the Associate Dean of the School of Psychology and Counseling at Caldwell University. He received his doctoral degree from the University of Maryland in Counseling Psychology. Through his work, Dr. Ling strives to create opportunities for individuals to succeed in their careers. His research interests include transitions in academic settings, multicultural and diversity issues, counselor ethical decision-making, and late adolescent development. Dr. Ling is the director of the Caldwell Counseling Research Lab, which conducts research on a variety of counseling topics using quantitative and qualitative methods.

Maxine L. Alonso is a graduate student at Caldwell University studying Mental Health Counseling and works as a Mental Health Associate at Summit Oaks Hospital. Maxine’s clinical interests include working with survivors of domestic and sexual violence. She has coordinated several community efforts focused on raising awareness of sexual violence and gender inequality. Maxine’s research interests include issues of multiculturalism, autism-spectrum disorder, and spirituality.

Elizabeth A. Kocis is an undergraduate student at Caldwell University also working on her MA in counseling with a specialization in Art Therapy. Elizabeth’s clinical interests include working with children and helping them express themselves through different art mediums. Elizabeth’s research interest includes the effects of Intergenerational day care on young children and the elderly.
Effective Multicultural Education: Intergroup Dialogues as a Four-Unit General Education Course
Jennifer Teramoto Pedrotti, Ph.D.
California Polytechnic State University, San Luis Obispo

ABSTRACT
In Intergroup Dialogues (IGD) are one of the newest and most controversial program designed to increase cultural competence of students via a unique approach that encourages sharing of perspectives across diverse social groups. The communication skill of IGD is taught explicitly in IGD classes to be used in talking about sensitive topics such as race, gender, and others. In these types of conversations, communication front runners avoid initiating or getting involved in critical situations, often stating that they are uncomfortable or unable to process the critical information. The current paper presents research that IGD can change these dynamics and, therefore, will be more effective at promoting understanding and empathy. (Devin et al., 2015).

In this study a four-unit General Education course in which IGD were not focused on the topic of race was examined to determine its effect alone. Results showed significant increases in cultural competence were obtained.

METHODS
Many colleges across the country have begun to utilize Intergroup Dialogue programs (IGD) to teach dialog as a skill in which groups discuss sensitive topics (e.g., race, gender) with the help of an expert mediator who is trained in intercultural communication. The majority of these have been implemented as training programs with 2-3 hours of facilitated face-to-face meetings in small groups. This program has shown to be beneficial in multicultural education and effective at increasing cultural competence (Conn, Pedrotti, & Zimmern 2015, Doss & Ruggles, 1999).

RESULTS: Post-Nas Analysis
And you have reported that significant increases were found on the subscales of Knowledge (r(192) = .49, p < .001), Awareness (r(192) = .36, p < .001), and Skills (r(192) = .35, p < .001). These increases occurred on the subscale of Commitment allowing for an increased awareness of race issues (r(192) = .31, p < .001).

As a population check, differences between the three racial groups were also assessed. No significant differences were found among the three racial groups (African American, Hispanic, White) on any of the subscales.

REFERENCES


For further information, please contact: jtpedrotti@calpoly.edu
Courses with Embedded International Travel Enhance a Global Perspective on Psychology

Victoria A. Kazmerski & Dawn G. Blasko
The Pennsylvania State University, Erie
Heather Lum
The Behrend College
Presented at the Teaching Institute of the Association for Psychological Science, May 2017, Boston, MA
For further information, contact: vak1@psu.edu, dgb6@psu.edu, hcl11@psu.edu

The revised APA Guidelines for the Undergraduate Psychology Major (APA, 2013) include an emphasis on the importance of infusing a sociocultural approach in higher education and stress commonalities among people of different cultures and countries. While the APA guidelines argue for the inclusion of sociocultural content in all courses, they also see value in diversity courses. We posit that not only can a diversity course be a way to teach culture; it can be a culminating experience to address all the critical goals in an undergraduate psychology curriculum. Embedded travel courses allow students to experience international travel in a time period shorter than a full semester study abroad. Thus, opening the opportunity to more students as they require less money and time commitment than a full semester abroad.

Planning for the course is essential. We worked with our campus office for international travel. We recommend you do this as soon as you have an idea for travel, a year in advance is not too soon. At our university, the office helped with many requirements such as required university forms, insurance and liability, and tracking US State Department warnings. They also helped to develop our brochures and advertising. Our campus is part of a large university system which provided opportunities for faculty development grants and student scholarships. We surveyed our students to see if there was interest in the trip and we involved student recruiters to ensure there were enough students to make the trip financially viable. We partnered with International Education of Students (IES), an educational travel service, in developing the travel component of the course. They also arranged to have three academic lectures for our students.

Course Description and Structure

Fifteen undergraduate students enrolled in one of two summer courses on human behavior and culture in Japan that included travel to Japan: Cross-cultural Psychology, a lower-level course that fulfilled general education requirements, and Global Psychology, an upper-level course. Cross-cultural Psychology provided an overview of what culture is and how culture influences behavior. Students investigated the similarities and differences in individual psychological functioning among various cultural groups and explored the interaction of psychological, socio-cultural, and biological influences on human thought and behavior. The Global Psychology course built on concepts of the cross-cultural course and addressed the increasing movement of people and knowledge across political borders. General objectives in both courses were for students to develop critical thinking skills that allow for assessing scientific claims objectively, with particular regard to becoming more aware of the diversity of the international community. Students examined their assumptions and biases to develop an increased understanding and tolerance of attitudes and viewpoints different from their own.
The courses were structured so that prior to travel, students completed online assignments that included principles of cross-cultural and global psychology, research methods and ethics, language, thought and culture, global perspectives on health, technology in a global world, and the history and culture of Japan. Students picked a topic and completed background readings for their project. In the second half of the course, we traveled to Yokohama, Japan where we attended the International Congress of Psychology. Eight students presented at the conference and all engaged with faculty and students from many nations. They heard presentations from world leaders like Masako, Crown Princess of Japan, and Jane Goodall. There were also cultural lessons in origami and kanji. Following the conference, we were based outside Tokyo and traveled to museums, gardens, shrines and temples. We participated in demonstrations of Zen meditation and a tea ceremony. We heard academic lectures on the history, education, and mental health in Japan.

Course Evaluation

Evaluation of student progress was through quizzes prior to the trip, a travel log, public blog, and a final project. The final project required integration of the course material, the conference, trip experiences, and additional readings. Students also filled out a pre-post cultural awareness survey (based on Chen & Starosta, 2000), and identified things they found most interesting, challenging, and memorable on the trip. Students demonstrated high competency on the pre-trip quizzes (88% average). Students demonstrated application of the concepts of the course in their assignments: Final projects – 92% average; Blogs – 89%; Travel logs – 85%). On the pre/post cultural awareness survey, students in general embraced a positive view of intercultural exchanges. There were only two items where students showed a shift in their responses: “I can be as sociable as I want to be when interacting with people from different cultures. I don’t like to be with people from different cultures.” On this item there was a shift from a majority of students agreeing (67%) with the statement to disagreeing (33%) or being uncertain (50%). On the item “I feel confident when interacting with people from different cultures,” more students felt confident after the trip (47% pre-trip, 100% post-test). In describing the most surprising or interesting thing they learned or experienced on our trip, one student wrote: “The language barrier was by far the most difficult encounter I had on this trip. If someone spoke no English at all it made it difficult to ask questions or order food.” In describing the most memorable aspect of your trip, responses included: “I think the experience as a whole was memorable, but meeting Jane Goodall will forever be one of the highlights of my life.” “I think I will remember the small things that made such a difference. I will remember how easy it was to get somewhere. ….. I will also remember the interactions with the people.” “The most memorable aspect of my trip was the Zen meditation with the Monk. It was such a calming experience and something I hope to use in the future.”

In conclusion, this course provided an exciting and rewarding way to address all five of the goals of an undergraduate psychology major. Students learned content, methods, ethics, and cultural influences. Participating in a professional conference also enhanced their communication skills and professional development.

References:


Acknowledgements

We owe a great deal of gratitude to the Office of Undergraduate Research at Penn State Behrend, Penn State Global Programs, the Endowment Fund of the School of Humanities and Social Sciences at PSB, Commonwealth Campus travel scholarships, and the IES Staff (Mariko, Daiji, & Hyung-Hye) in Tokyo.

BIOGRAPHICAL SKETCHES

Dr. Victoria Kazmerski is a cognitive neuropsychologist at Penn State Erie, The Behrend College. Her current research projects are on investigating electrophysiological correlates of non-literal language such as sarcasm and metaphor, long-term consequences of concussions, and effects of multitasking on attention. She is also interested in age-related cognitive changes. She has applied her knowledge of cognition in many outreach settings such as teacher training, mentoring high school science fair projects, and in developing effective K-8 science instruction. She teaches courses in research methods, biological bases of human behavior, cognitive development, and child psychopathology. She has led study abroad courses to South Africa and Japan and sponsored many undergraduates at professional regional, national, and international conferences.

Dr. Dawn Blasko studies language and spatial intelligence at Penn State Erie, The Behrend College. She is interested in human creativity and the ways that creativity can be expressed in everyday and poetic language and in the use of visual imagery to represent and symbolize the world. She enjoys teaching research methods and mentoring students both in student and faculty led research. One of her favorite courses to teach is cross-cultural psychology, where students learn about how culture and environment influences every aspect of human life. She has taken students to present their work and learn about other cultures in Canada, South Africa and Japan.

Dr. Heather Lum is a human factors psychologist at Penn State Erie, The Behrend College. Her research interests include perceptions of technology, human-animal interactions, robotics, and gaming. At Behrend, she teaches some of the applied psychology courses in engineering, gaming, research methods, and animal minds. On her downtime, she is involved in a regional canine search and rescue team that helps find and bring loved ones home who are lost.
ABSTRACT

The history of psychology may be approached by students with a level of drain or fear of boredom. To show that history is more than just dates or about deceased Caucasian men, each student was encouraged to have fun with a specific person in psychology through a creative project on diverse psychologists. Students were provided with a list of 35 well-known and lesser-known individuals in the field. The exact nature of the creative project was up to the student, some possibilities included but were not limited to a dream catcher, drawing, poem, board game, or scrapbook. Examples of student artifacts from the project are presented below.

CREATIVE PROJECT ASSIGNMENT

- The exact nature of the creative project was up to the student; some possibilities included but were not limited to a dream catcher, drawing, poem, board game, or scrapbook.
- Students were asked to provide a
  1. Brief biography that included birth and death dates
  2. One major contribution and describe the contribution in detail
  3. One fun fact about their chosen individual
- All creative projects were presented to the class for 10-15 minutes.
- Students handed in any notes and resources, as well as a reference list in APA style following their presentation.

DIVERSE PSYCHOLOGISTS

Carolyn Lewis Attanave  
Carolyn G. Baras  
Albert Sidney Buhekman  
Martha Bernal  
Mary White Hamilton  
Harriet G. Candy  
Edward Casares  
Alfredo Castañeda  
Kenneth Bancroft Clark  
Mamie Phelps Clark  
Dorothea Dix  
Eleanor Gish  
Carlton Goodlett  
Frederick Goodnow  
Robert Spofford  
Uriah Stiles  
Ruth Howard  
Christine Ladd-Franklin  
Margold Linton  
Arthur L. McDougall  
Lillie M. Miller-Gilhooly  
Howard H. Long  
Carlos A. Minaya  
Inez Beverly Prosser  
Reiko Tsumura  
Carlos Goodlett  
Christine Ladd-Franklin

CONCLUSIONS

- As student engagement has become more diverse in the past two decades, increasing diversity and inclusion efforts has become a focus in higher education.
- The mere presence of diversity does not guarantee benefits to students; diversity must be “activated”.
- The current assignment supports research, discussion, presentation, and infusion of diversity and inclusion efforts that benefit both faculty and students.

REFERENCES
Biographical Sketch:
Nicole E. Rossi, Ph.D. is an Assistant Professor of Psychology at Framingham State University. As a previous faculty member at Augusta State University, she was recognized for her teaching and advising efforts as an Outstanding Undergraduate Psychology Professor of the Year. Dr. Rossi received her Ph.D. in developmental psychology, as well as a Cognate in college teaching, from the University of New Hampshire. She has published in the areas of aging, emerging adulthood, and human sexuality. Regarding her work on human sexuality, she is both a recipient of and reviewer for the American Psychological Foundation Wayne F. Placek Grant that encourages research to increase the general public's understanding of homosexuality and sexual orientation. Dr. Rossi was also recently appointed to Psi Chi’s Diversity Advisory Committee, charged with ensuring that the Society reflects the rich diversity of people and perspectives in psychology.

Abstract
In conjunction with an inclusive excellence teaching institute, an assignment was created for use in a history of psychology junior/senior capstone course. To show that history is more than just dates or about deceased Caucasian men, each student was encouraged to have fun with a specific person in psychology through the completion of a creative project. The historical psychological figures identified for the project by the professor illustrated underrepresented groups in the field, i.e. women, ethnic, and racial minorities. The list of approved psychologists included 35 well-known and lesser-known individuals. The exact nature of the creative project was up to the student; some possibilities included, but were not limited to, an action figure, drawing, poem, rap, board game, or costume. Students were asked to give a brief biography that included birth and death dates, one major contribution (describe contribution in detail), and one fun fact about their chosen individual.

References


Evaluating the Effectiveness of a Humanizing Homework Assignment to Reduce Transprejudice Among Students Taking an Introductory Course in Abnormal Psychology

*Tanya Tompkins
Linfield College*

**Biographical Sketch:**

Tanya Tompkins is a Professor of Psychology at Linfield College. She received her M. A. and Ph. D. in Clinical Psychology at the University of California, Los Angeles and her B. A. in Psychology from the University of Colorado at Boulder. Her research focuses on understanding the interplay between stress, individual, dyadic, familial and socioecological factors and psychological adjustment and well-being. Additionally, she has applied interests in opposing prescription privileges for psychologists and various areas of prevention, which examine the social processes impacting mental health (e.g., training gatekeepers in suicide prevention efforts, decreasing stigma toward the transgender community, evaluating the effects of positive media campaigns on self-objectification).

**Abstract:**

Transgender (TG) individuals experience widespread prejudice and are at greater risk for adverse mental health outcomes relative to gender-conforming peers (IOM, 2011). While instructors of abnormal psychology have the opportunity to educate and change attitudes toward the TG community, the fact that the experience is pathologized as Gender Dysphoria (GD) in most texts creates challenges.

Heeding a recent call to translate research/theory into classroom-based practices (Zinn, 2015), we predicted that students who completed an assignment that incorporated experiential learning, vicarious contact, and perspective taking (humanizing) would show more favorable attitudes in comparison to those who completed a diagnostically-focused assignment (education).
Students completed an assignment exploring transgender issues that included either humanizing or diagnosis-centered educational tasks. The humanizing condition reported significantly less transphobia than the education condition. Higher levels of transphobia for the education condition, in comparison to pre-test averages, suggest the importance of incorporating experiential learning, vicarious contact, and perspective-taking.

References/Resources:


Evaluating the Effectiveness of a Humanizing Homework Assignment to Reduce Transprejudice Among Students Taking an Introductory Course in Abnormal Psychology

Tanya L. Tompkins
Linfield College

Introduction & Hypotheses

Introduction

- Transgender (TG) individuals are an understudied group at high-risk of experiencing discrimination and adverse mental health outcomes (GOM, 2012).
- While instructors teaching abnormal psychology have the opportunity to educate and change attitudes toward the TG community, the fact that the TG experience is patterned as Gender Dysphoria (GD) in most textbooks creates the stigma.
- There is limited support about whether taking an abnormal psychology course improves general attitudes toward mental illness with some studies suggesting more favorable attitudes (Melnik, Yasnitski, & Shedd, 2002), others no change (Jenns, Cenas, & Mcle, 2002) or even adverse effects (Brown, 2009).
- There is emerging evidence that attitudes are more likely to change in response to humanizing teaching methods that include context and perspective-taking (Melnik & Hinemo, 2006; Melnik & You, 2012; Walsh et al., 2012), rather than traditional educational pedagogies only. Vicarious contact and perspective-taking have been shown to reduce transprejudice and stigma in an experimental study (Tompkins et al., 2011).
- Given that minority stress is associated with poor outcomes among the TG community, it is critical to address negative attitudes and explore the best ways to teach about the topic to reduce transprejudice.

Method

Participants

27 of 18 undergraduate students (74% women) in the Pacific North West who were enrolled in three sections of introductory abnormal psychology taught by the first author participated in the study.

Procedures

- After completing the same assignment (Feedback Reading):
  - Students in the first section (humanizing condition, n = 12) engaged in the following:
    - Gender role variation and reflection
    - Read first-hand accounts
    - Watched a first-hand documentary of a TG girl and her family
    - Wrote a reflection coming out letter to their parents
    - Discuss the pros and cons of identifying GD in the DSM-5
  - Students in the second section (education condition, n = 15) engaged in the following:
    - Read gender role variation
    - Read first-hand accounts
    - Watched a film with the caption: “GENDER REASSIGNMENT
    - Wrote a letter explaining GD
    - Discuss the pros and cons of identifying GD in the DSM-5
  - Although initially a pre-test design, a software problem prevented taking participant data so only post-test measures were available; we were unable to ensure possible measurement of change (e.g., prior contact, empathic care, perspective taking, social conservatism) as these data were collected at post-test.

Measures

- Transphobia Scale (TSS; Ragland et al., 2008) (α = .93)
- 3 items (1 = strongly disagree to 7 = strongly agree)
  - e.g., “I would probably hire someone who is transgender to work here”
  - Higher scores indicate higher levels of prejudice

- Genderism & Transphobia Scale (GTS; Hill & Wilkyns, 2005) (α = .91)
  - 12 items (1 = strongly agree to 7 = strongly disagree)
  - e.g., “People are either men or women”
  - Higher scores indicate higher levels of prejudice

- Social Distance Scale (SDS; Askar & Els, 1996; and Angermeyer & Matschinger’s, 1996) (α = .95)
  - 3 items (1 = very small step to 7 = very big step)
  - e.g., “How near do you think a TG person would be to have a TG individual as a close friend?”
  - Higher scores reflect less stigma

Results

- As expected, students in the humanizing condition reported significantly less transphobia than students in the education condition: TSS (t(20) = 1.28, p < .05)
- Although not significantly different, similar patterns were observed for measures of prejudice (GTS, r(25) = .34, p < .15 and social distance (SDS), r(25) = .30, p < .15
- No other significant differences were observed for any of the measures.

Conclusion

- The current study extends earlier experimental results that demonstrate that humanizing strategies reduce transphobia (Tompkins et al., 2015), and classroom-based studies that found TG peer narratives (Melnik & Hinemo, 2006) and contact (Melnik & You, 2012; Walsh et al., 2012) to be more effective at reducing negative attitudes than more traditional educational pedagogies.
- Significant between-group differences were only present for one of the three measures; however, post-test scores for both groups suggested favorable attitudes, and in the context of a small sample size, the difference suggests the importance of humanizing the “other.”
- Future research should tease apart what aspects of the experimental learning, vicarious contact and perspective-taking are most impactful, as well as test the longevity of favorable attitude change.
- Finally, testing whether favorable attitudes toward the TG community translates into behavior changes is critical.
Research and Culture 6,514 Miles from Home: The Student Learning Perspective on Embedded Travel

Grace Waldfogle, Jacob Benedict, Dawn G. Blasko, Victoria A. Kazmerski, & Heather Lum
The Pennsylvania State University, Erie, The Behrend College
For further information, contact: dgb6@psu.edu, vak1@psu.edu, hcl11@psu.edu

International travel can be a rewarding experience for anyone, but if you are a student who has never experienced different cultures, it can change the way you look at yourself and the world. Fifteen students completed an embedded travel course that included traveling to Japan to attend/present at the International Congress of Psychology, Yokohama, Japan, 2017 and then tour Tokyo, Kyoto, Kamakura and Hakone. Two students conducted eight-month follow-up interviews to determine which aspects of the experience were most challenging, memorable and made a lasting change in future goals and attitudes. Pre-trip, students’ greatest concerns were money, the language barrier and unfamiliar food. After the trip, they remembered the people as friendly and helpful, the cultural heritage as rich and complex, felt a greater desire to travel, explore more cultures, and learn new languages. They also saw psychological science and practice through a new, more global, lens.

References and Resources:
Teaching Resources: Society for the Psychological Study of Culture Ethnicity and Race. Division 45 APA. http://division45.org/resources/teaching-resources/

Acknowledgements
We owe a great deal of gratitude to the Office of Undergraduate Research at Penn State Behrend, Penn State Global Programs, the Endowment Fund of the School of Humanities and Social Sciences at PSB, Commonwealth Campus travel scholarships, and the IES Staff (Mariko, Daiji, & Hyung-Hye) in Tokyo.

Grace Waldfogle graduated from Pennsylvania State University, Erie in Spring 2017. She is now a graduate student in the Ph.D. program in Human Factors at the University of Central Florida. While at Penn State, she was a lead member of the VIZ Spatial Cognition lab. She mentored new members, developed new studies on improving spatial skills in students and adults and used tools such as eye tracking and augmented reality to study cognition in the real world. She served as a teaching assistant, and was involved in student government and service organizations. She presented her research at several conferences including the 2017 International Congress of Psychology in Yokohama Japan.

Jacob Benedict graduated from Pennsylvania State University, Erie in Spring 2017 and is now a graduate student at Embry Riddle University in Human Factors. He was one of the first to graduate with a human factors option and a gaming minor. He helped design a study examining whether expertise at augmented reality games such as Pokémon Go enhanced navigation skills. He received several summer fellowships to conduct research and worked on STEM outreach activities with high
school and middle school children. He presented his work at several professional conferences, most recently at the International Congress of Psychology, 2017 Yokohama, Japan.

**Dr. Dawn Blasko** studies language and spatial intelligence at Penn State Erie, The Behrend College. She is interested in human creativity and the ways that creativity can be expressed in everyday and poetic language and in the use of visual imagery to represent and symbolize the world. She enjoys teaching research methods and mentoring students both in student and faculty lead research and has presented with students at regional, national and international conferences. One of her favorite courses to teach is cross-cultural psychology, where students learn about how culture and environment influences every aspect of human life. She has taken students to present their work and learn about other cultures in Canada, Europe, South Africa and Japan. For over 20 years, she has mentored middle and high school students in hands-on outreach activities to increase their learning self-efficacy and has developed and used games to improve spatial cognition.

**Dr. Victoria Kazmerski** is a cognitive neuropsychologist at Penn State Erie, The Behrend College. She earned her Ph.D. from SUNY Stony Brook. Her current research projects are on investigating electrophysiological correlates of non-literal language such as sarcasm and metaphor, long-term consequences of concussions, and effects of multitasking on attention. She is also interested in age-related cognitive changes. She has applied her knowledge of cognition in many outreach settings such as teacher training, mentoring high school science fair projects, and in developing effective K-8 science instruction. She teaches courses in research methods, biological bases of human behavior, cognitive development, and child psychopathology. She has led study abroad courses to South Africa and Japan and sponsored many undergraduates at professional regional, national, and international conferences.

**Dr. Heather Lum** is a human factors psychologist at Penn State Erie, The Behrend College. Her research interests include perceptions of technology, human-animal interactions, robotics, and gaming. At Behrend, she teaches some of the applied psychology courses in engineering, gaming, research methods, and animal minds. On her downtime, she is involved in a regional canine search and rescue team that helps find and bring loved ones home who are lost.
Many psychology teachers teach psychology as a science. However, this approach towards teaching psychology as a science is severely challenged in developing countries. I will share my experience and challenges in building psychology programs in Indonesia and India, alongside my experiences in other Asian countries – notably Singapore, Malaysia, and China. I propose that the different approaches in teaching psychology is not simply due to an East vs. West scientific perspective of psychology, but also depends on language barriers, psychology’s perceived utility, and the influence of certain pioneers within each country.
How do students learn the effects of discrimination towards minorities? This is a challenge faced by instructors teaching "Prejudice and Discrimination." In order to foster conceptual change, research suggests that students need to restructure their current beliefs. To this effect, we implemented a classroom activity aimed at increasing awareness of rejection faced by members of the LGBTQIA community. Students filled out post-activity questionnaires reflecting on their shared experience of rejection. Data showed that students were able to empathize with the experience associated with the 'coming out' process. Avenues for extending this activity to other domains of diversity will be discussed.
The "Crossing Borders" Program: Developing Intercultural Competence for Both Domestic and International Students

Virginia B. Wickline, Cara Klinefelter, Krista House, Catherine Shackson, Melissa Carrion, & Kathryn Vogel
Miami University
Presented at: Annual Conference on Teaching, Society for Teaching of Psychology (ACT-STP), 2016; Eastern Teaching of Psychology (ETOP), 2017
For further information, contact: wicklivb@miamioh.edu

What is Intercultural Competence (ICC)?

We evaluated the effectiveness of Crossing Borders for developing students’ intercultural competence (ICC). ICC has 3 domains (AAC&U, n.d.)

- **COGNITIVE** (knowledge of one’s own and other cultures)
- **AFFECTIVE** (empathy, understanding, and open-mindedness towards other cultures and peoples)
- **BEHAVIORAL** (skill when interacting with culturally different others)

**KNOWLEDGE (Know What)**
- Personal behavioral pattern
- Cultural specifics (e.g., etiquette)
- General cultural dimensions, for example:
  - Individualism vs. collectivism
  - Indulgence vs. restraint
  - Masculinity vs. femininity
- Cultural self-awareness

**SKILLS (Know How)**
- Language ability
- Behavioral flexibility
- Interaction management
- Verbal & non-verbal communication
- Initiative: Stepping out of comfort zone
- Culturally appropriate behaviors
- Self-confidence
- Resourcefulness

**ATTITUDES (Care About)**
- Open-mindedness
- Comfort: Lack of apprehension
- Tolerating ambiguity & anxiety
- Emotional stability
- Emotional flexibility
- Non-judgmental
- Other focused, not self-conscious
- Empathy
ICC includes the ability to apply these three principles in effectively and appropriately communicating with people of another culture via communal interactions (Deardorff, 2006; Dervin & Hahl, 2015). Liu (2014) describes how knowledge precedes effective communication: Being able to recognize the people, who they are, what values they hold, and the background from which they come is key to successfully communicating with people from diverse cultures. ICC is a necessary tool for college graduates to have in entering the workforce today. It is also considered a present day skill of survival because of the consistent day to day exchanges people of varied cultures and backgrounds have with one another (Skobba & Bruin, 2016; Liu, 2014).

Research Questions

- Did students’ ICC increase because of Crossing Borders?
- Are the international students and domestic students satisfied with Crossing Borders?
- What recurring themes were found in student feedback from Crossing Borders?

Method

Crossing Borders Program

In the Crossing Borders program, international students are placed in small (4-6 students) or large groups (all students) with domestic students for shared cultural experiences (Wickline, 2012). While we started out large group events early in the program’s development, we moved to small groups in 2014. These groups have approximately an equal mix of domestic and international students. Groups meet 4 times across semester. In small groups, they have flexibility to choose what they would like to do and when (given discussion prompts), for example, American students hosting with family, international students introducing the American students to authentic Chinese cuisine and chopsticks, miniature golf, bowling, or sporting events, experiencing each others’ festivals and holidays. The goals of Crossing Borders are to have fun, make friends, practice English, and increase ICC for all participants.

Participants

In 2013-2016, we had 9 classes of international students & 7 classes of domestic students enrolled in various classes (American Culture and English, Advanced English, Learning Strategies for College Success, Psychology Across Cultures, Introduction to Psychology, or Adult Psychopathology) who participated in Crossing Borders and chose to complete an end of semester satisfaction survey. Both international (n = 130) and domestic (n = 97) students completed satisfaction surveys. The distribution of class sections (not survey responses, which were anonymous – with no demographics collected) was as follows:

- Gender: Ranged from 23% - 42% female (international) and 52% - 86% female (domestic)
- Nationality (international): 90% - 100% Chinese
- Ethnicity (domestic): 53% - 95% Caucasian American (accurately represents campus demographics)

Students are from a regional, commuter campus in the Mid-West, with a campus population of roughly 4,700, including a rapidly expanding international student population in an Intensive English Program (IEP): 40 in Fall 2013 to 220 in Fall 2016, with 380 students now in the IEP or matriculated into the university.
Measures

**Qualitative.** We asked five open-ended questions: Did Crossing Borders increase your intercultural competence? What did you learn about self and others? What did you like/find helpful about Crossing Borders? What did you dislike/find unhelpful about Crossing Borders? Other comments/reflection?

**Quantitative.** Students’ rated their overall satisfaction with Crossing Borders: 1 = Very dissatisfied to 5 = Very satisfied. Students also rated the overall impact of Crossing Borders on nine elements: 1 = Negative Impact to 5 = Positive Impact (see chart below)

Results

Qualitative Summary

Using categorical aggregation (Creswell, 2013), with two independent raters, we derived the following **benefits** from students’ reflection papers, listed in order of frequency:

- **Openness and Pushing Comfort Zone:** Apprehension is a normal part of the beginning of this project but generally faded by the third meeting. Some students felt they have a hard time relating and opening up to someone new, especially someone of a different culture. Students expressed accomplishment at the end of the semester, having pushed to “put themselves out there” and really get to know people different than themselves. The experience helped students to feel more open to learning about other cultures in the future.

- **Changing Attitudes Through Interaction:** Many students said the best way to learn about another culture is learning from a person. Along with bringing two (or more) different cultures together, many domestic students reported that getting to know the international students allowed them to realize that their stereotypes were incorrect.

- **Gaining Knowledge and Developing Skills:** Students indicated that they mutually learned from each other and truly understood their own cultures and other cultures better, including similarities and differences. Students developed professional skills they could take and apply in future careers (e.g., translating ideas, initiating conversations, handling staring or comments from community members, using chopsticks, advocacy for international students, language skills). Some students described how this experience was very helpful because it took learning out of the classroom and into a real-world setting.

More infrequently, students also identified the following **challenges:**

- **Logistic Limitations:** Some students indicated they wanted more meetings. The limited number of meetings through the semester (4) made it hard for them to make real and deep connections. The meetings being almost always outside of class time made for some scheduling challenges, apprehension, decreased willingness to work hard to make connections, and frustration regarding the “extra time” out of their week.

- **Cultural and Personal Frustrations:** Not everyone was engaged in the process (e.g., students on their cell phones, not attending all of the events, treating other students with a lack of respect, or infantilizing the international students with their tone of voice). Awkward first meetings/pauses and language barriers, were additional challenges stated by some students.
**Quantitative**

*Figure 1.** **p < .01. Factors consisting of satisfaction overall and impact on additional variables. Satisfaction overall, *t*(210.51) = -.78, *p* = .44. Awareness of cultural adjustment, *t*(216) = 2.73, *p* < .01. Ability to interact with others, *t*(203.60) = 6.14, *p* < .01. Comfort when interacting with others, *t*(219.94) = 4.28, *p* < .01. Being aware of others’ culture, *t*(218.85) = 3.72, *p* < .01. Being aware of one’s own culture, *t*(215.08) = 4.03, *p* < .01. Feelings about others from other cultures, *t*(218.83) = 4.29, *p* < .01. Personal development, *t*(219) = 2.95, *p* < .01. Professional development, *t*(219) = 2.98, *p* < .01. Critical thinking skills, *t*(217) = 2.56, *p* < .05 (all significant). Except for overall satisfaction, domestic students reported more positive impact from the Crossing Borders program than the international students. However, mean scores show that both international and domestic students reported positive impact from Crossing Borders.
Table 1. Students' Self-Reported Satisfaction and Impacts of Crossing Borders Program by Large and Small Group Activities

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Large Group</th>
<th>Small Group</th>
<th>d.f.</th>
<th>t-test value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Satisfaction with Crossing Borders experience</td>
<td>4.33</td>
<td>4.17</td>
<td>211</td>
<td>1.54</td>
</tr>
<tr>
<td>Awareness of international students’ issues during cultural adjustment</td>
<td>4.44</td>
<td>4.05</td>
<td>216</td>
<td>3.33**</td>
</tr>
<tr>
<td>Ability to interact with people from other cultures</td>
<td>4.64</td>
<td>4.28</td>
<td>217</td>
<td>3.94**</td>
</tr>
<tr>
<td>Comfort when interacting with people from other cultures</td>
<td>4.57</td>
<td>4.25</td>
<td>220</td>
<td>3.18**</td>
</tr>
<tr>
<td>Understanding of other cultures’ beliefs &amp; behaviors</td>
<td>4.61</td>
<td>4.29</td>
<td>219</td>
<td>3.40**</td>
</tr>
<tr>
<td>Understanding of your own cultural context (beliefs, behaviors, etc.)</td>
<td>4.53</td>
<td>4.20</td>
<td>216</td>
<td>3.16**</td>
</tr>
<tr>
<td>Feelings about people from other cultures</td>
<td>4.64</td>
<td>4.29</td>
<td>219</td>
<td>3.75**</td>
</tr>
<tr>
<td>Personal development</td>
<td>4.53</td>
<td>4.19</td>
<td>219</td>
<td>3.57**</td>
</tr>
<tr>
<td>Professional development</td>
<td>4.38</td>
<td>4.01</td>
<td>219</td>
<td>3.41**</td>
</tr>
<tr>
<td>Critical thinking skills (looking at complex issues from various perspectives)</td>
<td>4.53</td>
<td>4.20</td>
<td>217</td>
<td>3.22**</td>
</tr>
</tbody>
</table>

Note. *p < .05. **p < .01. Preliminary analyses. Ordinal items. Follow-up tests will review non-parametric statistics and 2 (international vs. domestic) x 2 (large vs. small group) comparisons. While ratings are extremely positive in both conditions, students reported significantly more impacts in large (as opposed to small) group activities.

Discussion

Students reported many ICC increases from Crossing Borders. The vast majority of international and domestic students were satisfied with Crossing Borders experiences. Students’ narratives revealed two primary themes: reduction of intercultural apprehension (Neuliep & McCroskey, 1997) and how relationships increased their understanding, empathy, and knowledge (see Contact Hypothesis, e.g., Allport, 1956; Pettigrew & Tropp, 2006, 2008; Ramiah & Hewstone, 2013). Benefits of Crossing Borders seem to outweigh the limitations as a best practice (e.g., Gloria, Rieckmann, & Rush, 2000).

Are Large or Small Groups Better?

For large versus small groups, significant differences existed for all outcomes but satisfaction, suggesting students report more impacts from Crossing Borders in large (instead of small) groups. There are several possible explanations for these findings. First, large groups may reduce anxiety (especially for international students). Second, large group events could be more focused, strategic, and organized by teachers (which could also be a drawback). Third, large groups may increase accountability and time on-task by students (fewer absences).

Anecdotally, there can also be benefits for small groups. First, small groups foster depth of topic and connection, and possible longer-term relationships, while large groups do not. Second, small groups teach students responsibility, organizing/leadership skills, team communication, and flexibility - future studies need to measure these outcomes. Third, small groups add flexibility for commuter students’ schedules. Lastly, small group requires less work by/load on instructors. At
the same time, the drawbacks of small groups include potential liability issues (keep to public spaces!) and student no-shows.

The potential benefits versus drawbacks large and small group approaches need to be explored further. The best of both worlds may be combining these two strategies. Perhaps two large and two small group events may maximize the benefits of each approach.

References


The Council of Undergraduate Research (CUR) supported the 3rd author with a Psychology Travel Award. For more information – please contact Virginia (Ginger) Wickline (wicklivb@miamioh.edu).

The “Crossing Borders” Program: Developing Intercultural Competence for Both Domestic and International Students
Virginia B. Wickline, Cara Klinetoler, Krista House, Catherine Shackleton, Melissa Carrion, & Kathryn Vogel

What is Intercultural Competence (ICC)?
The Council of Undergraduate Research (CUR) supported the 3rd author with a Psychology Travel Award. For more information – including references or full qualitative comments – please contact Virginia (Ginger) Wickline (wicklivb@miamioh.edu).

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What is Intercultural Competence (ICC)?

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Thanks to CUR! More Info?

The Council of Undergraduate Research (CUR) supported the 3rd author with a Psychology Travel Award. For more information – please contact Virginia (Ginger) Wickline (wicklivb@miamioh.edu).
Very Brief Exposure to Individuals with Severe Mental Illness (SMI) Starts to Reduce Students' Stigma

Virginia (Ginger) Wickline, Ph.D., Suzanne Stricklin, Ph.D., Shae Ingram, Krista House, & Allie M. Shea  
Miami University
Presented at: Society for Teaching of Psychology (STP) Annual Conference on Teaching, 2016; Eastern Teaching of Psychology (ETOP), 2017
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Severe Mental Illness (SMI) Stigma: The Contact Hypothesis

Stigma refers to a person or group is labeled in a negative way based on a particular trait and is oftentimes feared or generally misunderstood by others (Adekson, 2014). Stigma reduction is important because it has such negative self and societal impacts for people with severe mental illness (SMI; Feeg et al., 2014; Henderson, Evans-Lacko, & Thornicroft, 2013). The Contact Hypothesis (Allport, 1954) suggests that through interaction with the stigmatized group, positive feelings (affect), improving interactions (behavior), and enhanced knowledge (cognition) of the stigmatized group can be accomplished through positive, equal-status contact (Corrigan, 2005; Pettigrew & Tropp, 2006, 2008). Experiential learning, including service-learning, can use the Contact Hypothesis to take students out of the classroom, away from textbooks, and into a “real-world” situation - learning by doing (Kolb, 1984). Our study aimed to reduce college students’ stigma of SMI through education and interaction with the stigmatized group in an event known as “Party with a Purpose” (PWAP; Wickline, Neu, Dodge, & Shriver, 2016).

Research Questions

❖ Based on the Contact Hypothesis (Allport, 1954), will brief contact with people with SMI help reduce college students’ stigma quantitatively?
❖ Do students’ narrative reflections additionally indicate stigma reduction in affect, behavior, and cognitions?

Method

Procedure

Nursing & psychology students hosted 2-hour PWAP social event for community members with SMI. This was an interdisciplinary, mixed methods, quasi-experimental design. Regarding quantitative analyses, pre- and post-test surveys administered to nursing and psychology students in the experimental group. The surveys were taken the class session following PWAP. Post-test only administered to non-equivalent control groups of other introductory-level nursing and psychology students. Regarding qualitative analyses, satisfaction surveys scored to find prevalent themes and impacts.

Participants

Students (N = 159) enrolled Spring 2014 in Nursing, Psychology, or Educational Psychology who completed survey measures: PWAP attendees (n = 24) and non-equivalent control groups (n = 135)
❖ Gender: Male 15% (n = 23), Female 85% (n = 136)
Ethnicity: White ($n = 76$), Asian ($n = 2$), Black ($n = 2$), Multiple ethnicities ($n = 1$), missing ($n = 78$)

Year in School: First year 16% ($n = 25$), sophomore 40% ($n = 64$), junior 34% ($n = 54$), senior 7% ($n = 11$), other/missing 3% ($n = 4$)

Mean age: 23.34 years ($Mdn = 21$)

28 students (9 nursing, 19 psychology) provided feedback in an anonymous satisfaction survey after PWAP (no demographics available)

**Measures**

Our primary measure was the Community Attitude Toward the Mentally Ill (CAMI) scales (Taylor & Dear, 1981). Three subscales were used to reliably evaluate the stigma students held towards people with SMI. A series of questions assessed students’ **benevolence** toward people with SMI ($a = .72$), **social restrictiveness** ($a = .73$), and **community mental health ideology** ($a = .85$) on a scale of one (strongly disagree) to five (strongly agree). A fourth subscale, **authoritarianism** ($a = .44$), was omitted from analyses. We also used the **Stigma Differential Scales** (Nordt, Ross, & Lauber, 2006), which measured how students evaluated people with SMI compared to the general public (are they dangerous, unpredictable, stupid, bedraggled, abnormal, unreliable, weird, reasonable, self-controlled, healthy). Students indicated whether they believed people with SMI were more likely to have that trait (-2), no different from the general public (0), or less likely to have that trait (+2). Scaled so a negative number = more negative stigma ($a = .60$).

We collected demographic and background information. Lastly, satisfaction surveys evaluated participants’ open-ended evaluations for PWAP: What they learned, liked, disliked, and if they would do it again and why. These narratives are represented categorically in the Venn diagram and with examples in the qualitative summary.

**Results**

**Can PWAP Reduce Stigma?**

A sub-sample of students ($n = 16$) who attended PWAP had both pre- and post-test measures. We did not find a significant difference ($p > .05$) for Benevolence, Social Restrictiveness, or Community Mental Health Ideology. A trend existed in Stigma Differentials, $t(15) = -1.826, p = .09$. Stigma may reduce after PWAP. Please see Figure 1 below.

![Stigma Scores With and Without PWAP](image_url)

*Figure 1. CMH = Community Mental Health Ideology. PWAP = Party with a Purpose. Independent Samples t-Tests. Stigma Differentials: $t(156) = -1.76, p = .08$. Benevolence: $t(157) = -1.76, p = .08$. Social Restrictiveness: $t(157) = -1.83, p = .07$. CMH: $t(157) = -1.75, p = .08$. Non-parametric equivalents because of unequal sample sizes: Students who...*
attended PWAP (n = 24) exhibited less stigma Differential for SMI (Mdn_{yes} = -0.10) than non-equivalent control groups of students (n = 134) who did not attend (Mdn_{no} = -0.30), U = 1186.5, p = 0.04, and more Benevolence (Mdn_{yes} = 4.30 versus Mdn_{no} = 4.00), U = 1193.5, p = 0.04. Non-significant trends in the expected direction existed for Social Restrictiveness (Mdn_{yes} = 1.95 versus Mdn_{no} = 2.10), U = 1258, p = 0.08 and Community Mental Health Ideology (Mdn_{yes} = 3.90 versus Mdn_{no} = 3.80), U = 1242, p = 0.07.

Qualitative Review Process & Summary

We first used categorical aggregation (Creswell, 2013) to process the qualitative data, where two independent reviewers (the third and fourth authors) let the students’ responses determine the themes that were present throughout their narratives regarding the event’s impact. When each reviewer was finished, the research team (4 reviewers) met to reach consensus on the most prominent themes.

Second, given our project’s goal was to reduce stigma, we used the three components of stigma - affective (A - feelings), behavioral (B - skills), and cognitive (C - thoughts) (Murman et al., 2014) - as overarching categories in which to encapsulate the written themes that students expressed. We derived themes from students’ satisfaction surveys based on key terms that encapsulate the components of stigma:

- **Affective (A) – Feelings:** Students who experienced empathy and greater understanding of people with SMI as individuals. Examples: “Different activities for different interests and comfort levels. Positive atmosphere.” “I liked being able to have fun with the people.” “…not to fear others that have a severe mental illness.”

- **Behavioral (B) – Actions:** Very few narratives elicited a solely behavioral response. However, the more ways students could incorporate learning into their experience, the more beneficial. One student suggested about initiating social interaction, “Maybe a game to make people participate would be good.”
**Cognitive (C) – Thoughts:** As with behavior, very few responses were solely cognitive. The lack of responses demonstrating a cognitive perspective may mean PWAP is not best utilized as a method to break stereotypes. Examples: “Better understanding of people who have [mental illness].” “As a nursing student I continued to increase my knowledge of case management.”

**AB:** The affective-behavioral category is the most saturated, suggesting that students enjoyed the engagement between themselves and people with SMI. Examples: “I enjoyed the many different activities that kept clients and students engaged with each other.” “It really helped me come out of my shell when interacting with people who have disabilities.”

**BC:** Behavioral-cognitive responses focused on engagement while learning about people with SMI. Examples: “...it is a great way to reduce stigma surrounding mental health.” “[I liked] to meet people who have it and to better understand them.”

**AC:** Affective-cognitive narratives demonstrate enjoyment while learning. Examples: “It was fun to learn more about people.” “It’s a great way to have fun and learn at the same time.”

**ABC:** Reflections incorporating all three components of stigma reduction. Examples: “...it all functions to battle stigmas and comfort levels with those that function differently than someone with a mental illness.” “I like that I was given an opportunity that I may have never had a chance to participate in and meet individuals with disorders. It helped me learn more about myself and others.”
Discussion

Regarding quantitative analyses, compared to non-equivalent controls (other psychology and nursing students), students who attended PWAP showed satisfaction. Significant differences or trends existed toward lesser stigma in all 4 outcome variables; however, matched tests showed differences in Differentials only. Are these results of PWAP or advanced classes/time in degree?

Regarding quantitative analyses, the majority of narratives fell under the category of affect or a combination of affect and another trait. While very few fall under behavior or cognition alone, the themes were still evident in combination with affect. The qualitative data suggests that feelings towards people with SMI may be more widely influenced by brief contact and social interaction than cognition or behavior.

The take home message is that PWAP is a step in the right direction. However, repeated exposure and longer events, as well as a full factorial design and complete sampling, might derive more impact.

References


Author's Note

The Council of Undergraduate Research (CUR) supported the 4th author with a Psychology Travel Award. For more information – including additional analyses or full list of qualitative comments – please contact Dr. Virginia (Ginger) Wickline (wicklivb@miamioh.edu).
Section XVI
Neuroscience

1. Teaching Slam: Launching into Synaptic Transmission

2. Spreading Neuroscience Cheer: A “Mobile Neuroscience Lab” for Use in Secondary Education Classrooms

3. Adding to Understanding: How Symbolism Improves Neuroscience Comprehension
Instructors of biological or introductory psychology looking to instill students with a memorable hands-on experience with the more challenging concept of synaptic transmission should find this demonstration useful. Conducted in two parts, we first illustrate the flaws of a commonly used demonstration, which assumes that neurons (along with organs and tissues) physically touch each other. We follow-up with a more accurate and representative demonstration that builds in vital components for a deeper consideration of real-world examples.

What is Synaptic Transmission

Within the network of the nervous system, the communication among tissues, muscles, and organs is facilitated through the neuron – a micro-transceiver that, via chemical neurotransmitters, instructs the subsequent neuron or tissue to operate in a given manner (Lilienfeld, Lynn, Namy, Woolf, Cramer, & Schmaltz, 2017). At the final stage of axonal transmission, the electro-chemical message arrives at the neuron’s terminal buttons, where its instructions to the subsequent tissues are parcelled into chemical instructions contained in neurotransmitters (Lilienfeld et al., 2017). One such neurotransmitter – acetylcholine -- stimulates neural activity; yet another, serotonin, reduces cortical activity (Lilienfeld et al., 2017). These neurotransmitters drift to the terminus of the membrane of the terminal button to be released across a synaptic gap and then intercepted by the receptor sites on the post-synaptic neuron or tissue.

Begin with Flawed Demonstration

Initially, students in class are asked to join hands in a long chain so as to transmit a hand squeeze. This initial demonstration remains flawed however because neurons do not physically touch.

Paper Toss

In an effort to impress students toward the nature of chemically communicating information across a non-physical space, this follow-up demonstration should be both memorable and representative of the true mechanics of the process. Students are asked to take out a single piece of paper, torn into four pieces. A letter or number is written on each paper before it is rolled into a single ball. At the instructor’s command, students will launch their four balls of paper into the air with the hope of trying to catch a launched ball using only their thumb and forefinger. Finally, at its conclusion, students are asked to collect the jettisoned balls of paper for deposit in refuse.

Debriefing

The mechanics of the demonstration are then carefully explained to students. Balls of paper, inscribed with information (letters or numbers), represent the chemical instructions
(neurotransmitters) to be launched across the through the room (synapse) and intercepted midair using only thumb and forefinger (as per a receptor site). Leftover cleanup of paper balls helps students then to understand reuptake.

**Variants**

Students may further appreciate additional real-world examples of synaptic transmission via the following variations of the demonstration.

1. Students could throw 8 or 12 balls of paper (instead of 4) to illustrate the over-production of neurotransmitters by the pre-synaptic neuron; one zoological example comes from black widow spider venom, where the overproduction of acetylcholine triggers spasms in the victim.

2. The instructor may withhold the command to launch the paper balls through the air; this illustrates the minor paralysis effect produced from botulinum toxin (Botox).

3. Students may not be permitted to intercept a launched paper ball; this illustrates the paralyzing effects of curare – a plant extract used by hunters in the Amazon – which works by blocking receptor sites left unable to receive acetylcholine neurotransmitters.

4. Students are not instructed to cleanup leftover paper balls; this illustrates reuptake inhibition, and helps explain the prolonged effects of cocaine.

**References**

Spreading “Neuroscience Cheer”: A Mobile Neuroscience Lab for Use in Secondary Education Classrooms

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Department of Psychology, University of Minnesota—Duluth, Duluth, MN 55812 USA

BACKGROUND

- The American Psychological Association recommends active engagement by students in academic work and involvement in group activities (Halpern, 2010). Active learning in the classroom improves student understanding and cognitive development (Pascarella & Terenzini, 2005; Prince, 2004).
- Active learning activities are also appropriate to demonstrate brain concepts to middle and high school students (e.g. Backyard Brains; Marzullo & Gage, 2012; Shannen et al., 2013).

PROCEDURE

- Action steps in the development and implementation of a “Mobile Neuroscience Lab” included: (1) equipment purchase; (2) community education partner identification; (3) active learning with university psychology students in the classroom; and (4) outreach activity to middle school students (learning through teaching). Assessment materials of attitudes toward science and perceived benefit of activity were also acquired.

MATERIALS

- The Mobile Neuroscience Lab contains the following: Spikebox (Backyard Brains, 2015)
- 2-Channel Spikebox (Backyard Brains, 2015)
- EMG Spikebox (Backyard Brains, 2015)
- Human-Human Interaction (Backyard Brains, 2015)
- Sheep brains (Carolina Biological)
- Play dough
- Paper Brain Caps (Teacher Enrichment Initiatives/CAINE; UT-HSC, 2009)
- Plastic Human Brain Model (Samsøsø)
- Electrophysiology recording cap (Electro-cap International, Inc.)

ACTIVE LEARNING

- Active learning activities were included in the graduate level physiological psychology course. The active learning activities included: Action potential lab, neural conduction velocity lab, electromyogram (EMG) lab, sleep brain dissection, virtual operant conditioning, and electroencephalogram (EEG) lab. Each active learning session was preceded by 10 minutes of lecture.

LEARNING THROUGH TEACHING

- Figure 2. University students learning through teaching during outreach activity. Pictured (L-R) Mariam Schumacher (UMD Psychology Undergraduate), Sean Hushpan (UMD Psychology Graduate), Mariam Schumacher and Jillian Hujanen (not pictured) were interviewed by the local media during the event. -- Photo credit: Brett Groehler

NEUROSCIENCE OUTREACH

- Summary of Outreach Activities

<table>
<thead>
<tr>
<th>Outreach Opportunity</th>
<th>UMD Students</th>
<th>UMD Student : Faculty Ratio</th>
<th>EMG</th>
<th>Activity</th>
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<tr>
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ASSESSMENT

- Graduate student active learning assessment was completed using a 5-item scale (Burdo, 2012). Students rated items such as, “The hands-on activity improved my knowledge of the topic” on a five-point scale (1=Strongly Disagree, 5=Strongly Agree). Graduate students reported favorable responses to the active learning activity, M= 19.87, SD = .377.

- Middle school students completed a 19-item scale assessing science attitude, knowledge, and what they liked or disliked about the activity (BrainU, 2010). Middle school students liked the hands-on activities (brain cap and sheep brain activities assessed together), $\chi^2 (3, N = 250) = 24.42, p < .01$. They did not like the large group verbal instruction during the activity, $\chi^2 (3, N = 250) = 46.21, p < .0001$. Further, there was a positive relationship between science attitude and knowledge, $r(109) = .26, p = .002$.

CONCLUSIONS

- Active learning and learning through teaching are pedagogical strategies received with enthusiasm by university and secondary students.
- Future research is needed to detail the impact of these strategies on science knowledge in university students.

REFERENCES


ACKNOWLEDGMENTS

Active learning equipment purchase supported by the University of Minnesota Duluth College of Education and Human Service Professions Technology Grants (R.I., Leff). Service learning activity supported by a strategic initiative grant from the University of Minnesota Duluth Office of Academic Affairs (R.I., Leff). Special thanks to the UMD Psychology Undergraduate Program and Rusiniak, Ahn, Huh, Savick, and Sawick for their assistance. Thanks to Shannen, Young, and Schumacher for taking the time to provide feedback. Contact information: gibertson@umn.edu.
Adding to Understanding: How Symbolism Improves Neuroscience Comprehension

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For further information, contact: drpsmitty@gmail.com

Abstract

The use of symbolic metaphors has been characterized as a valuable tool in providing imagery in complex material (e.g., Bellera, 1997; McCahee, 1986). Over the past few years, recent work by Smith and colleagues (2015) demonstrated that graphic novelization can effectively engage students in both behavioral and neuroscientific material. The purpose of the current study is to explore whether another visual imagery technique, the use of fictional advertisements of neuroscience content, can also serve as an effective pedagogical tool. In a series of two experiments, eight introductory-level psychology majors participated. In Experiment 1, all participants (n=76) were given a standard video that described common neurotransmitter communication. Participants then were given a traditional text-based definition of neurotransmitter action; b) potential descriptions of neurotransmitter action; c) both text-based and pictorial descriptions of neurotransmitter action. Participants were then given a short- and long-term retention test as well as a perceptual/flexibility rating sheet for the supplemental materials (for details, see Smith et al., 2016). In Experiment 2, participants (n=20) were exposed to all three types of material and were recorded for electroencephalogram (EEG) and electromyographic (EMG) activity. Results supported previous findings in terms of image-based retention of material and likability of material, but data from Experiment 1 indicate lower physiological activity scores with pictorially-based content. Taken together, the current study suggests that symbolic metaphors (i.e., with verbal facilitation) enhance memory retention despite a potential absence of physiological activity.

Introduction

The relationship between brain and behavior has become a major focus in understanding how nervous system activity is involved with effective study of behavior ranging from clinical links to human abnormality to pedagogical learning of major-related content and how behavior can be enhanced by environmental influences. In order to effectively engage students with more biologically-oriented content, educational research in neuroscience has indicated that the use of metaphors can improve retention of more abstract material (Richardson, Carney, & Levin, 2003). Utilization of metaphors (i.e., the use of symbols to substitute for broader understanding) has been well-characterized within the arts and humanities (see Bellera, 1997; McCahee, 1986); however, in order to serve as an effective pedagogical tool within the scientific sciences, the parameters of such as approach needs to be further characterized.

The use of graphic novelization has been well-characterized as one method of using metaphors to enhance neuroscience understanding by both behavioral and physiological measures (see Smith, Haynes, & Brashuk, 2015) but there may be many other ways to promote better understanding of the nervous system through symbolism. For instance, Wilson, Bauck, & Tim (2015) demonstrated that the implementation of fictional billboard advertisements provide a creative outlet to supplement memory enhancement. According to this study, novel advertisements promote better understanding of the “message” that the billboard attempts to promote. As a consequence, attention to such products sustains future memory of the product. If such an effect is relevant to the attention of peripheral individuals, a similar approach can be valuable in terms of understanding of abstract material in an educational setting. The purpose of the present study was to demonstrate how fictional advertisements of neuroscience content (i.e., neurotransmitter function) can promote better retention and student engagement. Moreover, physiological measures of autonomic activity (i.e., electroencephalogram, or EEG) and general brain activity (i.e., electromyographic, or EMG) activity will be used to correlate respective behavioral measures.

Method

Participants: A total of 96 students were solicited for participation in Experiment 1 (behavioral comparisons, n=40) and in Experiment 2 (physiological comparisons, n=22). Materials/Apparatus: In Experiment 1, an eight-minute lecture on neurotransmitter action as recorded on a third generation Apple iPad. This lecture was then converted to a full presentation for viewing. There were three different forms of ancillary material that was created for the experiment after the video was presented. The first form (word-only) consisted of eight neurotransmitter names and their function. The second form (pictorial-only) was a visualized and “illuminated” form of each neurotransmitter that contained the transmitter name and an image of its function. The third form (combined) consisted of the same pictorial image with words that highlighted the neurotransmitter function. Figure 1 shows a representative set of these materials.

Two measures of assessment were used: the first was a 12-item multiple choice test that measured understanding of the content from both the lecture and the respective ancillary material. It was given as a short- and long-term test, and it consisted of questions that addressed previously-viewed as not previously-viewed ancillary material. The second measure was a brief questionnaire that reflected participant reactions to the presented ancillary material. The breadth of this questionnaire consisted of 5-point Likert scales, in which participants rated their level of agreement to presented statements (ranging from 1. as “strongly disagree” to 5. as “strongly agree”) in terms of 3. engagement; 4. understanding; 5. perceived difficulty of using the material.

In Experiment 2, heart rate (EKG) and general cortical activity (EEG) responses were recorded using an Emotiv technology, in which 13 electrodes were placed on externally measure heart and brain activity.

Procedure: In Experiment 1, all participants were presented with the video on neurotransmitter function. They were then randomly assigned to one of three groups that received a different form of ancillary material. Each group was given eight “billboards” that varied in content, and approximately 20 seconds was given to view each billboard. After all materials were viewed, participants were immediately given a 15-question test on retention of content (which consisted of questions for neurotransmitters that were seen and questions on neurotransmitters that were not seen), and the self-report survey. Two weeks later, participants were again given the 12-question long-term test as a long-term measure for content understanding.

In Experiment 2, participants were exposed to all materials including blank slides (creating a baseline condition). Each “billboard” was presented for 10 seconds, in which EKG and EEG responses were recorded and aggregated into one-second averages over the 20-second period.

Figure 1: Representative Sample of Ancillary Materials

<table>
<thead>
<tr>
<th align="center">Words Only</th>
<th align="center">Pictures Only</th>
<th align="center">Combined</th>
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Figure 2: Behavioral Responses as a Function of Ancillary Content

<table>
<thead>
<tr>
<th>Memory Retention Scores</th>
<th>Self-Report Scores</th>
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<tbody>
<tr>
<td><em>M</em> (SE)</td>
<td><em>M</em> (SE)</td>
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<tr>
<td>Control (K)</td>
<td>Ancillary (K)</td>
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</table>
| Table 1: Behavioral Responses as a Function of Ancillary Content

Figure 3: Physiological Responses as a Function of Ancillary Content

<table>
<thead>
<tr>
<th>EKG Response Rates</th>
<th>EEG Response Rates</th>
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<tbody>
<tr>
<td># (SE)</td>
<td># (SE)</td>
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<tr>
<td>Control (K)</td>
<td>Ancillary (K)</td>
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Results

Figure 1 shows the differences in the mean correct responses for both short- and long-term responses of seen and unseen content. Statistical analyses revealed that participants who received combined ancillary content scored significantly higher in short-term estimates for seen content when compared to both word-only and that indicates that seen content (p<0.01). In terms of self-report scores, both forms of content with pictorial material were rated significantly higher than word-only material (p<0.01).

Conclusion

Current data suggests that the incorporation of billboard-style metaphors of neurotransmitter function may be an effective pedagogical supplement, especially when there are words to supplement the pictorial images that illustrate the metaphor for chemical action. Although this is seen more in a short-term retention context, it has been suggested that the pronunciation of such materials was limited to one exposure. Unlike previous work (Wilson, Bauck, & Tim, 2015), the effects of such an informative tool may be extended. If such presentations are viewed multiple times (similar to billboard advertisements in a more real-world setting), it may be more likely that they may significantly affect the retention of material. This study is not intended to be a traditional test of the effects of a training intervention, but rather an article that provides a more up-to-date methodology and a deeper understanding of the implementation of visual metaphors (like graphic novelization, see Smith, Haynes, & Brashuk, 2015) may serve as a valuable educational tool in the natural sciences.


References

Section XVII
Online Teaching

1. Undergraduate Study in Psychology 2016: Online Degrees and Faculty Characteristics

2. How much time do I need to spend in this course to succeed? Evidence from online course analytics

3. Strategies to Promote Student Engagement in Online Classes
Undergraduate Study in Psychology 2016: Online Degrees and Faculty Characteristics

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How much time do I need to spend in this course to succeed? Evidence from online course analytics

Amanda Kraha, Ph.D., Beth A. Trammell, Ph.D., HSPP, & Amanda Sadowski
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Keywords: online teaching, online learning

Online education is an increasingly popular learning modality in college education across the United States (Allen & Seaman, 2013). In the fall of 2006, there was a 9.7 percent growth rate of online enrollment from the previous year, compared to a 1.5 percent growth rate of overall higher education populations (Allen & Seaman, 2007). One important issue that arises in online courses is that of student success and retention (Boston, Ice, & Gibson, 2011).

There is still much to learn about how online learning compares to classroom learning, though much research has been done in this area. One study, for example, found a 13.5% drop rate for online courses versus a 7.2% drop rate for traditional courses (Diaz, 2002). One difference between online students and traditional students is that online students tend to have significantly more problems with retention (Gaytan, 2013). Students who drop out show differences from those who persist in that they score lower on academic locus of control, metacognitive self-regulation skills, and time management (Lee, Choi, & Kim, 2013).

Studies are finding specific factors that predict student attendance and success in online courses. In one study, researchers revealed that the top three themes that predicted student success were student self-discipline, quality of faculty and student interaction, and institutional support to students (Gaytan, 2013). In another study, self-discipline and motivation correlated with students’ test, assignment, and final exam scores (Waschull, 2005). Although personality factors undoubtedly play a role in online student success, researchers should also investigate what strategies and techniques instructors can employ to support fully these online learners. The current study utilizes Canvas metrics (i.e., student time in course) to predict student success, as measured by final scores in the course.

Participants consisted of Indiana University undergraduates who had previously completed an online section of Statistical Techniques ($N = 76$), Research Methodology ($N = 61$), or Life Span Development ($N = 63$) during the fall, spring, or summer semesters in 2016.

Data points across several variables were automatically recorded by the Canvas Learning Management System for all enrolled students and instructors. Drop, Withdrawal, Fail (DWF) rates were obtained for all course sections of Statistical Techniques ($N = 4$), Research Methodology ($N = 3$), and Life Span ($N = 3$) from institutional research.

The combined data ($N = 175$) were analyzed using One-Way Analysis of Variance to compare hours spent in the course by final grades earned (A, B, C, and D/F). The results indicate there are differences in final grades by time spent, $F (3, 174) = 7.18, p < .001, \eta^2 = .11$ (see Figure 1). Students who did not pass the course ($M = 20.64, SD = 16.24$) spent considerably less time in the course than students who received an A ($M = 45.85, SD = 30.09$) or B ($M = 37.97, SD = 21.05$) in the course, both $p < .001$. A Pearson correlation coefficient was computed to assess the relationship between the amount of time instructors spent in the course and Drop, Withdrawal,
Fail (DWF) rates of students. There was a negative correlation between the two variables, $r = -0.693$, $n = 10$, $p = .026$, $R^2 = .48$ (see Figure 2).

The total number of hours spent in the course were found to be positively correlated with final grades—students who spent more time in the course tended to have higher grades. Similarly, there was a negative relationship between instructor time in course and the DWF rate for that course—DWF rates tended to be lower when instructors spent more time in the course. Future research should investigate not only instructor time in course, but how these instructors are spending time in the course (i.e., in course design, facilitating discussion, or providing student feedback).

One limitation of this study is that hours spent in the course were tracked by Canvas, which may have been inaccurate. For example, although students may show that they are logged into the course, they could have been doing something else—either in their home or on another website. Nonetheless, using these course analytics can be an important first step in facilitating student success.
References

![Figure One](image)

*Figure One*. Mean hours in course by final grade category.
Amanda Kraha, Ph.D., received her doctorate in experimental psychology from the University of North Texas, and her undergraduate degree from Arkansas Tech University. Dr. Kraha is currently an Assistant Professor of Psychology at Indiana University East. She teaches undergraduate research methods, statistics, and cognitive psychology. Dr. Kraha’s research centers on memory, statistical techniques, and professional issues in psychology. Her most recent publication examines the amount of debt students take on in the course of earning a graduate degree in psychology, and what salaries these degree holders can expect upon entering the psychology workforce.

Beth Trammell, Ph.D., HSPP is a licensed psychologist and Assistant Professor of Psychology at Indiana University East where she teaches clinically-oriented courses in the undergraduate program. Her research focuses on undergraduate student teaching and learning, including best practices in online education. She also engages in research and service in parent training for parents of children with emotional and behavioral disorders. She supervises students and early-career clinicians in integrative and ethical research to practice.

Amanda Sadowski is currently in her senior year of study in the Humanities and Social Sciences Department at Indiana University East. In May 2018, she will graduate with a Bachelor’s of Science in Psychology and Criminal Justice with a minor in Neuroscience. She has held positions as a teaching assistant, supplemental instructor, and tutor for statistics at Indiana University East and Purdue University Northwest. She has also participated in a research internship at Lurie’s Children’s Hospital in Chicago, where she specialized in researching autonomic dysfunction, and has continued to work with them in this field.
Strategies to Promote Student Engagement in Online Classes

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Online courses are notoriously difficult to engage in active student participation. Through the use of qualitative data in the form of anonymous written feedback from students, I developed various strategies to promote student engagement in online classes in an attempt to improve the success and feedback from students in online courses, such as using an online communication platform with a Learning Management System (LMS), color-coding and organizing material, and discussion forums. Student feedback was very positive, including at least one student remarking that, after taking at least 5 online courses, this was the most engaging and interactive online course that he/she had ever experienced.

Setting Your Students Up for Success

One of the first steps for an engaging online course is for the instructor to create a short welcome video. This video should be specific to the course, enthusiastic, and include video of the instructor talking directly into the camera. A welcome video allows the students to feel connected to the instructor. For more information on welcoming students (via email, letter, or audio), please see Clark-Ibáñez and Scott (2008); for more information on welcome videos at the beginning and during the course, please see Draus, Curran, and Trempus (2014).

A well-organized LMS course shell is very important for allowing the student to navigate through the course with ease. For example, color coding and organizing by week or topic can help the students avoid feeling overwhelmed by the material. This is especially important when the entire course content is available all at once.

Allow students to become involved early on in the process. Setting up an “interest questionnaire,” where students can rate their level of interest for the class topics, can make them feel more connected and more autonomy in terms of their learning. Additionally, requiring students to complete an “about me” discussion post allows for more cohesiveness with the instructor and students, as well for the student to feel more connection to the course from the very beginning. Finally, some LMS systems have built-in modules or workshops that students can complete. For example, the LMS system Moodle has a “Being an Effective Online Student” workshop that students can take if they would like more tips on being successful in their online courses (workshop available at https://www.atomiclearning.com/highed/beos_wkshp).

Increasing Interaction with the Instructor

Finding a communication tool for your online course is vital to allow for positive interaction with the students. For example, communication platforms like Skype, Zoom, YuJa, and Google Hangouts allow for instructors to talk directly to a group of students or to an individual student. Communication platforms allow for virtual office hours, which in some cases include interactive screen shares with one or more students, and live and recorded lectures (i.e. Zoom and YuJa, which allow recorded video). Live lectures can bridge the gap between the online and face-to-face classrooms. For example, with some communication platforms, a scheduled lecture translates to students having a live connection during the lecture. This allows for students to ask question in “real-time,” whether by video or by chat. Additionally, recorded lectures are vital to increasing
“face time” with students. Research has shown that students prefer audio/visual lectures over strictly text-based lecture (Fish & Kang, 2014).

When students can see the instructor in the video feedback, it allows for more emotional expression, communicative style, and personalization; students also feel the course is more interactive, and they feel a stronger connection to their instructor (Borup, West, Thomas, & Graham, 2014). Being able to see the instructor talk on camera also decreases miscommunication, as the instructor’s voice inflection, facial cues, and demeanor are seen and heard by the student (Borup et al., 2014). The author has seen this directly in the feedback from students; one student evaluation report stated: “I liked that she had live lectures where you could see her and not just hear her voice; it was interactive for an online course.” The use of video in classes (whether the instructor shows his/her face, or just has audio along with slides or other visual material), has shown to be beneficial in the classroom. Students who watch the videos tend to have better understanding, improved grades, and are less likely to withdraw from the course (Brecht, 2012).

**Increasing Interaction with Other Students**
Forum discussions provide an opportunity for students to interact with one another. However, forums do require maintenance and monitoring by the instructor so that proper communication is facilitated. For example, “trolling” or bullying students is strictly forbidden, but forums need to be monitored as a precaution. Additionally, students need guidance on how to construct a proper discussion post that provides meaningfully to the conversation, without repeating a point or blanket statements of agreement/disagreement. Establishing word count limits and providing a template for responses, as well as providing extensive individual feedback for the first few posts can help guide students in proper forum communication. Providing a video for students to watch and then assigning discussion or reaction questions can help jump start a successful forum. The author’s own students have described how forum interaction is beneficial to the class in course evaluations: “The discussion forums make me feel more drawn to the class…” and “I enjoy the forums because they provoke ideas and thoughts that generally can’t be taught or even discussed in a typical classroom setting.” For more information on the instructor’s role in engaging in online discussion forums, please see Mazzolini and Maddison (2007); for more information on constructing online forum questions that promote constructive and critical thinking, please see Muilenburg and Berge (2006); for more information on structured versus unstructured discussion forums, please see Salter and Conneely (2015).

Assigning group work is another technique for increasing interaction with other students. Utilizing communication platforms and demonstrating use with students can help make group work less overwhelming and much more manageable, especially for those students who are not able to meet with groupmates in person due to geographical reasons. Most LMS systems have capabilities of assigning students to groups manually or randomly, which allow students to turn in simultaneous assignments or be able to view each other’s work. This is especially helpful for peer reviewing papers or other assignments.

**Motivation for a Strong Finish**
Providing feedback routinely throughout the course allows for students to receive the connection and attention that they may lack in a more traditional online course. Sending routine reminders for quizzes, forum post deadlines, papers, assignments, etc. can help students from falling behind in the course. Additionally, feedback from students is vital during this process. Setting up course evaluations at the middle and end points of the semester can help with course maintenance and provide the instructor the opportunity to fix something that may not be working early enough in the semester to avoid problems. Requesting feedback via open-ended questions (i.e. asking about the technology used, likes/dislikes in the class, asking student to explain how connected they feel
overall) are helpful techniques to monitor progress. For more information on obtaining feedback from students in online courses, please see Draus et al. (2014). I found the recommendations of Seldin, Miller, Seldin, and McKeachie (2010) valuable for receiving helpful qualitative written feedback from students (not online-specific).

Ultimately, we all want our students to succeed in our courses. Online courses can be more challenging than face-to-face courses due to the lack of connection that students and instructors might feel to one another and the course material. However, with the suggested techniques and tools, the online course can feel just as connected (if not more!) and provide a platform for student success.

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5. Connecting with Struggling Students in Introductory Psychology: An (Attempted) Replication

6. Student Preferences Among Instructional Techniques: The Place of On-line Instruction

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The PEWTER Study: A Structured Protocol for Breaking Bad News in Counselor Education

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The Good, the Bad and the Disruptive

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Keywords: technology, open resources, flipped classroom, personalized learning

Many open educational resources are being developed for teaching psychology. These textbooks, technology and resources provide an alternative to traditional textbooks and materials from publishing companies. They offer peer-reviewed materials at little or no cost as well as cutting-edge adaptive and personalized technology. Initial findings from a pilot study in seven classes using the OpenStax psychology textbook coupled with LRNR demonstrate that this combination both cuts costs dramatically for students and fosters greater student comprehension in introductory psychology classes.

Number of face-to-face students in enhanced classes, who completed an anonymous survey midway through the semester = 60.

Average Rating of OpenStax Psychology Textbook: 7.8

Simple Scale from 1 to 10 (Bad News = 1, Super = 10), Range: 3 one time, 10 twelve times

Comments written by students about the OpenStax Textbook:

- I love how the book is well organized and outlined perfect! I also really love the “additional links” boxes that relates to the topic
- The online text is very useful and contains important information, but it gets confusing using it with learner and not having a physical copy
- I like the textbook because it is free
- I like every aspect of the book; Easy to read and understand; It explain things in detail
- I do not like that the book was online
- I personally prefer a textbook I can hold so online is very difficult for me
- The textbook is easy to understand
- To many examples, tends to start getting the concepts I’m learning harder to understand
- Sometimes I don’t think the textbook is very good or clear. I find myself having to look up certain stuff
- I like the organization but the deffitens [sic] could be better
- It’s very interesting and has cool new facts
- There seems to be a lot of information that is repetitive, but I guess that makes since [sic] because it helps you remember; But overall it's a good text
- I think the textbook explains everything well and also gives visual presentation to the eye
- First time using an online textbook; it just weird to me. Nothing particularly wrong with the textbook itself.
- Sturdy textbook material; nothing special
• I like that they key terms for the chapter are right after the chapter and not at the very back. I also like how it has the objectives for each section.
• It is well detailed
• I like that the textbook is online but I like to have my textbooks in person
• The textbook is okay. Maybe it could be more formal, but sometimes when the textbook is to [sic] formal, it is harder to understand. The textbook is easy to read and understand
• It’s a great generalization of psychological studies and brain functions
• Well I don’t have a dislike with the actual book. I kinda wish I had the physical version for I am a physical person; other than that it is a very good layout
• I like how it is easy to comprehend and defines certain keywords clearly
• It has some very informative stuff, but some stuff drags on as well
• I really like the activities*
• I like the activities that are in the chapters* *[appear to be referring to LRNR]
• It is a really good option!
• I like how it has visuals and it tries to explain everything you might not know
• I like that I can highlight, copy and paste from the book
• It’s very easy to navigate and to read; I like having the sections to read instead of compiling them all together in one
• Sometimes the text is vague about certain terms
• I find it easy to read, but the sections are really long
• I don’t have problems, everything is pretty clear and simple
• I don’t like scrolling to the page and technology is my downfall
• I like the textbook, give specific details; just when I go to answer the question for homework it’s hard to find and it takes up my time
• It could be more interesting info
• The book goes into great detail; I think it is fine
• Textbook is awesome
• Some of the topic is so interesting
• Like – about psychology and how they can help the community; dislike – Chapter 1
• I like to have everything streamlined to my PL, so it works very well for me
• The book does do good on covering the material and makes you want to learn
• It’s not to [student spelling] bad
• I like how it’s online but it’s hard to keep up on a screen
• I just enjoy reading about everything

Average Rating of LRNR questions/modules: 7.8

Simple Scale from 1 to 10 (Bad News = 1, Super = 10), Range: 5 four times, 10 eleven times

Comments written by students about LRNR:
• I like the example questions given, multiple choice and fill in the blank; dislike the certain way wanted in answering fill in the blanks.
• I enjoy the ease of it and all the activities instead of doing it in class
• They’re a little slow at times but other than that it’s a great way to learn
• They are simple to follow
• When you have to type the answer, some are spelled wrong
I felt like they went along with the book pretty well
I think they are fine
Sometimes the answers to questions are mispelled [sic] so it causes me to miss the question
It can get busy, but easier to manage than the 3+ chapters at a time and not having so much “structure” on timing
They are clear, concise, well-thought out, and they help me memorize
They include many levels of challenge behind them however some are too vague
Their [sic] informative but even when I read the whole chapter I have trouble finding the answer
It’s great how you can go back and fix your score if you didn’t like how you did
They were easy
They cover the whole section and usually give good examples concerning complex topics
No opinion
I like how it repeats the ones that you missed
They are challenging and very helpful
Sometimes it gets a little confusing on when they are due
The questions are okay; My problem is sometimes the questions where you fill in the box are wrong even when they are right just because of a spelling error on the programs park [sic]
They are challenging [sic] questions that make you think
For the most they were good; the very last assignment gave me a little trouble; but they were [sic] good
I like how I can take the quizzes more than once if I had missed some questions; prefer multiple choice
They are not hard to do
They are very helpful
I really enjoy them; the problems with it are minor
I like you can have lot of chances to answer questions
They kept acting up
Some of the questions are not so great
The quizzes are good and really help, but sometimes words are mispelled [sic] and if you don’t put it in a certain way it will be counted wrong
Like being able to repeat the activity; dislike attempt limit [this was only for the formal quizzes]; not being able to submit assignments, and visual malfunctions on multiple devices
A lot of answers are mispelled [sic], making it harder to get right; sometimes its hard to figure out answers based on the text
Sometimes the words are mispelled [sic] or the questions make no sense or connection to the subject
I like the questions it gives me and how it explains it
Modules are good not hard just takes time
I enjoy them, they really help me learnt [sic] the info
They are very particular in spelling and tenses/singular/plural
It expands my mind on the different subject and learning new things
They’re not too bad
I think that the questions are great
LRNR is confusing 😊
• I love most of them; I just dislike few
• Like – chapter 2 – 9 and chapter 14; dislike – chapter 1
• I learn a lot from the questions every week
• Great way to practice all the material

Tips and Further Comments:

• Build on personalized feedback.
• Start small –→ a pilot!
  o Communicate and demonstrate!
• Emphasize the accessibility & the price!
• Anticipate possible “politics:”
  o from the department: “we always use . . . , if you adopt a free text what happens?”
  o from the publishing company: “Why did you leave? Let’s work together to bring prices down.”
• Remember: “Change Management“
  o innovative teaching & “thinking outside of the box” = threat to some.

The findings from the pilot study confirm results from a prior study at another community college: more students earned a passing grade in the introductory courses with a “flipped classroom” format, which provided students the opportunity to complete weekly assignments testing their comprehension of the material outside of the classroom.
Enhancing Student Performance in Introductory Psychology Courses
Jennifer N. Engler
York College of Pennsylvania

Abstract

In introductory psychology courses, instructors are often challenged with the task of covering an extensive breadth of information in a very short amount of time. This can too easily lend itself to traditional didactic lectures followed by a series of exams, which tax the processing and retention of the average college student. Two experiments were conducted to examine methods to increase student performance. In the first experiment, the frequency and content coverage of exams was modified to determine its impact on student performance. The second experiment examined how a specific course assignment impacted overall performance. The participants were students enrolled in multiple sections of introductory psychology courses at a small, private liberal arts college. Findings provide support for viable methods to increase student performance in introductory psychology courses. Retention of material and subsequent exam performance increases when more frequent, lower-stakes assessments are offered. Additionally, providing students in an introductory level class with a guided worksheet to prepare them for subsequent class discussion and activities also predicts better exam performance. Results also highlight the need to evaluate both statistical and “clinical” significance in pedagogical research.

Introduction

In introductory psychology courses, instructors are often challenged with the task of covering an extensive breadth of information in a very short amount of time. This can too easily lend itself to traditional didactic lectures followed by a series of exams, which tax the processing and retention of the average college student. Two experiments were conducted to examine methods to increase student performance. In the first experiment, the frequency and content coverage of exams was modified to determine its impact on student performance. The second experiment examined how a specific course assignment impacted overall performance.

Method

Participants
Participants were 63 students enrolled in two sections of an introductory psychology course at a small, private liberal arts college.

Procedure
Students were taught the same introductory psychology content by the same instructor. One section (experimental group) received in-class time to complete an ungraded pre-chapter discussion preparation worksheet in the same class period immediately after the completion of the exam covering previous material. The other section (control group) completed an alternative activity (typically a video related to the upcoming chapter) for the remainder of the class period during which the exam covering previous material was completed. The control group was given the same pre-chapter discussion preparation worksheet to optionally complete outside of class. At the conclusion of each exam, students were surveyed regarding various activities they had used to prepare for their exam (e.g., attending class, reading the text, completing the discussion preparation worksheet).

Student mastery of content was assessed using seven multiple choice exams.

Results

Results indicated no statistically significant difference in exam performance between groups due to the provision of in-class time to complete the pre-chapter discussion worksheets (t(62) = 1.69, p > 0.05). While the difference between the experimental and control groups did not reach statistical significance, the average grade for the experimental group was five points higher (Mean = 78.17, SD = 9.61) than the control group (Mean = 73.75, SD = 11.56).

Regression analysis indicated that the completion of these discussion worksheets (as self-reported by the students) was the only significant predictor of exam performance across both sections (F(1, 246) = 4.43, p < 0.05).

Discussion

These findings provide support for viable methods to increase student performance in introductory psychology courses. Retention of material and subsequent exam performance increases when more frequent, lower-stakes assessments are offered. Additionally, providing students in an introductory level class with a guided worksheet to prepare them for subsequent class discussion and activities also predicts better exam performance. While the difference between the experimental and control groups did not reach statistical significance, the average grade for the experimental group was five points higher than the control group. This five point difference in average exam performance would translate to the difference between a C+ and a C in one's grade point average calculation. These findings highlight the importance of evaluating both statistical and “clinical” significance in pedagogical research.
Active Components of Mindset Interventions in the Psychology Classroom

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Presented at the 2017 American Psychological Association
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Abstract
Research indicates that students’ mindsets, or the beliefs they hold about themselves as learners, can affect a variety of academic outcomes (Dweck, 2003). In short, students with growth mindsets are academically “better off” than students with fixed mindsets. While several studies have demonstrated that it is possible to improve mindset through brief manipulations, considerable variability exists in terms of the context of these interventions. We tested two types of mindset interventions (with and without personalization) and a control across two semesters, four courses, and two universities. Neither of our interventions was effective at changing mindset scores.

What is Mindset?
Fixed Mindset
Ability is set and incapable of improvement
Growth Mindset
Ability can be improved through meaningful effort

which leads to...
• Avoidance of real difficulty
• Difficulty seeking help/instructor feedback
• Decreased performance

(Dweck, 2000; Yeager et al., 2013)

Research Questions
1. Can a brief growth mindset video improve motivation in university psychology students?
2. Does reading a growth mindset letter from a past student enhance this effect?
3. Are students lower in motivational attitudes more impacted by this mindset intervention?

Method
Participants
N = 316 students enrolled in four psychology courses in two universities over two semesters
Procedure
Participants were invited to take part in an online study within the first three weeks of the semester. Those who participated were asked to participate again in the last three weeks of the semester. Participants were randomly assigned to one of the four conditions upon enrolling online. All data were collected online.

Mindset Intervention
Students in the control condition watched a video about neural plasticity. Students in the mindset condition watched a video about growth mindset selected from the Mindset Kit website. Students in the mindset + personalization condition viewed the same video and read a letter supposedly written by a former student of that class focusing on how a growth mindset helped them achieve success in that course.

Measures
Growth and Fixed Mindsets were measured with the Implicit Theories of Intelligence Scale (Dweck, 1995). Motivational learning attitudes were measured with the Self-Efficacy, Intrinsic Value, and Test Anxiety subscales of the Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia & McKeachie, 1991).

Table 1

<table>
<thead>
<tr>
<th>Means (Standard Deviation) for Whole Sample</th>
<th>Beginning of Semester</th>
<th>End of Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivated Learning Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>5.20 (1.83)</td>
<td></td>
</tr>
<tr>
<td>Intrinsic Value</td>
<td>5.59 (1.76)</td>
<td></td>
</tr>
<tr>
<td>Test Anxiety</td>
<td>4.92 (1.59)</td>
<td></td>
</tr>
<tr>
<td>Mindset Interventions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Mindset</td>
<td>3.11 (1.67)</td>
<td>3.23 (1.72)</td>
</tr>
<tr>
<td>Growth Mindset</td>
<td>4.05 (1.64)</td>
<td>3.93 (1.64)</td>
</tr>
</tbody>
</table>

Results
Research Questions 1 & 2
Students who viewed the mindset video did not demonstrate increased growth mindset scores, nor did students in the mindset intervention condition (Figure 1).

Research Question 3
To answer the question, we identified students whose scores were in the 25th percentile on at least two of the motivational attitude scales. While patterns are more in line with expectations, there were not significantly different (Figure 2).

Discussion
While prior studies have indicated that even brief mindset interventions can have a significant impact on improving growth mindset, as well as the positive outcomes associated with this mindset, we were unable to replicate this. Regardless of format (i.e., video or a video and personalization through a former student letter), students did not demonstrate improved growth mindset at the end of the semester.

More nuanced analyses, like cluster analysis, may be useful to identify motivational profiles among students and those who benefit most from a mindset intervention.

In future work, we intend to refine our intervention in an effort to identify the components of a mindset intervention that are critical to the positive effects shown in past research.

References

Support
This project was supported by a grant from the APS Fund for Teaching and Understanding Psychological Science.
Connecting with Struggling Students in Introductory Psychology: An (Attempted) Replication

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Abstract

Introductory psychology is one of the more popular courses for undergraduates with some studies indicating that it is taken by nearly 70% of students (Johnson, 2006). As a result, the introductory course is often large and may seem impersonal to students (McKenna & Wurwick, 2006). These feelings of anonymity may lead students to feel unimportant or devalued in the classroom.

Ibel and Cole (2009) implemented an email-based intervention to connect with low performing students in a large psychology course. The outcomes of this study suggested that email messages from a professor that express concern and provide information on resources for improving performance can bolster exam performance for lower performing students. This current study attempts to replicate and extend these findings in an introductory psychology course at a small, liberal arts college.

Methods

Data were collected in two sections of Introduction to Psychology during a single academic year. The course, which used a four professor, rotational, team-taught model, enrolled 166 students across two sections of the course (Semester 1, N = 67; Semester 2, N = 99). One student was removed from the data set who withdrew from the class after the first exam for a total n = 165. In this sample, 97 students were first-year, 43 were sophomores, 12 were juniors, and 5 were seniors.

In the course, students completed four 50-question multiple choice exams, each of which covered three chapters of the textbook. Following the first exam, students who received a grade of 40% or less were randomized into one of two conditions: email intervention or control group. Across both semesters, 35 students were placed in the email intervention group and 34 in the control group. Twenty-three (66%) of these students were first-year students, 7 were sophomores, and 1 was a senior. After each of the first three exams, the intervention group received a personalized, detailed email message about their performance in the course. This message included the student’s exam score, concerns about the student’s performance, the date of the next exam, and information about helpful course resources. For example, students were encouraged to re-examine the chapter text for each exam, attend class regularly, attend review sessions to aid learning material for subsequent exams, and use the study aids provided with the course textbook. Students were also reminded that their online weekly quizzes could be reviewed to aid in exam preparation. Students in the control group and the remaining students in the course were not emailed.

A total of 35 of the semester, students completed the Course Experience Questionnaire, a 25-item survey about their perceptions of the effectiveness of course assignments and class activities, satisfaction with the course, instructor, and grading in the course, and their overall level of learning in the course. The survey asked participants if they had received individualized emails from an instructor related to their exam performance, whether or not they thought the emails were helpful, and whether or not they thought the emails were helpful. The course grades for each participant were included in the survey.

Results

A two-way repeated measures ANOVA compared the effect of the email intervention on exam performance across the semester. MacKey’s test indicated that the differences between the groups were not significant. Students who received the email intervention had significantly higher exam scores than those who did not receive the email intervention. Eighty-nine percent of students who reported receiving the email intervention reported that they found the emails helpful. Furthermore, 87% of students reported that the emails helped them improve their grades.

Discussion

Contrary to the outcomes of Ibel and Cole (2009), students in the email intervention group did not improve in performance from Exam 1 to Exam 2 across the duration of the course. Overall, the email intervention group performed slightly below the level of the control group for the last three exams of the course.

As identified in the literature, there are numerous reasons for students to perform poorly in class. Based on these factors, a likely assumption is that performing at a level below 70% on the first exam identifies you as a high-risk student in this course. Consequentially, there are likely numerous student deficits (e.g., academic skills, social capital) that a simple email intervention was not powerful enough to overcome for these students. Future studies should explore what actionable student factors may contribute to continued low performance (e.g., study skills, reading skills, etc.) so that a more effective intervention can be designed and implemented to boost student performance.

In this study, aspects of the course structure also may provide barriers to student achievement. Reliance on lecture-based teaching time has been linked to lower repeat levels of student engagement (Gusiewski, Eugen, Garcia, Hubbard, & Chang, 2012). Instead of connecting students to course resources via email, structured opportunities to engage in group learning with peers during class may be more beneficial for the higher risk students. This instructional strategy has been linked to increased student engagement (Gusiewski, Eugen, Garcia, Hubbard, & Chang, 2012) which is consistent with increased performance.

The method of data collection for the Course Experience Questionnaire was limited in our ability to connect student responses to condition. However, students who identified as receiving the email intervention included identifying the online quizzes prior to the next exam as the most useful exam preparation. A smaller percentage utilized the lecture software from the textbook company, and even fewer connected with the course TA or professors. The emails sent to students expressed concern for their individual performance and a desire for them to perform well on the course. Despite this personal appeal, only a small percentage personally reached out to the TA or professors. If a goal is for students to connect and engage, especially when they are struggling, it does not appear that email exchange effectively facilitates that connection.

Selected References


Student Preferences Among Instructional Techniques: The Place of On-line Instruction

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Keywords: online, instruction, learning

For many years the concept of student learning styles has had a major impact on pedagogy. However, some recent research has discredited this concept. This poster offered a different perspective that we believe may provide some insights on this issue. Specifically, we looked at what we refer to as instructional techniques, i.e., the approaches to teaching that instructors take in the classroom. Even more specifically we looked at student preferences for various techniques, based on the logic that if students like a particular technique they are more likely to be engaged in the learning process, and hopefully learn more in the course.

The study of the learning process and effective teaching has an extensive history, often focused on student learning style. The studies reported here offer an alternative approach to examining this issue by focusing on student’s perceptions of instructional techniques – those they prefer, as well as those they dislike – all in the context of what they believe enhances their learning. However, the main focus of this paper is on the repeated poor showing of on-line learning.

The research was conducted with students at a small Mid Atlantic University. The results of three studies are reported. In each, students were asked to rate their preference, on a 7-point Likert scale, for 7 instructional techniques: Lecture only, Power Point, Group work, Class discussion, Student presentation, Chapter outlines, and On-line learning.

**STUDY 1 (n = 60)** was a correlational analysis, with two patterns emerging. The first found class discussion positively correlated with group work ($r = .627$, $p < .000$) and with student presentations ($r = .418$, $p < .001$), and group work positively correlated with student presentations ($r = .630$, $p < .000$). In addition, a greater liking of class discussion and the use of Power Point were both negatively correlated with on-line learning ($r = -.334$, $p < .009$, & $r = -.435$, $p < .000$ respectively.)

A one-way ANOVA was performed using instructional technique as the factor. The overall analysis was significant, $F(6) = 20.38$, $p < .000$. In this context a post hoc test of mean differences was conducted using the Tukey procedure. Class discussion ($M = 5.4$), Chapter outlines ($M = 5.2$), and the use of Power Point ($M = 4.9$) were preferred significantly more than other techniques but did not differ from each other. Lecture-only ($M = 4.1$) was the second least preferred but was not significantly different from either Student presentation ($M = 4.5$) or Group work ($M = 4.6$). Interestingly, on-line learning ($M = 2.9$) was significantly less preferred than all other techniques.

In **STUDY 2 (n = 30)**, the data concerning the seven (7) instructional methods were subjected to a correlation analysis. A pattern of results similar to Study 1 emerged, notably
between and among the variables of group work, classroom discussion, and student presentations. Specifically, group work was significantly correlated with class discussion \( r = .607, p < .000 \). Student presentations was significantly correlated with group work \( r = .641 p < .000 \). The correlation of student presentations and class discussion was also significant \( r = .315 p < .05 \).

A one-way analysis of variance (ANOVA) was conducted with type of instruction as the factor with seven levels. The ANOVA was significant, \( F(6) = 19.1, p < .0009 \). A post hoc examination of the means was conducted using the Bonferroni method. In line with our hypothesis, the mean liking of lecture as an instructional method (3.6) was significantly lower than for group work \( (M=5.0), p < .000 \), class discussion \( (p < .000) \), and the use of outlines \( (M=5.6), p < .000 \). However, the most interesting finding concerned the on-line instruction method, which received the lowest mean rating of liking (3.2), and was significantly lower than the means for all other instructional techniques with the exception of lecture.

Finally, STUDY 3 \( (n = 30) \) looked at the same seven instructional techniques and found results highly similar to the first two studies. Positive correlations were found between student presentations and group work \( r = .456, p < .001 \) and class discussion \( r = .388, p < .034 \). However, our interest was no longer focused on the correlational pattern among the techniques, but rather on whether the extreme dislike of on-line learning would be replicated. As before, a one-way ANOVA was conducted, with technique as the factor. The ANOVA was significant, \( F(6) = 7.51, p < .000 \). A comparison of means was conducted using the Fischer procedure. This comparison revealed that again, on-line learning \( (M = 3.1) \) was significantly lower in preference than all other techniques except lecture \( (M = 3.6) \).

Putting the issue of learning styles aside, these results suggest that rather than being the recipients of streaming information from a single source—the lecturer—students desire human interaction, especially with their fellow students as part of their educational experience and the learning process in the classroom. Yet the lecture approach still seems to prevail. Future research will test the hypothesis that students will feel more engaged in the educational process when preferred instructional techniques are used, hopefully enhancing the learning process.

In addition, and to state the obvious, online instruction is burgeoning in higher educational institutions. The results of these studies clearly raise a concern about this trend. Students regularly report not liking on-line learning anecdotally. The data collected in these three studies support this dislike. However, despite this, the use of on-line learning grows and apparently with no concern for these issues. Further research on this topic in the context of a broader discussion of the implications of these findings is warranted.
Creating a Parallel Process: Teaching Experiential Therapies Through Experiential Learning

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Washington College
For further information, contact: aksommerfeld@gmail.com

Experiential treatment approaches are widely used in clinical practice (Maher, 2001). However, exposure to and training in these approaches is typically relegated to graduate school or continuing education opportunities for professionals. Because of this, many clinicians do not discover experiential therapies until later in their training or careers. This seems an unfortunate timeline, considering that certification in many approaches involves the completion of an approved master’s degree program. Given this, it would be worthwhile if undergraduate psychology programs introduced these approaches so that interested students could plan their future training accordingly. As far as I know, however, classes in experiential therapies at the undergraduate level are sparse at best. What follows is a description of the design and implementation of an undergraduate experiential therapy lab course, along with a review of course outcomes and challenges.

Course Objectives

Advanced Counseling Skills with Lab: Experiential Therapies (PSY 494) was piloted in the Spring 2016 semester to nine upper-level psychology majors at a small liberal arts college. The course was designed to introduce students to the history of and theory underlying seven experiential approaches, including: Art therapy, Dance/Movement therapy, Music therapy, Psychodrama, Wilderness therapy, Adventure therapy, and Equine-Assisted therapy.

Course Design

Experiential therapies are unified by the philosophy that change grows from experience. To parallel this perspective, I integrated experiential learning opportunities (Wurdinger & Carlson, 2010) so students could understand the theories and techniques of experiential approaches and also participate in those approaches. This was achieved through the support of a grant from the college’s Center for Teaching and Learning, and from my department’s supplemental teaching funds, which allowed experts in each experiential approach to run mock therapy sessions for students.

By participating in mock therapy sessions, students were able to reflect on their personal experience of participating, and from that personal perspective, consider the strengths, weaknesses, and applicability of each approach. In addition, by participating in mock sessions, students had the opportunity to build empathy around what these approaches may feel like for clients.

Course Sequence and Sample Activities

The course met for 50 minutes on Monday, Wednesday, and Friday mornings, with a 3-hour lab on Wednesday afternoons. The course topics and activities were organized as follows:
<table>
<thead>
<tr>
<th>Topic</th>
<th>Lab Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeks 1-3: Introduction</td>
<td>Each student planned a 10-minute activity that served as an introduction of himself/herself to the group. Sample activities included a yoga session, making pizzas, etc.</td>
</tr>
<tr>
<td>Weeks 4-5: Adventure therapy</td>
<td>Individual and group problem solving activities at a local camp and state park facilitated by the course instructor and camp personnel (2 hours each).</td>
</tr>
<tr>
<td>Weeks 6-7: Dance/Movement therapy</td>
<td>Dance/movement sessions (1.5 hours each) taught by two different licensed Dance/Movement Therapists.</td>
</tr>
<tr>
<td>Weeks 9-10: Equine-assisted therapy</td>
<td>2 hour Equine-Assisted Psychotherapy session run by two EAP practitioners at a local stable.</td>
</tr>
<tr>
<td>Weeks 10-11: Wilderness therapy</td>
<td>1.5 hour outdoor exploration with emphasis on mindfulness led by course instructor.</td>
</tr>
<tr>
<td>Week 12: Art therapy</td>
<td>Presentation and 1 hour group art therapy session facilitated by a licensed Art Therapist.</td>
</tr>
<tr>
<td>Week 13: Music therapy</td>
<td>2 hour group music therapy session facilitated by a licensed Music Therapist.</td>
</tr>
<tr>
<td>Week 14: Psychodrama</td>
<td>1.5 hour group psychodrama session facilitated by a licensed Drama Therapist.</td>
</tr>
<tr>
<td>Week 15: Wrap up</td>
<td>Overnight at natural resource management area. Students presented their final group projects and participated in wilderness therapy activities.</td>
</tr>
</tbody>
</table>

**Course Assignments**

Course grades were assigned based on four assignments:

- **Participation:** Students were required to contribute to and, at times, lead discussions. To reflect the importance of this engagement, students’ participation was evaluated each class on a scale from 0 (Disengagement with class) to 2 (Effective engagement).

- **Lab reflections:** Students were required to write reflective journals after four mock sessions of their choosing. The reflections were to be 3-4 pages in length, addressing what occurred in the session, their reaction to the session, and for which issues and populations they believed the type of session would be helpful/unhelpful.

- **Exams:** Students completed two essay exams that assessed their understanding of the history, principles, and similarities and differences among the experiential approaches covered in the class.

- **Final group project:** Each group of three students designed an experiential activity and led their classmates through that activity. Groups also created a 7-10 page treatment manual to accompany the activity, which included: Description of the activity; Literature-based rationale for the activity; Goals of the activity; Responsibilities and qualities of the therapist; and For whom and in what context(s) the activity is appropriate.
Course Outcomes

Student responses to course evaluations indicated the course was overwhelmingly successful. For example, students provided the following ratings on course evaluations:

<table>
<thead>
<tr>
<th>Evaluation item</th>
<th>Average student rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Careful attention appears to have been given to the design of this course</td>
<td>4.8/5</td>
</tr>
<tr>
<td>This course increased my knowledge in the field</td>
<td>4.9/5</td>
</tr>
<tr>
<td>The course raised challenging questions or issues</td>
<td>5/5</td>
</tr>
<tr>
<td>The laboratory component was an important and useful part of my learning the material</td>
<td>5/5</td>
</tr>
<tr>
<td>I would recommend this course to other students</td>
<td>5/5</td>
</tr>
</tbody>
</table>

Qualitative comments supported these ratings, with students sharing the following:

- “This class was different from any other class I have ever taken. It pushed my boundaries and it made me work so hard. I learned so much about myself during this semester thanks to this class”
- “It has been one of the most interesting, fun, frustrating, and eye-opening classes I have ever taken. I really enjoyed the content and the lab component especially.”
- “This class taught me more than I ever would have thought about the client’s general experience in a counseling setting and I can definitely say my counseling skill set increased.”

Course challenges

The design and implementation of the course presented numerous challenges for both the students and the instructor. Challenges for the students were primarily caused by the amount of effort and risk taking that experiential learning involves. Students shared that participating in the mock sessions required them to step far outside of their comfort zones, which at times made them feel vulnerable. Balancing the emotional demands of the class with the intense academic requirements also left the students feeling as though the workload was quite challenging. In the end, however, students felt that their hard work was worthwhile.

For the instructor, challenges arose particularly during the planning of the course. Because the course relied on outside experts to lead the majority of the labs, considerable prep time was involved. For example, identifying experts, coordinating their schedules, ensuring they had necessary materials on hand, etc., all took substantial time. In addition, although most of those experts were willing to conduct the sessions for free, I thought it was important they be compensated. Because of this, I had to secure funding from within and outside of my department. Like the students, however, expending the time and effort to design and teach the course was well worth it. It was extremely fulfilling to see student’s interests and their reflective capabilities
develop. What is more, the students were extremely excited and engaged throughout, which further reinforced my own enthusiasm about the course.

References


Biographical Sketch

Amanda Sommerfeld Case, Ph.D. is an Assistant Professor of Psychology at Washington College in Chestertown, MD. She earned her doctorate in Counseling Psychology from University of Wisconsin-Madison, after which she was an Assistant Clinical Professor at Boston University and an Assistant Professor at Wayne State University. At Washington College, Dr. Case predominantly teaches courses that comprise the clinical/counseling concentration of the psychology major, including Theories and Processes of Counseling, Psychopathology I, Multicultural Counseling, and various special topics courses. Dr. Case’s research examines the ways in which personal and contextual factors affect educational outcomes, especially for lower income students. In particular, she examines how intra- and inter-personal factors are fostered within and outside of schools and how these factors lead to college access and degree attainment.
Bangasser and colleagues (2016) noted that undergraduate psychology programs should facilitate students' professional development, such as helping them transfer their skills to various work settings. Indeed, the American Psychological Association's (APA, 2013) Guidelines for the Undergraduate Psychology Major (Guidelines) now recommend emphasizing “studying psychology as a strong liberal arts preparation for the workforce” (APA, 2016, p. 103) to help students compete in the marketplace. Ideally, training in professional development should begin in the introductory psychology course, which is required for nearly all undergraduate psychology majors (Gurung et al., 2016).

Based on their review of introductory psychology textbooks, Anderson, Eiler, and Rajecki (2003) urged authors and publishers to provide more career-related information, particularly for those with a bachelor's degree in psychology. Rajecki and Anderson (2004) reviewed evidence suggesting that students desire greater access to career-related information, and further underscored the need for such information in introductory textbooks. Given these observations, along with the Guidelines’ (APA, 2013) emphasis on facilitating students’ professional development, we sought to determine the extent to which contemporary introductory psychology textbooks provide information on transferring competencies gained with an undergraduate psychology degree to various work settings. Specifically, we evaluated such textbooks’ inclusion of information pertaining to Guideline 5.1d, which states, “Describe how psychology’s content applies to business, health care, educational and other workplace settings” (APA, 2013, p. 33).

We reviewed 26 introductory psychology textbooks published between 2013 and 2017. Using a structured checklist to guide their evaluation, two individuals reviewed each textbook, looking for information regarding Goal 5.1d from the APA's (2013) Guidelines. After recording the title, author(s), year of publication, and publisher of each book, each reviewer evaluated its inclusion of content relevant to seeking employment with a bachelor's degree in psychology. Rather than reading each textbook in its entirety, reviewers systematically examined and recorded any content deemed relevant on the corresponding portion of the checklist, using the checklist to guide their review as follows: Table of Contents, Appendices, Special Feature Boxes (SFB, e.g., illustrations, graphics and boxes of text outside the main body of the text), Index, and Chapter 1.
For each textbook, reviewers examined the Table of Contents and recorded the names/content area of each chapter (e.g., Biology and Behavior) and appendix (e.g., Psychology at Work) while also recording the corresponding number of pages for each specific chapter and appendix. Reviewers examined all appendices and recorded any relevant content, including the word count and theme of the content. For each textbook, reviewers read the SFB in each chapter, looking for relevant content, and recorded the word count and theme of the content. If the book included relevant index terms (e.g., career, workplace, jobs, and professional development), the reviewer read the corresponding pages of the textbook and recorded the word count and general theme of the content. While reading Chapter 1 of each book, reviewers recorded any specific psychology subfields mentioned, along with the corresponding sentence count. Any discrepancies between reviewers regarding the textbook content were resolved via discussions between the two reviewers who had conducted the review, prior to entering data.

Two reviewers coded and entered data from the completed checklists into SPSS, entering data for one textbook at a time, based on whether or not specific items (i.e., book chapters, appendices, SFB’s, index terms, and mention of specific subfields of psychology in Chapter 1) were present, coding 1 for present and 0 for not present. If present, these two reviewers entered data for each variable as follows: page count for each chapter and appendix; word count for each SFB and for each relevant index term, and sentence count for subfields of psychology.

Median word counts for content related to Guideline 5.1d were zero for chapters, appendices, and special features. We also obtained a measure of total career-related content by summing word counts for chapters, appendices, and special features. The total word counts across the 26 textbooks ranged from 0 to 341, with a median of 43.5 words. Eleven textbooks (42.3%) contained no information at all related to the application of psychology to the workplace.

When textbooks did contain career-related content, it most frequently appeared within chapters rather than in appendices or special features. For the three textbooks that included appendices containing career-related content, no additional relevant content appeared in textbook chapters. Similarly, for the two textbooks that included career-related content in special features, no additional relevant content appeared in those textbooks. Content about psychology subfields ranged from 13 to 139 sentences across the sample of textbooks, with a median of 41 sentences.

Our findings suggest that introductory textbooks lack valuable information regarding career pathways in psychology. Given the importance of the introductory psychology course, the textbooks we select for this course could significantly impact students’ understanding of the discipline, including knowledge of career opportunities for those with an undergraduate degree in psychology. Noting that introductory psychology textbooks frequently emphasized “recruiting” students into psychology over providing career guidance, Anderson and colleagues (2003) called for greater coverage of career-related information in textbooks, particularly for students seeking employment at the bachelor’s level. Over a decade later, it appears that introductory psychology textbooks continue to fall short in this regard.

Notably, we did not evaluate every single introductory psychology textbook available, such as those published by smaller companies. Also, we examined select portions of each textbook for career-relevant information, rather than reading each book in its entirety. In follow-up studies, researchers could address these limitations by evaluating a broader sample of books and conducting a more extensive review of each book. Despite our study’s limitations, our findings suggest that most students will find little career guidance in their
introductory psychology textbooks. Those who teach introductory psychology and those
involved in curriculum development could advocate for change by encouraging authors and
publishers to include more career-relevant information in textbooks. For the time being,
however, educators should consider providing students with supplemental sources of such
information.

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service specialization: Preparing a competent workforce—recommendations from the
doi:10.1037/tep0000117

Strengthening introductory psychology: A new model for teaching the introductory course.


Biographical Sketches

Kimberly Stark is a Professor in the Department of Psychological Science at the University of
Central Missouri and is licensed as a psychologist in the state of Missouri. She earned her
Ph.D. in Counseling Psychology from Southern Illinois University at Carbondale after
completing her B.A. in Psychology and Spanish from the University of Minnesota-Morris.
She has taught courses including General Psychology, Abnormal Psychology, Orientation to
Psychology, Learning, Systems of Psychology, Personality, Psychopathology, and Ethics &
Professional Issues in Psychology. She has chaired numerous masters’ theses and routinely
serves as a thesis committee member. In addition to research related to the scholarship of
teaching, Dr. Stark is interested in applied research and diversity issues, such as factors
impacting body image and eating pathology, ethical & professional issues in psychology,
and vocational issues impacting disenfranchised groups.

Adam Runyan is a doctoral student studying Behavioral Neuroscience at the University of
Missouri St. Louis (UMSL). Adam received his BS in Psychology from South Dakota State
University in 2015. He then received his MS in General/Experimental Psychology from the
University of Central Missouri in 2017. Adam has been actively involved in research for four years and continues his research investigating the different reading styles in the traditional and non-traditional college populations at UMSL. He has presented research posters on topics such as the Differential Frontal Lobe Activity Associated with Violent Video Game Viewing (EEG), and other posters pertaining to brain imaging, learning, and memory. Adam continues in his role as a Graduate Teaching Assistant teaching a Research Methods Lab at UMSL and hopes to eventually become a faculty member at a university.

Tina Walker is a senior at the University of Central Missouri. As a part time student, she is working on a Generalized Studies major along with minors in Psychology and Business Administration. She plans to graduate by Spring 2019. Tina started conducting research as a sophomore and has presented her research multiple times at the annual APA Conventions as well as Great Plains Students' Psychology Convention (regional). In addition to research on careers with a bachelor's degree in psychology, her research topics have included: the roles of office professionals in advising, predicting grades from class attendance in lower and upper-level Psychology courses, college students’ perceptions of the relationship between attendance and grades, exam question order, and website adherence to APA Guidelines for Telepsychology. Tina has been the Office Professional in the Department of Psychological Science since 2005.

David S. Kreiner is Professor and Chair in the Department of Psychological Science, where he has taught since 1990. He earned his B.A. in Psychology and Ph.D. in Human Experimental Psychology from the University of Texas at Austin. He has taught courses including General Psychology, Orientation to Psychology, Research Design & Analysis I & II, History of Psychology, Advanced Statistics, Cognitive Psychology, and Sensation & Perception. His research interests include language processing, memory, and the teaching of psychology. He often collaborates with students on research projects and has coauthored publications and conference presentations with undergraduate and graduate students. He is a fellow of the American Psychological Association (Divisions 2 and 3), the Association for Psychological Science, the Midwestern Psychological Association, and the Psychonomic Society.

Makia Alghamdi is a senior Psychology student at the University of Central Missouri (UCM), minoring in Art. She has served as Psychology Club president and as Secretary of the Social Media Committee for the Department of Psychological Science and is currently Vice President of the Social Media Committee. She has worked alongside professors as a research assistant and teaching assistant. She was awarded the Jerome M. Sattler Best Research Project Completed as Part of an Undergraduate Psychology Course for her research entitled "The Reporting of Climate Change Attitudes and its Relation to Social Desirability Bias," which she presented at the Great Plains Psychology Conference. Her research interests include environmental issues, as well as addiction, mindfulness and creativity. She was awarded a certificate of Leadership Achievement from UCM. After graduating in May of 2017, Makia hopes to attend a dual master's program in Clinical and Art Therapy Counseling.

Kimberly King is a senior majoring in Psychology and minoring in Child and Family Development at the University of Central Missouri (UCM) and plans to graduate in December of 2017. She was selected to participate in the Ronald E. McNair Post baccalaureate Achievement Program, a program designed to prepare students for
graduate study. As a McNair Scholar, she has designed and conducted original research entitled *Sitcom Viewing and Rape Myth Acceptance among College Students*, under close faculty supervision, and will present her research at UCM's Scholars Symposium and the Heartland McNair Conference during Fall 2017. While being a full-time student and working, Kimberly has maintained a 3.9 GPA and has been on the Dean’s list for seven consecutive semesters. She is a member of Psi Chi and UCM’s Chapter of the American Foundation of Suicide Prevention. After completing her bachelor’s degree, she plans to pursue graduate study in Social Work.
Introducing High School Students to Human Factors Psychology through the Eyetrackers Summer Program

Marcia Rossi
Alabama State University
M. Javed Khan & Fan Wu
Tuskegee University
Christine Schnittka
Auburn University

Presented at the 125th American Psychological Association Annual Convention
August 3-6, 2017, Washington DC.
For further information, contact: Marcia Rossi at mrossi@alasu.edu
Teaching Psychology to Enhance Acceptance into Doctoral Programs

Kristine M. Jacquin
Fielding Graduate University
Presented at the Division 2 Poster Session at the 2017 American Psychological Association Convention
For further information, contact: kjacquin@fielding.edu
Psych Out: Interactive and Adaptable Psychology Program for the Classroom and Community

Tifani Fletcher & Tammy McClain
West Liberty University
For further information, contact: tifani.fletcher@westliberty.edu
Benefits for Using “This I Believe” Essays in Psychology Classes

Nelson Adams
Winston Salem State University
Presented at: Association for Psychological Science, Boston, MA May 25, 2017
For further information, contact: adamsn@wssu.edu

Biographical Sketch: Nelson Adams

Nelson Adams graduated from the University of Missouri, Columbia prior to earning a Ph.D. in Experimental (Comparative) Psychology from the University at Albany, NY. He has taught a wide variety of psychology courses at Winston Salem State University during the last 35 years; and, he has developed several online courses, including a popular course on Drugs and Behavior during the last decade.

After many years of investigating social behavior, and the interaction of genotype and social stress in animal models applied to cardiovascular processes and alcohol preference, he has become interested in research on teaching. In recent years, he has written about positive psychology and its inherent overlap with the goals of applied behavior analysis in the community, and the need for implementing the tools of behavior analysis into research on positive psychology.

Abstract and Poster File (see attachment)

Teaching psychology often is enhanced by using the stories of real lives framed by the consequences of the actions we take and associated with beliefs we espouse. This paper explores how classroom experience may be enriched by listening to “This I Believe” essays that were originally read on radio programs (archive at www.thisibelieve.org), and then presenting one’s own essay to classmates. Moreover, assignments associated with essay themes may provide data that align with research on positive emotions, or on the effects of values-assertion on learning outcomes or student adjustment. Psychology students in a Senior Seminar course with a positive psychology theme, reported that they were challenged, comforted, uplifted, or simply enlightened by others’ ideas, and all seem impressed with the courage it took to make such a public assertion. Essays themes included Passion, Forgiveness, Laughter, Asking Why, Conversation, Resilience, Balance, and Friendship, which were associated with positive psychology character strengths.

References


Uses “This I Believe” essays in psychology classes may provide significant enrichment. Many psychological concepts are illustrated personally in brief recorded stories available in archives. The second, presenting one’s own essay may build camaraderie and empathy among classmates. Positive effects of values assertion may also be researched in this context.
Scalable growth mindset interventions at the college level: A longitudinal study.

Brian D. Bergstrom, Shirley A. Ashauer, Tammy M. Gocial, & Dustin R. Nadler
Maryville University, St. Louis

Biographical Sketches:
Dr. Brian Bergstrom is an Assistant Professor of Psychology at Maryville University. His research interests are grounded in biological/evolutionary perspectives on human cognition, and how educational and cultural influences interact with cognitive and motivational systems to influence academic success. He is currently studying “wise interventions” among first-year college students to promote optimal classroom learning (e.g., pairing stress reappraisal with retrieval practice strategies). He teaches courses in Evolutionary Psychology, Biological Psychology, and Human Cognition. He is a member of the Association for Psychological Science, and the faculty advisor for Maryville’s Psi Chi chapter.

Dr. Shirley Ashauer is an Associate Professor of Psychology at Maryville University. Her research interests, broadly speaking, involve learning and adaptation processes at the individual and team levels in organizations. She is currently conducting research on whether a metacognitive self-regulatory strategy of mental contrasting with implementation intentions can promote students’ use of retrieval practice for optimal learning. She teaches courses in Organizational Psychology, Social Conflict and Negotiation, and the Senior Seminar thesis. She is a member of the Association for Psychological Science and the Society of Industrial-Organizational Psychology.

Dr. Tammy Gocial is an Assistant Professor of Higher Education Leadership and Associate Academic Vice President at Maryville University. She has taught courses in higher education leadership development, research methods, legal/policy issues in higher education, and life-span development. As a developmental psychologist, her research interests focus on self-authorship and growth mindset among college students and how these contribute to student success, the impact of implicit bias on leadership, and leading change in higher education.

Dr. Dustin Nadler is an Assistant Professor of Psychology at Maryville University. His research and teaching focuses on effective teaching and student learning, as well as workplace issues, all centered around promoting Social Justice, especially applied to gender and diversity issues. He also works to promote and facilitate research among undergraduate students through the Social Science Research Organization at Maryville University and working with students on their own projects.

Abstract
Although many factors influence college student learning and success, psychological science has identified implicit theories of intelligence (having a “growth” versus a “fixed” mindset) as an important contributor (Dweck, 2006; Walton, 2014). With a sample of university sophomores, we evaluated the longitudinal efficacy of a scalable, online workshop intended to enhance academic success by fostering a growth mindset (compared to a rigorous placebo/control online study skills intervention). Both conditions emphasized prospects for change (academic improvement), but only the mindset intervention targeted implicit theories of intelligence. Students exposed to the mindset workshop showed an immediate increase in intelligence malleability beliefs, but not students exposed to the study skills workshop. At six-week follow-up, the mindset difference persisted (though smaller), and the mindset group also showed an increase in grit (compared to study skills group).
These results contribute to the growing literature showing the potential for scalable interventions to transform academic success.

Suggested readings/resources:


Scalable Growth Mindset Interventions at the College Level: A Longitudinal Study

Maryville University, St. Louis

Introduction

The goal of this study was to assess the efficacy of a new academic intervention for college students: a scalable, online mindset workshop intended to enhance student learning and success. While more than a dozen interventions exist, recent research has identified implicit theories of intelligence ("mindsets") as important in understanding student effort to persist through academic struggle and ultimately succeed (Stipek et al., 2002; Robinson & Pat, 2018; Yeager & Dweck, 2012).

Scalable Mindset Interventions

Interventions aimed at helping students develop a growth mindset (the belief that intelligence can be developed through perseverance, effort, and learning) have been shown to improve academic outcomes such as resilience, GPA, and perseverance (Dweck, 2015).

Recently, scalable interventions that impact a large number of students at once have been designed to help students develop their mindset strategies (i.e., positive interpretations when confronted with a bad grade or difficult assignment). Building on this research, we developed an online growth mindset workshop for college students, and assessed its longitudinal impact against a measure of placebo control (study skills workshop).

Hypothesis

While the ultimate goal of the study was to promote a growth mindset on college student learning outcomes (including improved GPA and student retention), our main hypothesis was that making teaching students about the appraisal process undergoing a growth mindset would foster an increased belief in the malleability of intelligence, CI increase "m" CI increased persistence for the achievement tasks included (reflecting an improved orientation as an avoidance orientation).

Methods

- Seventy-three undergraduates students participated, as partial completion of a course requirement. CI class of 25 completed all three phases of the study. There were randomly assigned to a final condition (the belief that intelligence is fixed and unchangeable) or an interaction condition (CI increase or CI increased persistence for the achievement tasks included, reflecting an improved orientation as an avoidance orientation).

- Workshops: Similar to previous interventions (Dweck, 2006; Yeager & Dweck, 2012), the CI workshop taught CI growth mindset strategies via a single white paper and videos on self-endorsements, and then incorporated reflection exercises designed to foster positive interpretation and self-endorsements of the mindset material. Each workshop was delivered through engaging video interactive and self-endorsement exercises. The coordinators took part in the CI workshop preparation. The CI workshop focused on CI growth mindset strategies, but was otherwise matched on all other workshop materials.

- Both workshops were conducted in class, on iPad, and administered on Quizzes. Participants were provided earbuds for additional privacy, and allowed to save information from other sessions.

Results

Changes in CI were assessed at Time 1, Time 2, and Time 3. The CI intervention was designed to promote CI growth mindset strategies (CI increase or CI increased persistence for the achievement tasks included), reflecting an improved orientation as an avoidance orientation.

Conclusion

For students who understood the online workshop, an increase in the belief that intelligence is fixed or malleable was observed (not for those who understood a study skills workshop). This boost in CI occurred immediately following the workshop, though at follow-up it had faded to nonsignificance. Other, however, all increased for the CI group at follow-up. No differences were observed on the GRI score at follow-up. No differences were observed on the GRI score at follow-up. CI increase for CI growth mindset manipulation, which emphasizes on improving academic performance through study strategies. It is possible that the CI intervention encouraged improved self-regulation characteristics that would counteract the GRI (CI increase was also encoded on the CI group, not the control group or no treatment).

Future Research

Directions for future studies include (1) more diverse content workshops that promote a greater sense of change in growth mindset, (2) assessing workshop efficacy among returning freshman before greater student variability occurs, greater means for workshops to have a measurable impact, and (3) using more sensitive measures that account for change in the implicit/appropriate level rather than explicitly measured level.

References


“Why doesn’t s/he just leave?” An exercise for developmental psychology to illustrate the realities of domestic violence.

Melinda C.R. Burgess & Kortney S. Merrell
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INTRODUCTION

In the US, more than 20,000 calls are placed to domestic violence (DV) hotlines every day. For outsiders, one of the most pervasive misunderstandings is, ‘why doesn’t s/he just leave?’ Victims do leave, but, all too often, are forced by circumstances to return (National Coalition against Domestic Violence). This exercise was designed to illustrate the difficulties that victims face in leaving an abusive situation.

PREPARATION

This takes two days of class; the first for the activity and debriefing and the second for continued discussions and questions about the DV materials (statistics, laws, psychological explanations, treatment options, etc.) provided before-hand. We gave students one week of notice through in-class announcements and postings in the course management system. We selected three students to receive special instructions; they were asked privately if they were comfortable with the scenario and given 48 hours to decide.

ACTIVITY

On designated days the scenarios, green money cards, and yellow good-will cards were distributed. It is important to distribute a variety of resources including too few to some participants. ‘Money’ is required to hire an attorney, file for divorce, buy clothes for their children, rent an apartment, and pay for a hotel. Certain areas around the classroom are designated as Apartment, Hotel, Local Shelter, Distant Shelter, and Friend’s house. Everyone begins in their seat, which is considered “Home”. The scenario progresses through escalating events and at the end of each step the students have to choose whether to leave home, go to a friend’s house/hotel/apartment/shelter, or return home. When students run out of resources they must return home.

SCRIPT

The script was created by OK District Attorneys based real cases. It moves through 15 steps of escalating violence. Medical attention is not required for the violence (pinching, slapping, hitting with a hammer, slamming head into car door frame), and no arrests are made. It includes destruction of property, harm to animals, and threats to kill the spouse. The victim loses their job for absenteeism, lateness and disruption from the spouse. The abuser cancels ATM/credit cards of the victim. The abuser threatens to kidnap (and potentially kill) the children.
SCENARIOS

All but three students receive the following: You are 35 years old and have been married for 15 years. You and your spouse have 3 children: Gabby age 5, Maya age 8, Bobby age 14. Maya has severe asthma requiring frequent trips to the ER, extremely expensive medications and regular doctor visits. You are devoutly religious. You and your family live in a modest home in a rural area. You and your spouse work full time jobs. You have a Labrador retriever, named Rover.

Two women receive the following additional information:

• #1: Once your husband starts physically abusing you, you want to get out but with your daughter’s medical needs you cannot afford it. Since you cannot provide for Maya's medications, your husband threatens to take you to court as an unfit parent. No matter what happens you stay with your husband to protect Maya, and keep your children with you.

• #2: When your husband starts abusing you, you speak with an exceptional friend for advice and help. She advises you to leave and she opens her home up to you, your three children, and your dog. Your friend supports you through whatever you need. Your parents, although they live out of state, provide the financial assistance necessary to pay for medicine, attorneys and school. You are able to get back on your feet and even able to finish school. You become a paralegal and start working at the DA’s office on DV cases.

A male received the additional information:

• You work as a firefighter in a small rural area. You wife is very jealous and controlling. She has started getting angry with you for working nights and the arguments between the two of you have escalated to her slapping you and threatening to kill herself if you leave. You have talked with your co-workers looking for advice, but they only make fun of you and tease you for allowing a little woman to push a big guy around. You have gone to your pastor for advice as well, but he only says, “man up” and be the head of the house, and he also counsels you about the sin of divorce. You do not have any family close by, and given the reaction of those you reached out to you decide to stick it out with her for the children. No matter what happens you stay at home.

DISCUSSION

This is an intense activity with powerful reactions. There are two primary benefits. First, students see how difficult leaving can be because of practical considerations those outside the situation fail to consider. The second benefit is academic; this activity elicits questions in ways other presentation formats might not. Students expressed surprise at how few options they had. Some concern was expressed that this did not adequately address violence against men, in spite of the fact that the scenario was written in a gender neutral format. Our scenario contains an interaction with clergy where the victim is reminded of the life-long commitment made in a marriage. Students found this surprising and distressing, even though it is not an uncommon reaction in this part of the country. No matter how much preparation students are given, unexpected questions and reactions can emerge. Make sure students understand they can leave at any time (with the request to
please email the faculty member and let them know how they are), and have information about available resources such as counseling offered on campus. Some students will resist the structure of the scenario (e.g., “can’t I just live in my car?”).

RESOURCES

National Coalition Against Domestic Violence:  www.ncadv.org
The National Domestic Violence Hotline:  www.thehotline.org

APPS

Aspire News: whengeorgiasmiled.org/the-aspire-news-app/
www.stopharassingmenow.com

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Biographical Sketches

Melinda Burgess is a Professor of psychology at Southwestern OK State University. She received her Ph.D. from Florida State University in Experimental Psychology. She primarily teaches developmental and social psychology. Her research investigates how stereotypic media presentations of women and minorities influences both treatment of them and their own behaviors.

Kortney Merrell is a graduate of Southwestern OK State University. She is currently pursuing a Master’s in Public Health. She is interested in working with adolescents and developing programs to foster healthy choices by teens regarding sexuality and relationships.
Engaging Intro Psych Students in PSYCH+Feminism: A Wikipedia Year of Science Initiative

Elizabeth S. Che & Patricia J. Brooks
The College of Staten Island, CUNY & The Graduate Center, CUNY
Sabrina M. Walters
The College of Staten Island, CUNY
Christina Shane-Simpson
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Biographical sketch of the authors:

Elizabeth S. Che is a doctoral student in the Educational Psychology program at The Graduate Center, CUNY. She serves as the deputy chair of the Graduate Student Teaching Association, an organization within Division 2 of the American Psychological Association. Her research interests include language development, creativity, and pedagogy. She is an active Wikipedia editor and has created materials for instructors to use when implementing the WikiProject: PSYCH+Feminism in undergraduate classrooms.

Sabrina M. Walters is an undergraduate research assistant in the Department of Psychology at the College of Staten Island, CUNY. She participated in the Collegiate Science and Technology Entry Program (C-STEP) and helped in preparing course materials for the WikiProject: PSYCH+Feminism.

Dr. Christina Shane-Simpson is Assistant Professor of Psychology at the University of Wisconsin, Stout and a research fellow with the non-profit think tank, New Knowledge Ltd. Her research program focuses on human-computer interaction, and explores topics such as barriers to technology access and use by marginalized populations, gender identity in online spaces, and potential costs and benefits from use of social network sites. As a researcher-educator, Dr. Shane-Simpson examines the impact of innovative instructional technology and teaching methods in higher education classrooms and incorporates such methods in her own classes. She is co-editor of the recent e-book *How We Teach Now: The GSTA Guide to Student-Centered Teaching* (Society for the Teaching of Psychology, 2017).

Dr. Patricia J. Brooks is Professor of Psychology at the College of Staten Island, CUNY, where she directs the Language Learning Laboratory. She serves as the Deputy Executive Officer of the CUNY PhD Program in Psychology (Area: Pedagogy) and Faculty Advisor to the Graduate Student Teaching Association of the American Psychological Association. Her research interests are in two broad areas: (1) individual differences in language learning and development over the lifespan, (2) development of effective pedagogy to support diverse learners. She has co-authored/co-edited four books including *Cognitive Development in Digital Contexts* (Academic Press, 2017) and *How We Teach Now: The GSTA Guide to Student-Centered Teaching* (Society for the Teaching of Psychology, 2017).
150-word abstract + original poster PDF:

The APS Wikipedia Initiative encourages teachers of psychology to involve students in editing Wikipedia articles to foster the development of research skills while improving Wikipedia’s coverage of psychology-related content. This poster describes the PSYCH+Feminism initiative launched as part of Wikipedia’s Year of Science: https://en.wikipedia.org/wiki/Wikipedia:WikiProject_Women_in_Psychology.

PSYCH+Feminism targets the gender gap in Wikipedia coverage by providing a go-to list of over 400 award-winning women in Psychological Science who currently lack or have poor quality biographies on Wikipedia. We summarize the experiences of Intro Psych students (N=41) at a public university who collectively edited 21 new Wikipedia biographies about women in psychology, and describe the tools used to scaffold the assignments. We contrast students’ initial insecurities about contributing valid content and concerns that Wikipedia is a poor information source with their end-of-semester reflections. We conclude by emphasizing the utility of Wikipedia editing for engaging students in information sourcing, critical thinking, and scientific writing.

Suggested Resources:


Traphagan, T., Traphagan, J., Dickens, L. N. & Resta, P. (2014). Changes in college students’ perceptions of use of web-based resources for academic tasks with Wikipedia projects:
The Effects of Autobiographical Growth Narratives on Math Performance in Women

Eva Frishberg & Thomas Hutcheon  
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Biographical Sketch: Eva Frishberg is an undergraduate psychology major at Bard College. Aspects of this work were drawn from Eva’s senior project. Tom Hutcheon is a visiting assistant professor of psychology at Bard College. He received his Ph.D. in Cognition and Brain Science from the Georgia Institute of Technology in 2014. His research focuses on cognitive control, cognitive aging, and student experience within the college classroom.

Summary:

Fixed mindset is characterized by the belief that intelligence is genetic and cannot improve over time (Dweck, 2000). Having a fixed mindset is associated with less persistence and overall lower performance on a variety of academic and non-academic tasks. Manipulations intended to increase growth mindset in individuals have successfully led to increased performance and persistence (Dweck, 2000; Dweck & Leggett, 1988). However, existing interventions tend to be short-lived and are often reliant on external instruction, typically in the form of lectures or articles providing evidence for the malleability of intelligence. These interventions may be effective in the short-term, but a method that utilizes self-generated growth mindset evidence may lead to longer-lasting internalization of growth mindset. This study seeks to increase the internalization of growth mindset through the narration of personal growth experiences (Aronson, 1999; Wilson, 2011). By narrating personal experiences of effortful growth, individuals will self-persuade and motivate themselves to persist on a task through the narration and internalization of growth tenants.

Existing research indicates that women have the tendency to suffer from stereotype threat in the domain of mathematics, such that they implicitly believe themselves to be innately inferior to math compared to men (Aronson, Fried, & Good, 2002; Spencer, Steele, & Quinn, 1999). This stereotype threat has the potential to handicap women's performance, thus proving the stereotype correct. This false stereotype that women internalize may be underlied by a fixed mindset, which would suggest that math is some innate and fixed talent or skill, not one that can be developed over time. Supporting this claim, studies that target mindset have shown that holding a growth mindset may actually insulate women from stereotype threat (Dweck, 2008). Therefore, an intervention
which internalizes and personalizes growth mindset in women would presumably combat math stereotypes, which reflect fixed mindset in math domains.

In the current study, we applied the use of growth narratives to women’s math performance. Using an online sample of 164 self-reported female participants drawn from Amazon’s Mechanical Turk, we first measured participant’s personalized theories of intelligence to assess whether participants held either growth or fixed mindset about math (De Castella & Byrne. 2015). Next, participants either read an article supporting growth mindset tenants, generated an autobiographical narrative detailing an experience of growth (growth narrative), or wrote about a time when they did something positive (high-point narrative). Participants then completed a difficult math assessment and provided self-report ratings of task effort, task enjoyment, and task engagement (Harackiewicz & Elliot, 1993). Consistent with existing results (Dweck, 2000), initial mindset was positively correlated with scores on the math assessment as well as measures of task involvement, task effort and task enjoyment. Specifically, participants with growth mindset tended to perform better on the math test and to reported higher levels of involvement, effort, and engagement with the task compared to participants with fixed mindset. In addition, generating a growth narrative prior to completing a math assessment lead to higher math performance, task effort, task enjoyment, and task involvement compared to generating a high point narrative and led to similar performance as reading a growth article.

In summary, generating a narrative of growth experience prior to completing a difficult math assessment led to improvements in performance and effort that were comparable to benefits observed in existing mindset interventions. Therefore, we feel that the use of self-generated growth narratives is one more tool to combat fixed mindset, particularly with regards to women in mathematics. The simplicity and accessibility of this self-generated intervention, compared to existing mindset interventions which require materials and facilitation, makes this a promising technique for implementation in the classroom. Future research will focus on understanding the durability of mindset interventions over time.

References


Review Quizzing in Face-to-Face Courses: Students Prefer Graded or Ungraded to Pop Quizzes, but No Differential Impact on Long-Term Learning

Kamil Hamaoui
Westchester Community College

Empirical studies have established that the testing effect is an effective strategy for improving long-term memory (Brown, Roediger, & McDaniel, 2014; Roediger, Smith, & Putnam, 2011). In short, we can improve our ability to remember information, concepts, and skills when we test ourselves during learning. In terms of the stage model of memory, if we repeatedly practice retrieving a memory from long-term memory into working memory, it becomes more firmly consolidated in long-term memory, preventing future forgetting.

Most studies of the testing effect have been conducted in the lab, under carefully controlled conditions, which calls the external validity of the effect into question. However, in recent years, researchers have examined the applicability of the testing effect to the classroom setting. The testing effect can be used in the classroom by administering quizzes on content that students have already learned, whether through reading, lecture, or some other activity. These quizzes can be multiple-choice, short-answer, etc. and may be administered at the beginning of class, at the end, or integrated throughout coverage of content. Do review quizzes lead students to better learn and remember course content? Will students who are quizzed perform better on comprehensive exams?

Findings from applied studies on the testing effect are mixed, but Nguyen and McDaniel (2015) present some general conclusions in their review of the existing literature. Quizzing does improve exam performance when the exam questions are the same or similar to the quiz questions. However, it seems that there is no improvement if the exam questions test on the same topic as the quizzes, but on different concepts.

This suggests that if we want to make maximum use of the testing effect to improve student learning, we should quiz students on all the concepts we want them to learn. This isn’t feasible, however. As it is, without any class time devoted to quizzing, we struggle with the issue of what content to cover given time constraints. This raises several questions: Can quizzing serve a purpose beyond the testing effect? Will having periodic review quizzes on some concepts motivate students to study outside of the classroom in a way that benefits their long-term memory of the material studied? Does it make a difference if quizzes are graded or ungraded?

To address these questions, I conducted an experiment on the effects of different types of review quizzes on long-term learning in three sections of my General Psychology course at Westchester Community College. I administered periodic short-essay quizzes testing students’ (n = 75) understanding of specific concepts covered during the previous class sessions. Quizzes were scheduled and designated as counting towards the course grade (graded), not counting towards the course grade (ungraded), or potentially counting towards the course grade (pop). For the latter condition, a coin toss just prior to the quiz determined whether the quiz would be graded or not. A Latin square design was used to control for differences in the difficulty of topics and order effects. Specifically, each quiz condition was assigned to a different topic (sensation and perception, learning, or memory) in each of the three sections, and each quiz condition was assigned to a different time in the term (first, second, or third) in each of the three sections. Unannounced, practice tests
consisting of short-essay questions were administered halfway through the term and at the conclusion of the term. These tests included questions on the same topics as the review quizzes, but on different concepts. I predicted that students would perform better on the topics which had preceding graded or pop review quizzes than ungraded quizzes, thinking that students would study these topics more in preparation for those quizzes.

No significant differences in test scores between the different quiz conditions were found, however. Evidently, the type of studying that students did in preparation for graded or potentially graded quizzes was not beneficial to their long-term learning relative to the type of studying, if any, that students did in preparation for ungraded quizzes. It’s likely that most students simply read over their notes for a few minutes right before the quiz as they were waiting for class to begin. Reading and understanding what is being read in the moment is not the same thing as learning and remembering something in the long term. Also, “massed practice,” familiar to students as cramming, is not as effective as “distributed practice” or spacing out one’s studying in smaller learning sessions (Brown, Roediger, & McDaniel, 2014).

Ironically, at the end of the term, students reported that they thought the graded or pop quizzes were best for learning because they studied more. This suggests that students do not have insight into the studying strategies that are required for long-term retention of course content. Students also reported a strong dislike for the pop quizzes. They preferred predictability, either knowing that a quiz would be worth points or not. If it was worth points, they reported being more motivated to study and felt rewarded for their studying. If it was not worth points, they felt less anxiety and could focus on other classes.

Given these findings, I recommend using ungraded quizzes for review purposes. Doing so has multiple benefits. If exams have similar questions to the quizzes or test on the same concepts, the testing effect will boost students’ learning and performance on the exams. And, a few studies have found that ungraded quizzes actually produce a stronger testing effect than graded quizzes (Khanna, 2015; Wickline & Spektor, 2011). Review quizzes can be used to incentivize attendance and create a more orderly beginning and end to the class session. If attendance is required for a course, quiz response sheets can be collected and used for attendance. If attendance is not required, quizzes can be offered as all-or-none extra credit. One last benefit is that review quizzes, along with immediate feedback, can serve as a valuable formative assessment tool. If quizzes consist of short-answer questions, after students write their responses, the teacher can ask students to share what they wrote and then evaluate the responses in class, pointing out weaknesses in intellectual standards such as clarity, accuracy, precision, depth, and breadth (Paul & Elder, 2000). This way students can learn how their thinking and test-taking can be improved.

References


Biography

Kamil Hamaoui is a professor at Westchester Community College in Valhalla, New York and teaches General Psychology, Human Sexuality, Abnormal Psychology, Behavioral Statistics, Developmental Psychology: Lifespan, and Theories of Personality—Honors. Prior to arriving at WCC in the Fall of 2013, he lived in Seattle, Washington and taught as a full-time psychology instructor at Everett Community College for eight years. Dr. Hamaoui received his PhD in Psychology from the University of California, San Diego in 2006 and conducted research in the area of music perception and cognition. Prior to that, he studied classical music at the University of Southern California, where he received a BA in Music. Currently, he has a strong interest in the teaching of critical thinking and has conducted several studies on teaching and learning while at Westchester Community College.
Model Advisement Procedures (MAP) for Undergraduate Psychology Majors

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Dr. Marya Howell-Carter is an Associate Professor and Chairperson of the Department of Psychology at Farmingdale State College. She is a NY licensed clinical psychologist with a specialization in adolescent, young adult and family psychotherapy. Her teaching responsibilities include Individual and Group Counseling, Abnormal Psychology, Psychology of Women, and Cross-Cultural Psychology. Her current research interests and publications are in the areas of pedagogy, career development, and perceptions of people from multiracial backgrounds. Marya is the APA liaison for Continuing Education for the Westchester Center for Psychological Education and a member of several professional organizations including the American Psychological Association, the Association for Psychological Science and the Society for the Teaching of Psychology.

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Dr. Gonder is an Associate Professor and Director of the Applied Psychology Program at Farmingdale State College. She earned her PhD in Applied Organizational Psychology from Hofstra University and is a licensed New York State Psychologist. Dr. Gonder is the chairperson of Farmingdale's Institutional Review Board and serves as an outside consultant for a psychological risk management company. Her research programs focus on consumer psychology and pedagogy, and her work has led to more than 40 conference presentations. She belongs to several professional associations, including the Society for the Teaching of Psychology and the Association for Psychological Science.

Model Advisement Procedures (MAP) for Undergraduate Psychology Majors

The Psychology Department at Farmingdale State College redesigned its academic advisement procedures to incorporate more career exploration and career counseling activities. The goal is to help students better plan and prepare for their senior project experience and life after graduation.

Background

Results from a Graduate Exit Survey completed by the first graduating class of the Applied Psychology Program (2012) at Farmingdale State College revealed that 100% of students were satisfied with academic advisement, Senior Project, and preparation for graduate school and entry-level employment. However, when surveyed just one year later, only 65% believed that the Applied Psychology Program helped them achieve their career goals.
The desire to address these concerns coincided with the implementation of college-wide academic advising software. The Department recognized the opportunity to redesign advisement to improve career development, internship selection, faculty rapport, and post-graduation preparation.

We developed a comprehensive “MAP” (Model Advisement Procedure) to guide students through the major. The map orients students to the program and course sequence, troubleshoots career decision making problems, and provides an array of career/graduate school resources.

**MAP Materials**

The MAP is a set of comprehensive worksheets that “map” out students' progress through the Applied Psychology Program. It is designed to:

- Familiarize students with the program and its goals
- Outline courses and when they should be taken
- Provide opportunities to explore psychology as a profession
- Provide opportunities for self-reflection
- Provide career exploration and development resources
- Provide opportunities to explore what people with psychology degrees can do outside of psychology
- Help students recognize the skills valued by employers
- Address career decision-making problems
- Help students plan for Internship/Senior Project earlier in the Program
- Provide resources to prepare for graduate school

**Measures**

Prior to advisement, all Applied Psychology majors were required to complete multiple career inventories and report their career certainty, career exploration activities, preparedness for Senior Project, and general perceptions about advisement/advisors in the Psychology Department. These measures were designed to help faculty identify areas of difficulty and thus intervention.

Additional measures included:

- The Career Decision Making Difficulty Scale (CDDS)
- A career certainty assessment tool
- Subjective and objective measures of career information/knowledge

Data has been collected four times thus far:

- Pre-MAP/Baseline: Fall 2014 (n = 126)
- Post-MAP: Spring 2015 (n = 111); Fall 2015 (n = 120); and Spring 2016 (n = 100)

**Baseline Data**

Pre-MAP data indicated that our majors were experiencing some career uncertainty, primarily due to a lack of career-relevant information. Despite this uncertainty, students did not report engaging in many career exploration activities to improve preparedness. Thus, our new advisement procedures have the potential to make a significant impact on the career exploration activities and the career preparation of our majors.

**Post-Implementation Data**
The MAP is a long-term initiative to be administered during advisement every semester, over the course of Applied Psychology majors’ academic careers. Substantive changes between individual administrations are expected to be minimal. Rather, the impact should be cumulative over four years. In the three semesters since implementation we have found the following:

**Career Certainty:** The percent of students with no direction has decreased, with more students exploring career options. Students reporting “little” or “no” career direction decreased from 30.7% at baseline to 24.0% at the third administration. At baseline, uncertainty was attributed to a lack of information vs. inter/intrapersonal conflict. This trend has reversed since the implementation of the MAP, perhaps due to the influx of information describing diverse career options.

**Career Information:** At baseline, only 25.8% indicated that they had a great deal of information about the demands, requirements, and preparation needed for various career areas. This increased to 38.8% in S’16.

A range of performance was found on an objective, 8-item True/False test measuring career-relevant knowledge with an average number correct of 5.6 – 5.8 across administrations. Students continue to need additional objective information about Psychology careers.

**Career Exploration:** Despite continued career uncertainty, majors do not report engaging in many career exploration activities (e.g. attending career fairs and seeking opportunities to demonstrate work-related skills). Despite a lack of improvement over time, post-intervention data revealed that 14.4% of students engaged in these exploration activities because they were prompted during advisement vs. 5.6% at baseline.

**Senior Project:** Substantial improvements were noted in preparation and certainty regarding the requirements of the Internship/Senior Project course sequence. At baseline, only 12.5% of students reported that they understood the requirements for the senior project course and 9.6% felt they were prepared for the course. After 3 semesters, 40% report that they understand the course requirements and 28% report feeling prepared for the experience.

**Perceptions of Advisement:** Satisfaction with advisement was high at baseline and has shown incremental improvements with each administration of the MAP. However, an important finding related to students’ perceptions of advisement was that agreement with the prompt “Advisors provide career guidance” increased from 3.9 to 4.3 (on a 5-point Likert scale) over three semesters.

**Alumni Outcomes:** Preliminary data from a recent alumni survey (n=56) demonstrates the post-graduate success of our majors.

- 67.9% of respondents applied to graduate school in various subfields of psychology with a 92.3% acceptance rate.
- 82.1% of respondents have been employed since graduation;
- 50% are in a psychology-related career
- 48% obtained employment within 3 months after graduation.

Many students attributed their success, in part, to advisement. Ninety-two percent reported that the program prepared them for graduate school and 86% reported that the program helped them achieve their career goals.
Finally, the question motivating the MAP intervention, “The program helped me achieve my career goals” is now endorsed by 86% of graduates—up from 65% in 2013.

Discussion

Overall, the Department is pleased with the positive changes yielded by the MAP in a relatively short period of time. We continue to seek ways to effectively mentor students, but have found that standardizing advisement, providing significant resources at developmentally appropriate stages, and demonstrating persistent commitment to the “next stage” of students’ lives, has yielded both positive perceptions and objective success.

Reference


For a digital copy of the MAP, please contact Marya Howell-Carter: carterm@farmingdale.edu
Self-Change Projects Improve Students’ Ecological Footprints

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Presented at: APS 2017 Boston APS Teaching Institute

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**Biographical Sketch:** Kathleen Knights is an Associate Professor at Northern Arizona University in Flagstaff, Arizona. She teaches courses in Conservation Psychology, Statistics, Diverse Perceptual Worlds, and Sensation & Perception. She received her Ph.D. in Experimental Psychology from Florida Atlantic University in 1996. Her current research interests include the role of Conservation Psychology coursework in improving students’ sustainable behavior through community projects that promote engagement in applied environmental psychology. Other interests include the effects of gender and affect on perceived facial expressions of emotion.

**Abstract**

This study examined the impact of self-change projects in a Conservation Psychology course on Ecological Footprint scores. Conservation Psychology highlights some of the contributions psychology can make through educating students to ensure a sustainable future. This study examined the impact of self-change projects on Ecological Footprint scores. Students chose self-change projects such as purchasing less “stuff,” using less energy, or using more public transportation.

Scores were significantly better for the students who completed a self-change project for the course. Students acknowledged the need for individual behavioral changes to address existing and future environmental problems.

Using psychology to examine environmental problems offers a unique opportunity for students to integrate the scientific and applied aspects of the discipline. This is a relatively new direction for psychology programs, including ours, and clearly has promise to raise awareness of and address the sobering environmental issues facing this generation of college students and future humanity.
Introduction

Conservation psychology is the recognition of the bidirectional relationship between humans and the natural environment: how nature affects people and how they in turn affect the environment. The goal of conservation psychology is to promote a sustainable and healthy relationship between human and nature. Students enrolled in Conservation Psychology courses took the Nature Conservancy Carbon Footprint Calculator survey at the beginning and end of the semester. This study examined the impact of self-change projects on Ecological Footprint scores. Students chose self-change projects such as purchasing less “stuff,” using less energy, identifying ingredients in food and grooming products, eating less meat and dairy products, or using more public transportation.

The Nature Conservancy Carbon Footprint Calculator score is broken down into four categories: home energy use, driving and flying, food and diet; and recycling and waste. The United States average behavior breakdown is:

- Home Energy (36.8%)
- Driving and Flying (43.5%)
- Recycling and Waste (4.4%)
- Food and Diet (15.3%)

The United States average per person total greenhouse gas emissions is 27.00 tons of carbon dioxide (CO₂) equivalent per year. The World average per person total greenhouse gas emissions is 5.5 tons of per year. Recent United Nation scenarios suggest that if current population and consumption trends continue, by the 2030s, we will need the equivalent of two Earths to support us. We are currently exceeding the Earth’s biological capacity by nearly 50%. To sustain present levels of consumption, we would need 1.50 earths.

Method

Sixty students enrolled in two Conservation Psychology courses took the Nature Conservancy Carbon Footprint Calculator quiz at the beginning and end of the semester. Students in one of the courses completed a research-based self-change project in addition to the other assignments for both courses. Students described this assignment as the one most responsible for contributing to the change in their carbon footprint and sustainable behavior.

Results

Carbon Footprint scores were significantly lower at the end of the semester for students with no self-change project (M =16.71, SD =3.03) and students with a self-change project (M =13.25, SD =3.18) than at the beginning of the semester (M =19.88, SD =3.24 and M =20.48, SD =3.24 ). The mean improvement in scores was 3.17 fewer tons of carbon dioxide for courses without a self-change project \( d = 1.10 \), 95% CI [-4.71, -2.95] and 6.63 fewer tons for courses with self-change project, \( d = 1.38 \), 95% CI [-6.85, -5.54], respectively. Eighty-five percent of students’ scores improved over the course of the semester.

Discussion

Using self-change projects in psychology to examine environmental problems offers a unique opportunity for students to integrate the scientific and applied aspects of the discipline. This is a relatively new direction for psychology programs, and it clearly has promise to raise awareness of the environmental issues facing this generation of college students. Students acknowledged the need for individual behavioral changes to address existing and future environmental problems.

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Emphasizing the Science of Psychology: Using Physiological Demonstrations in Lower-level Psychology Classes

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Abstract

Although psychology is a social science, students frequently misunderstand its scientific basis. This often leads to unrealistic expectations about the level of scientific literacy, critical thinking, and research skills required in psychology courses and for a future psychology career, whether as a therapist or counselor or an experimental psychologist. Recognizing psychology's scientific basis can be difficult for students because psychological inquiry often focuses on constructs that are not easily quantifiable or directly observed (e.g., love, motivation, self-esteem). However, many core psychological phenomena manifest in physiological indicators that can be measured given the appropriate equipment. For example, deception and dishonesty typically manifest as elevated heart rate and skin conductance in guilty individuals. Quantification in turn allows for statistical analyses and objective testing of hypotheses per the scientific method. While it is highly valuable for each student to participate in their own laboratory experience, it is often not practical or possible. For this project, we obtained Biopac systems to illustrate the scientific basis of psychology to students via classroom demonstrations in which psychology concepts are linked to physiological markers.

Demonstrations

In the first semester of demonstrations, 152 students participated across five different psychology courses, each taught by a different instructor. Students in introductory psychology (n=25) were presented a demonstration using a simplified version of Lesson 14, Biofeedback, as part of a unit on stress. Two sections of social psychology (n=26 in each) viewed a demonstration of the polygraph technique from Lesson 9, EDA and Polygraph, as part of a lesson on lie detection. Students in a course on biological bases of behavior (n=24) saw a demonstration of Lesson 3 on EEG in conjunction with the unit on sleep to examine the components of the EEG complex. The students in the learning (n=34) class saw the Biofeedback demonstration. Students in the child psychopathology (n=17) also saw the Biofeedback demonstration but related it specifically to treatment of ADHD. A subset of 69 participants from two courses (social and child psychopathology) provided data on biological sex (n=17 males, 52 females). Two researchers (including the instructor in the social and child psychopathology classes) were present for each of the demonstrations. In each class, one student was recruited to be the participant while the remaining students observed.

Assessment of the Demonstrations

Student participants responded on a paper-and-pencil survey to the following three items using Likert scales anchored at 1 (not at all) and 7 (a great deal): (1) How helpful was the in-class demonstration today in increasing your understanding of... (i.e., deception, sleep, biofeedback)’’
(2) How enjoyable was today’s in-class demonstration? (3) To what extent was the in-class demonstration a valuable use of class time?

A principal components factor analysis of participants’ responses resulted in a single-factor solution explaining 72.72% of the total variance. A one-way ANOVA with class as the independent variable was conducted on the composite rating scores which resulted in a significant main effect, $F(5,146)=8.67, p=.000$. Post-hoc analyses indicated that introductory psychology participants provided significantly lower ratings ($M = 4.55, SD = 1.18$) than did participants in all other courses ($Ms$ range from 5.42 to 6.29).

In follow-up analyses, one-way ANOVAs with class as the independent variable were conducted on each dependent measure. Results showed a significant effect of course on helpfulness ratings, $F(5,146)=8.62, p<.000$. Post-hoc comparisons showed that introductory psychology course participants rated the demonstration as being significantly less helpful ($M = 3.78, SD = 1.78$) than did participants from all other courses ($Ms$ range from 5.24 to 5.56).

Similarly, introductory psychology course participants reported significantly less enjoyment of the demonstration than did participants from the social psychology, neuroscience and learning courses but not child psychopathology course, $F(4,147)=8.70, p<.000$. Introductory psychology course participants reported significantly lower ratings of the demonstration as a valuable use of class time than did both sections of social psychology, neuroscience, and child psychopathology students but not learning students, $F(5,146)=5.40, p<.000$.

Overall, student ratings of the demonstration’s enjoyment, helpfulness in understanding course material, and value as a meaningful use of class time were above average, supporting the proposal that demonstrations of psychophysiology can enhance teaching undergraduate psychology. Students in the classes more focused on psychology majors, such as social psychology, seemed to perceive the benefits of the demonstration more than a general class like introductory psychology.

To further evaluate the impact of Biopac demonstrations on student learning, we will compare not just subjective ratings of the experience, but also assess quantitatively whether the demonstrations enhance knowledge of the physiological underpinnings of behavior and the scientific nature of psychology.

Acknowledgements

We would like to thank the Schreyer Institute for Teaching Excellence at the Pennsylvania State University as well as the School of Humanities and Social Sciences and the office of Undergraduate Research at Behrend College for the funding to purchase the Biopac Equipment.

BIOGRAPHICAL SKETCHES

Dr. Heather Lum is a human factors psychologist at Penn State Erie, The Behrend College. Her research interests include perceptions of technology, human-animal interactions, robotics, and gaming. At Behrend, she teaches some of the applied psychology courses in engineering, gaming, research methods, and animal minds. On her downtime, she is involved in a regional canine search and rescue team that helps find and bring loved ones home who are lost.

Dr. Victoria Kazmerski is a cognitive neuropsychologist at Penn State Erie, The Behrend College. Her current research projects are on investigating electrophysiological correlates of non-literal language such as sarcasm and metaphor, long-term consequences of concussions, and effects of
multitasking on attention. She is also interested in age-related cognitive changes. She has applied her knowledge of cognition in many outreach settings such as teacher training, mentoring high school science fair projects, and in developing effective K-8 science instruction. She teaches courses in research methods, biological bases of human behavior, cognitive development, and child psychopathology.

**Dr. Carol Wilson** is a social psychologist at Penn State Erie, The Behrend College. Her research investigates the intersection between romantic relationships, stress, and social support within particular contexts (e.g., the transition to parenthood). Most recently she has worked with undergraduate student researchers to study women’s experience of (acute) physical pain in the context of partner support, and to examine the effects of money on couples’ dyadic interactions, dialogue, and relationship functioning. Her teaching interests include social and personality psychology, statistics, close relationships, and health psychology.
Metacognitive Awareness and Transitions Courses

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Biographical Sketch:

Heather Mitchell received her B.S. from Lambuth University and her M.S. and Ph.D. in cognitive psychology from the University of Memphis. Dr. Mitchell taught at the University of Memphis and Lebanon Valley College before joining the faculty of Webster University. Heather has served as the faculty director of the Daniel Fox Youth Scholars Institute at Lebanon Valley College and as a Scholarship of Teaching and Learning (SoTL) faculty fellow at Webster University. Dr. Mitchell currently serves as chair of the Webster University Psychology Department, and her research interests include academic disabilities, SOTL, and academic advising. She has numerous publications in these areas and has received several faculty research grants from Webster University to investigate the experiences of college students who have ADD or ADHD. She is a member of the Society for the Teaching of Psychology and received the Society for the Teaching of Psychology (SoTL) award in 2012.

Long Form Abstract:

Metacognitive awareness is how well students are conscious of their cognitive abilities and strategies for learning. The present study investigated if student’s metacognitive awareness increases during their first semester of college while taking a transitions course. Additionally, this research asked if there is an increase, what are those specific cognitive and/or metacognitive changes?

The Metacognitive Awareness Inventory (MAI) (Schraw and Dennison, 1994) evaluates general learning skills across disciplines & contains 52 items, classified as 1) type of cognitive knowledge (declarative, procedural, and conditional) or 2) specific metacognitive process (e.g., planning, comprehension monitoring, debugging strategies, information management, and evaluation). Types of cognitive knowledge measure what students know about themselves, strategies, and the conditions when such strategies are most useful. Metacognitive processes measure ways students know they regulate cognition.

Much research has investigated MAI as a diagnostic tool (e.g., Ke, 2008; Sperling et al., 2004) for elementary schools to higher education and the workplace. Studies also have shown the benefit of metacognition in college students’ achievement (e.g., Nietfeld, &Osborne, 2005; Young & Fry, 2008). However, studies on MAI use during the first year of higher education is limited (Minnaert, & Janssen, 1999; Mytkowicz, Goss, & Steinberg, 2014). The current research investigated if metacognitive processes are especially valuable during the first semester of college as students possibly redefine their studying.

Method

Ideally, all students participating in a first year transitions course at a Midwest university were encouraged to participate, but only a minimal number of students fully participated. Specifically, 82 students completed the MAI pre-test, and only 27 students completed the MAI post-test. Each transitions course used in this study has a unique approach to teaching written communication,
critical thinking, and integrated learning; so, a comparison of student’s MAI at the beginning and end of these courses is warranted. Within the first week of each course, students completed the MAI through a Qualtrics survey and were asked to provide an email address in order to receive the study’s post-test (i.e., the same MAI). At the end of the same semester, students were contacted again and asked to take the online, Qualtrics MAI post-test.

Results

As predicted, students’ overall MAI scores significantly increased after completing a transitions course during the first semester of college, \( t(17) = -3.005, p < .01, r^2 = .219 \). Additionally, student’s awareness of specific metacognitive skills also significantly increased in the areas of comprehension monitoring, \( F(1,35) = 13.638, p = .001, \eta^2= 0.29 \) and evaluation \( F(1,35) = 13.638, p = .023, \eta^2= 0.14 \) after taking a transitions course.

Discussion

MAI scores reliably increased after a transitions course although each transitions course did not specifically teach metacognitive skills. Specifically, students’ metacognitive skills of comprehension monitoring and evaluation significantly increased. These two MAI areas have many questions about how students solve problems, test themselves, and achieve goals (e.g., “I ask myself if I have considered all options when solving a problem.” (Schraw & Dennison, 1994, p. 473). Students hopefully have been exposed to the metacognitive knowledge assessed by the MAI at some point in their education prior to college, but research shows this is not always true (McKeachie, 1988). Regardless of students’ prior educational experience, the significant
improvement in these higher level metacognitive skills (see Anderson & Krothwohl, 2001) makes sense as the students had been exposed to their first college instruction during the semester and were preparing to have their first of final exams experience in college.

Explicitly teaching such metacognitive strategies does improve learning (Pierce, 2003). Additionally, the current study suggests students can improve monitoring and evaluation skills through exposure to a transitions college course that did not specifically teach such skills. Interestingly, only the higher-level skills of comprehension monitoring and evaluation significantly improved after the transitions course. Possibly, students had already developed earlier in their educational experiences the other cognitive and metacognitive strategies assessed by the MAI.

Although the study provides additional evidence for metacognitive benefits in education, students still explicitly need to learn more metacognitive skills and know they have options regarding which strategies to use in different contexts. For example, future research should investigate the effect of explicitly teaching such metacognitive awareness in college transitions courses. Additionally, although many such educational resources are provided for students, we do not always assess whether or not students are using the provided educational resources (Chen, Chavez, Ong, & Gunderson, 2017). Specifically, future studies should continue to use the MAI to assess whether students are utilizing such metacognitive skills they may or may not have been taught directly.

References


A perennial issue in teaching is finding creative ways to foster students’ internal motivation and self-direction in their learning. Building on a framework rooted in self-determination theory, gamification of course design is a tool that can help achieve this goal. Self-determination theory is a macrotheory of human motivation and development that posits three universal psychological needs that must be met to ensure optimal motivation and psychological well-being: autonomy, relatedness, and competence (Vansteenkiste & Ryan, 2013). Autonomy is the ability to be self-directed rather than acting due to external pressures. Relatedness is authentic connection with other people. Competence is acting effectively in an optimally challenging environment while striving to attain mastery in the target skill domain (Ryan & Deci, 2017). We implemented gamification, the use of game principles and mechanics in a non-game environment, in the design of our own recent psychology courses—one in a large research university setting, the other in a small teaching-focused university. We integrated into our course designs several game principles, including story, challenge, progress, and investment.

The elements of **story** we implemented included plot and epic meaning. Writing a plot to introduce your course on the syllabus is a way to engage students’ curiosity and interest in the course. Plot can also be used to communicate the big ideas in your field and give continuity to your course across the semester. An assignment has epic meaning if the purpose of the assignment goes beyond teaching the material to include outcomes that fulfill student’s desires to grow into the type of person they want to become. In many video games, as players engage in tasks and quests associated with the game they feel they are becoming a hero. In reality, our students want to become many things such as clinicians and teachers. Instructors can provide epic meaning by creating assignments that provide students opportunities to engage in community service, advocate for social justice, and learn interpersonal skills. These tasks may also serve to fulfill the psychological need for relatedness by giving students opportunity to collaborate with other students and people in the community. It is important to explicitly tell students what the epic meaning of each assignment is to ensure they make the connection between the assignment and their personal development.

Elements of **challenge** in games support the fulfillment of the need for competence. Games typically start with an easier level of challenge that is just beyond the player’s ability and gradually increase, providing opportunities for continual growth and sustained interest. Elements of gamified challenge we implemented included choices, strategy, and skill-building. Our courses provided a variety of assignments and assessments, allowing students to choose which of these they wanted to complete. This design choice also supported the
need for autonomy, which by its nature requires students to take a more active role in directing their own learning. In order to ensure the level of challenge for this course element was optimal, a “semester plan” assignment guided students in formulating a strategy for the semester by choosing which assignments and assessments they wanted to complete based on their schedules and the number of points they wanted to earn for the course. Assignments were designed to teach students skills they can use beyond their college years such as how to write a scientific paper, evaluate scientific arguments, and contact professional organizations to make inquiries.

In order to support the need for competence, students and gamers alike need feedback that communicates progress. Elements of game progress that we implemented were points, achievements, and bonuses. Structuring the grading system such that grades are represented by accumulation of points gives students a feeling of reliably improving their performance. Achievements in our course design require students to complete several assignments in order to earn bonus points. These achievements become a “to do” list for students, which provides a sense of progress as they complete each item. In addition, surprise bonus points were offered for special assignments throughout the semester.

Finally, one of the most important elements in sustaining motivation in games and the classroom is investment. Investment can be garnered by fulfilling students’ need for relatedness, offering “infinite play” by giving students many assignments to choose from in order to earn points, and countdowns. Instructors can fulfill relatedness needs by consistently offering opportunities to collaborate with other students, such as in-class group assignments. In addition, offering points for students to attend office hours encourages them to meet with you one-on-one and build a personal connection. We implemented infinite play in our courses by offering so many assignment and assessment options that if a student were to do all that was offered, they could earn more than double the points needed to receive an A for the course (none of our student did this). We implemented countdowns by providing “leader boards” via our LMS announcement platform. These leader boards showed the point breakdown of the class and informed students how many points were left to earn for the semester.

In addition to implementing these course design ideas we collected preliminary descriptive data in a research university course (course A, n = 41) and teaching-focused university course (course B, n = 18). In course A, 600 points were required to earn an A. Many students in this sample did earn A’s (M = 643.34, SD = 112.05). Looking at the distribution, we found that it did follow a normal curve with a minimum score of 378 and maximum score of 850. Rather than students quitting when they earned enough points for an A, high performing students continued to participate in assignments well beyond what was required. This is what we expected given the focus on mastery in the course rather than grades. Despite concerns that students would underperform on many assignments and assessments and still earn a high grade, most students earned higher grades on a smaller number of assessments (typically, students opted to take 3 exams). In course B, 800 points were required to earn an A. This distribution was not normal, with a minimum of 752 points and maximum of 1134 points (M = 876.30, SD = 83.97). Non-normality of this distribution is attributed to smaller sample size. In addition, this was the first time implementing gamification in course B, whereas course A had been offered in this format three times. In
course B, points for tasks that support student self-regulation but do not address mastery of content (semester plan, office visit, class attendance) will be recalibrated to have less weight in the overall point total. Student response to gamified course design has been positive, with students stating they felt supported by instructors and motivated to participate in the courses.

References
The purpose of this presentation was to demonstrate how educators can teach students to utilize Web 2.0 tools to enhance learning, collaboration and presentation skills using a flipped classroom format. Through the use of Web 2.0 tools, educators help students to improve communication, collaboration, creativity, critical thinking, and to embrace problem-based and inquiry-based learning. The “Innovative (and Cool!) Tools for the Educator” website (https://sites.google.com/site/20cooltoolsfored/) is one path to the incorporation of Web 2.0 tools as educators work to motivate, engage, and retain students (Poole & Tomei, 2015).

**Theoretical Foundations**

We believe that Web 2.0 tools are most likely to improve student learning when educators use them in ways that incorporate principles of both self-determination theory and self-regulated learning theory. Self-determination theory (SDT) provides a comprehensive understanding of human motivation by identifying three basic needs: autonomy, competence, and relatedness (Deci & Ryan, 1985). Students who experience autonomy and relatedness demonstrate competence which fosters motivation, engagement, and retention intentions. SDT places a focus on intrinsic motivation as intrinsically motivated students and students are creative, persistent, think critically and have improved performance. The theory of self-regulated learning (SRL) demonstrates how self-regulated learners set goals, develop and utilize strategies to achieve these goals, then self-reflect on their level of effectiveness, modifying their strategies as needed be to better succeed in the future (Zimmerman, 1990). SDT and SRL suggest that an optimal learning environment includes autonomous learning, opportunities for social interactions, and building self-efficacy through successful learning (Deci & Ryan, 1985; Zimmerman, 2000). Flipped classrooms which utilize Web 2.0 tools satisfy these basic needs and result in intrinsically motivated students who demonstrate competency in critical thinking, communication, collaboration and creativity (Hussain, Ahmad, & Khan, 2015).

**Web 2.0 Tools Integration**

Educators can guide students in problem-based learning projects through the application and purposeful use of Web 2.0 tools (Diaz, 2010). The goal is to design quality problem based learning activities that utilize critical thinking strategies to enhance students’ understanding of discipline-specific content. Through online problem-based learning experience and with the incorporation of Web 2.0 tools, students will move to a level of critical thinking as they carry out the proposed projects (Garrison, Anderson, & Archer, 2000).
### Examples of Web 2.0 Tools

<table>
<thead>
<tr>
<th>Tool</th>
<th>Description &amp; URL</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celly</td>
<td>Social network that allows users to create 'cells' or small groups. <a href="https://cel.ly/">https://cel.ly/</a></td>
<td>Students can form study groups or cells for individual, group, or class projects that can be accessed through any device.</td>
</tr>
<tr>
<td>Office Mix</td>
<td>A free add-in for PowerPoint with everything users need to easily create and share interactive online lessons. <a href="https://mix.office.com/en-us/Home">https://mix.office.com/en-us/Home</a></td>
<td>Students can create interactive presentations that incorporate audio, videos, quizzes, and statistics.</td>
</tr>
<tr>
<td>GroupZap</td>
<td>GroupZap allows users to brainstorm with one another. <a href="http://groupzap.com/">http://groupzap.com/</a></td>
<td>Students form pages to share ideas, information, and outlines that can be incorporated into assignments.</td>
</tr>
<tr>
<td>Fotobabble</td>
<td>Create photo- and audio-powered material that engages audiences. <a href="http://www.fotobabble.com">http://www.fotobabble.com</a></td>
<td>Students can incorporate narrated pictures into current assignments.</td>
</tr>
<tr>
<td>RawShorts and Powtoon</td>
<td>Provides users everything needed to make video animation. <a href="https://www.rawshorts.com/animations">https://www.rawshorts.com/animations</a> <a href="http://www.powtoon.com">http://www.powtoon.com</a></td>
<td>Students can create explainer cartoons to demonstrate mastery of material.</td>
</tr>
<tr>
<td>Wiggio</td>
<td>Toolkit that makes working in groups easy! <a href="https://wiggio.com/">https://wiggio.com/</a></td>
<td>Students can work in a collaborative group that instructor sets up and can monitor - discussion board, live interactions, to do list, reminders, and more.</td>
</tr>
<tr>
<td>Tool</td>
<td>Description</td>
<td>Benefits</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Popplet</td>
<td>A mindmapping tool <a href="http://popplet.com">http://popplet.com</a></td>
<td>Students have the ability to brainstorm and collaborate in groups and develop a mindmap.</td>
</tr>
<tr>
<td>Google Hangout</td>
<td>Instant messaging and video conferencing <a href="http://www.google.com/+learnmore/hangouts/">http://www.google.com/+learnmore/hangouts/</a></td>
<td>Students can collaborate with real time video and audio conferences to include instant group messaging.</td>
</tr>
<tr>
<td>AnyMeeting</td>
<td>Unlimited meetings; 6 way video conferencing, integrated conference calling &amp; VoIP, Screen sharing, presentation upload and sharing <a href="http://www.anymeeting.com/">http://www.anymeeting.com/</a></td>
<td>Students can collaborate with real time video and audio conferencing.</td>
</tr>
<tr>
<td>Remind</td>
<td>Texting program that allows for privacy between users. <a href="https://www.remind.com/">https://www.remind.com/</a></td>
<td>Students can text themselves or each other without sharing personal information. Instructors can also send reminders for due dates, meetings, and more.</td>
</tr>
<tr>
<td>LiveBinder</td>
<td>Organizes material in a concise way, making it easy to collaborate, organize, and share resources. <a href="http://www.livebinders.com/welcome/home#">http://www.livebinders.com/welcome/home#</a></td>
<td>Students can collaborate and organize, story and share their documents in binders.</td>
</tr>
<tr>
<td>SlideShare</td>
<td>Slide/presentation hosting service. <a href="http://www.slideshare.net/?ss">http://www.slideshare.net/?ss</a></td>
<td>Students can share presentations in real time.</td>
</tr>
</tbody>
</table>

The use of Web 2.0 tools, in combination with a pedagogically sound curriculum has shown support for engaging, retaining, and graduating online students (Salazar, 2010). Nurturing meaningful interactions is vital to encouraging, motivating, and engaging online students resulting in increased student retention (Salazar, 2010). Web 2.0 tools can be used to promote instructor online presence, a factor linked to improved learning as perceived by students (Kupczynsk, Ice, Wiesenmayer & McCluskey 2010). Through enhancement of relationships in online courses, it has been found that there can be an increase in learning motivation (Chung & Jang, 2010) and the decrease of attrition (Annand, 2011), while promoting higher student retention rates (DiRamio & Wolverton, 2006).
References


Lifelong Learning: Moving from Pedagogy to Heutagogy

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Years ago, school started right after Labor Day, holidays matched the banking calendar, weekends were sacred and Summer vacation started soon after Memorial Day. Education was administered to a student with regimented teachings and teachers. The curriculums of reading and arithmetic were standardized for the average student and grade level; the concept of enhancing or advancing a student’s knowledge base was foreign. Today, some students can still partake in that type of education, but many individuals are choosing to see education not as something to finish but as an exploration of all that can be known. Within the domain of distance education, lifelong learning is released from a specific location and grants the individual even greater freedom to direct their search for knowledge. Lifelong Learning is the new educational paradigm that is allowing people of all ages to learn what they want on their own schedule. Using all available formats, lifelong learners are forcing an educational revolution.

Being a lifelong learner has been shown to be a positive factor in an individual’s life. Many students are older and returning to college to pursue a different path. Despite the change in the demographic of the average college student, we continue to address our students with the latest best practices all focusing on a pedagogy of the knowledgeable teacher and receptive student. If we are to foster lifelong learning not only as means to keep people happy and healthy but also a way to keep our populace progressing and advancing, we need to change from pedagogy to a heutagogy that nurtures and supports a lifelong learner. This presentation focused on moving from the cut and paste pedagogy curriculums to heutagogy-self determined education- to keep the students not only engaged but excited.

Educator Paulo Freire wrote in “Pedagogy of the Oppressed” (1971), that pedagogy is, in essence, a dehumanizing of an individual. The act of teaching a generalized curriculum to children who are born curious and motivated to understand the inner workings of the world is an act of oppression. Education, as in the formal, traditional education that most people engage in is simply a means to make the citizenry conform and comply. To reject this pedagogy is to regain our humanity and engage in education as an act of freedom.

The idea of lifelong learning is not new, according to UNESCO Institute for Education (2001). Whereas our ancestors may have seen lifelong learning as a luxury, ancient philosophers like Aristotle, Plato and Socrates all proposed continuous learning as not only a means to expand the mind but to develop mankind (Lewis, 1981). Lifelong learning, from the perspective of the educator, is the process where an individual, teacher, school, community and country encourages, incentivizes and promotes a learner to obtain knowledge, skills and abilities across their lifespan through formal, non-formal and
informal means to satisfy the needs of the workforce and the individual’s curiosity. There is an emphasis not only in the acquisition of knowledge but also in the entertainment of the learner (Watson, 2013). This form of education is considered holistic and underscores that lifelong learning should also include life-wide learning.

The European Union sponsored research in Lifelong Learning (Manninen & Merilainen, 2011). The researchers surveyed adult individuals (n= 8646) in 10 different countries to assess if there were any advantages for adult learners to engage in “nontraditional [and] non-vocational” (p. 2) learning. The survey produced a wealth of information as to the benefits of learning for the sake of learning. They found that lifelong learners reported greater life satisfaction, general wellbeing, more motivation, and more sociality. The unexpected finding was that individuals who reported a lower level of formal education reported that their self-directed adult learning motivated them to continue their learning. Their findings showed that lifelong learning could narrow the gap in education and even social standings (Manninen & Merilainen, 2011).

The obvious benefit of lifelong learning is mental stimulation. Learning is the antithesis of boredom (Kanevsky & Keighley, 2003). The monotony of boredom is associated with low levels of arousal and an environment that is considered tedious (Mikulas & Vodanovich, 1993). Boredom is a phenomenon that is both internal and external; internally, the individual cannot connect with or engage with the given stimuli to satiate their needs for activity and tends to blame the environment for lack of stimulation (Eastwood, Frischen, Fenske & Smilek, 2012). Mental stimulation acts also as preventative measures to dementia and depression. The lack of stimulation also results in lack of mental activity which can lead to neural shrinkage (Saunders, 1996).

Heutagogy emphasizes the learner’s autonomy and the teacher’s concern for the learner’s capacity to learn as well as to develop competencies. Ideas to stimulate heutagogy within a classroom can be as simple as encouraging our students to think outside of the pedagogical box, to incorporate what they want to learn with the subject matter. Also, have the student teach the class! The role of teacher must move from knowledge purveyor to resource and mentor. Psychology programs can incorporate CLEP type credit for those who have worked in the field. The role of advisers should move out of the realm of guide to a counselor who engages the student in true interest exploration. This would also require programs to allow more freedom within the major to explore topics of interest much like the burgeoning practice of providing Graduate Certificates in certain areas.

Plutarch wrote that “Education is not the filling of a pail, but the lighting of a fire” (The Mind is Not…, 2017). Educators from the beginning of time have tried to light the fire for their students with the hope of having them engage in their learning. This is no longer the case and the need to light a perpetual fire in students is not only beneficial to the student but to society as well.
References


Gamified learning involves the use of game elements “to motivate players to engage in a task they otherwise would not find attractive” (Plass, Homer, & Kinzer, 2015, p. 259). The use of a gameful learning approach is a highly effective facilitator of learning experiences. When the principles of game design are merged with application of learning theory, learning can happen in a gameful way. Games work because they are motivating. Maehr and Meyer (1997) discussed motivation as “personal investment”, whereby motivation is seen in the learner’s action toward direction, intensity, persistence, and quality. According to Trybus (2014), gaming works because “to progress in a game is to learn; when we are actively engaged with a game, our minds are experiencing the pleasure of grappling with (and coming to understand) a new system.” This is the premise of gameful learning, where the learner invests in the process.

Theoretical Basis of Gamified Learning
A well-constructed game applies game aesthetics, game-based mechanics, and game-thinking to learning outcomes to engage, create, and motivate learners to learn and practice a skill, and/or solve a problem in a safe environment. According to Goodyear and Dudley (2015), a student-centered approach involves “students’ ability to become their own teachers and supporting them to know how to evaluate knowledge claims, how to learn, how to collaborate, how to seek help, how to become assessment capable, how to be resilient (particularly in the face of cognitive challenges), and aiding students to know what to do when they do not know what to do” (p. 275). Plass et al. (2015) explained that gamified learning allows the learner to activate schemas that result in multiple representations of the material.

Three Ways to Use Games in Online Courses
The first case study uses one game as the basis of learning. For the current study, the course that used this approach was an undergraduate political science course. The organizing structure of a story is woven into a game and is the basis of course design. The game personalizes experiences and draws learners into it. A series of instructional activities are linked to the mission of the game, so as the course progresses the learner is engaged with learning experiences designed to achieve desired learning outcomes in a human centered and goal oriented way. This format supports Plass et al.’s (2015) discussion that it is important to ensure that the learners are cognitively engaged so that learning outcomes will be achieved.

A second approach to using gamified learning in online courses is to use a variety of games throughout the course. For the current study, the course using this approach was an undergraduate course in psychological well-being. With this strategy, students are introduced to different games in different course modules. The course uses games similar to board games (e.g., Sorry, Chutes and Ladders) to introduce various course topics. By introducing multiple games throughout the course, the instructor engages the student in different modalities as the type of game and task varies. This approach supports the INTERACT model which focuses on multiple types of learner engagement.
(Plass et al., 2015) and the social constructivist view as games guide students through the learning process (Ke & Kwak, 2013).

Finally, the third approach uses games to extend conceptual knowledge through application of a game based scenario. For this study, the course that used this approach was a graduate instructional design course. In this approach, students are introduced to an online simulation game toward the end of the course to engage with experiential learning opportunities. The simulation game provides both elements of competition as well as problem-solving elements as students apply theoretical knowledge to solve a problem. The use of the simulation game supports the claim by Goodyear and Dudley (2015) that in a student-centered approach students learn through doing, evaluating information, and collaborating with each other.

**Purpose of Current Study**

The purpose of the current study was to examine students’ experiences with games in online courses. At present, we have access to students in the undergraduate political science course and the graduate instructional design course. The psychology course will launch summer 2017 and data will be collected from those students as well.

**Method**

**Participants**

At present, participants include 19 students who completed the graduate instructional design course that used gaming and 4 students who completed the undergraduate political science course that used gaming.

**Materials and Procedure**

Participants received an online survey through Qualtrics that was shared through email or posted in their online course. The survey included one open item question: “When I think of gamified learning, I think of ________.” The survey also included five items using a 5-point Likert scale. These items assessed satisfaction with the gaming aspect of the course, engagement with the material, confidence in the material due to the game, and the effectiveness of using games in online courses. Participants were also asked if they would recommend gaming for other courses and to indicate if the game allowed them to learn, practice, and/or engage with the course material.

**Results**

Means and standard deviations were calculated for the Likert-type items. Preliminary analyses reveal that participants were excited about engaging in the gaming experience ($M = 4.17, SD = 1.11$) and that the game stimulated learning of the material ($M = 4.5, SD = .71$). Students agreed that they were more confident in the course material ($M = 4.08, SD = 1.08$) and that gaming is an effective method of learning in online courses ($M = 4.38, SD = .95$). Finally participants stated that they would recommend gaming for other online courses ($M = 4.42, SD = 1.51$). Further analyses will be calculated upon completion of data collection.

**Discussion**

Initial examination of the data revealed that students are generally satisfied with their experiences in courses that use games. They reported that game-based learning gave them the opportunity to learn, practice and engage with the course materials and promoted learning. Comments, such as “I think gamified learning when paired with purpose is very meaningful to learning even though I was
a little skeptical initially” supports the assertion by Maehr and Meyer (1997) that games provide the motivation to learn. More students recommended that instructors use games in other online courses as they provided an engaging way to learn topics that were otherwise difficult to grasp. Although preliminary, the data shows that online games may have a powerful impact on their learning.

References


Fostering Collaborative Interdependence among Graduate Students

Daniel F. McCleary
Stephen F. Austin State University
Presented at: STP Teaching Preconference at SPSP
For further information, contact: mclearydf@sfasu.edu

At the start of each class, students take a quiz over the assigned material for the week. The instructor asks a student to discuss one of the quiz items with another student. The student chooses a classmate to discuss one of the items. A discussion between the two ensues as they discuss the response option chosen for the item, discussing the problem solving process used to rule out incorrect options and rule in the preferred option(s). As the two students discuss their rationale, the other students may listen and change their answer, but may not participate in the discussion.
Section XIX
Professional Development for Faculty

1. Combatting the ostrich effect: Providing curricular opportunities for professional development

2. Adjunct faculty mentoring program

3. Preparing Students for the Future: Professional Portfolios

4. Win-Win Situation: Meeting APA Undergraduate Learning Goals 3 and 5 Via PCAR Service Learning While Receiving Monetary Benefits Through the AmeriCorps Program

5. Teacher Awareness of Goals of Students (TAGS): A New Measure for Understanding Teachers’ Attitudes Towards Student-Centered Teaching

6. The Next Generation: Preparing Future Psychology Faculty
Combatting the ostrich effect: Providing curricular opportunities for professional development

Natalie J. Ciarocco  
Monmouth University  
Presented at: The Society for the Teaching of Psychology's ACT, 2016  
For further information, contact: nciarocc@monmouth.edu

Abstract, or Body:
As professors of psychology, we want our students to become intellectuals, have detailed knowledge about psychology, and a basic skill set by the time they graduate. Yet on a more practical level, we know that life after graduation includes gainful employment. Students need guidance and support as they transition from undergraduates to young professional. As the psychology major is not vocational training for a particular position, mentoring students about professional matters can be challenging (Landrum & Davis, 2010). Faculty, having spent their lives in academia, are often not comfortable with professional development mentoring, especially with students entering the workforce (Halonen, 2013). Additionally, students' anxiety and naivety about the future can lead to denial and lack of attention to professional development opportunities. Even when professional development is an emphasis of an undergraduate psychology program, it's hard to know how and where to implement it. The outcome is an ostrich effect in which everyone hides their heads in the sand, assuming somewhere along the way students will get the professional development they need.

The goal of this presentation was to combat the ostrich effect by providing specific ideas for implementing professional development in a more formalized way. The presentation covered various ways to promote professional development throughout the college experience, arguing that embedding it throughout the curriculum is the best approach. I provided a detailed framework for how to implement professional development through the use of modules, a level appropriate and flexible way to facilitate professional development in any course. I also provided published empirical evidence to support the benefits of this approach with students, including a self-perceived increase in the understanding of and investment in the major, more awareness and better knowledge of professional development activities and career options, and better objective learning of professional development information. The presentation also provided specific activities and assignments that can be used in any course to promote professional development.

Professional Development Modules Overview

Three modules that one can strategically place throughout the curriculum within currently offered courses and complete independently or with instructor guidance.

The Monmouth University version of the modules is available at:  
https://www.dropbox.com/sh/t3slqwtreh0kd2u/AABotGCOVEfiEgYwgrM3sQ38a?dl=0
### MODULE 1: WHAT IT MEANS TO BE A PSYCHOLOGY MAJOR (200-level)

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>CONTENT</th>
<th>ACTIVITY</th>
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<tbody>
<tr>
<td>Introduction to the Major</td>
<td>Major requirements; rationale for rigorous research training</td>
<td>Map out course schedule for next 4 semesters</td>
</tr>
<tr>
<td>Misconceptions</td>
<td>Misconceptions about Psychology</td>
<td></td>
</tr>
<tr>
<td>Applied Experiences</td>
<td>Ways to fulfill experiential education requirement</td>
<td>Search for and identify opportunities</td>
</tr>
<tr>
<td>Being Involved</td>
<td>Benefits of involvement; information about student groups</td>
<td></td>
</tr>
<tr>
<td>Career Paths</td>
<td>Different careers with required skills and recommended courses</td>
<td>Reflection questions</td>
</tr>
<tr>
<td>Introduction to the GRE</td>
<td>Components of General GRE and Psychology GRE</td>
<td>Identify courses to aid in GRE preparation</td>
</tr>
<tr>
<td>Personal Development</td>
<td></td>
<td>Identify three goals</td>
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</tbody>
</table>

### MODULE 2: LIFE AFTER GRADUATION (300-level)

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>CONTENT</th>
<th>ACTIVITY</th>
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</thead>
<tbody>
<tr>
<td>Misconceptions</td>
<td>Misconceptions about different careers and graduate school</td>
<td></td>
</tr>
<tr>
<td>Jobs, Careers and Callings</td>
<td>Differences between jobs, careers and callings</td>
<td>Reflection questions</td>
</tr>
<tr>
<td>What to do with a BA in Psychology</td>
<td>Comprehensive list of potential careers</td>
<td>Reflection questions and career search</td>
</tr>
<tr>
<td>Resumes</td>
<td>Resumes vs. CVs; format, categories</td>
<td>core competencies and branding statement</td>
</tr>
<tr>
<td>Graduate School</td>
<td>Requirements, letters of rec., personal statement, GRE prep</td>
<td>Explore interest in potential programs</td>
</tr>
</tbody>
</table>

### MODULE 3: PREPARING FOR SUCCESS (400-level)

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>CONTENT</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis</td>
<td>Marketable skills obtained</td>
<td>Practice thesis “talk”</td>
</tr>
<tr>
<td>Experiential Education</td>
<td>Benefits</td>
<td>Reflection questions</td>
</tr>
<tr>
<td>Curriculum Vitae</td>
<td>Sample headings and descriptions</td>
<td>Draft info for CV</td>
</tr>
<tr>
<td>Job/Grad school Interview skills</td>
<td>Questions and appropriate responses; etiquette</td>
<td>Practice answering common questions</td>
</tr>
<tr>
<td>Online Reputation</td>
<td>Tips to manage online presence</td>
<td>Improve online reputation</td>
</tr>
</tbody>
</table>

For more on the empirical evidence to support this initiative see:

Adjunct faculty mentoring program

Laura Chesniak-Phipps & Laura Terry
Grand Canyon University
Presented at: The Society for the Teaching of Psychology’s ACT, 2016
For further information, contact: laura.chesniakphipps@gcu.edu

Abstract, or Body:

There are many benefits to having an adjunct faculty mentoring program in place in a college department. A few of the benefits include: retention and advancement of faculty (Falzarano & Zipp, 2012), incorporation of adjunct faculty into the university culture (Cunningham, 1999) and organizational stability (Fountain & Newcomer, 2016). Having a formal program that includes group, one-on-one and technology-based mentoring is a way that university departments can ensure adjunct satisfaction and retention. This benefits not only the adjunct faculty but the full-time faculty, as well as students. Technology is an excellent avenue to streamline mentorship. Creating a video tutorial for adjunct faculty provides relevant information to adjuncts and features full-time staff and faculty. This expedites mentoring when the video is shared. It is also advantageous to provide adjunct faculty with access to sample syllabi, the university handbook, teaching resources and course specific materials. These can be compiled and then easily shared with novice adjuncts. While technology is beneficial for streamlining the mentorship process, the importance of one-on-one mentoring is also crucial. Full-time faculty are assigned mentee’s every semester. This individualized relationship includes regular check-ins, content or course specific expertise and content evaluation of courses. Group mentorship can also be utilized to provide necessary semester information, offer pedagogy workshops and share course specific materials with instructors teaching the same courses.

References

Capstone courses help to solidify the paths that students choose to follow after graduation. Choices are influenced by options they are exposed to during their undergraduate career. The capstone course provides the chance to share various opportunities with students. It also provides faculty with time to mentor students as they prepare for, apply to, and transition from college to career or graduate school.

Course curriculum is offered through a variety of ways. Formal instruction, guest speakers, and time for independent work in a supportive learning setting are methods used in this class to allow students to gain the information necessary to transition successfully. The purpose of this class is to prepare students to apply for jobs or graduate school. Therefore, one of the course objectives is to create a clean writing sample free from errors that can be included in the professional portfolio. Students meet with the instructor to review feedback so that corrections can be made (Burkist, 1999). This writing sample can be confidently submitted to graduate schools or potential employers. In addition to written assignments that solidify a comprehensive research proposal, students are also expected to share their proposals in a poster presentation session at the end of the semester. Finally, speakers from different agencies and organizations in the community and graduate school representatives were invited to come to present (Burkist, 1999).

Freeman (2012) supported the inclusion of a course that provided students the opportunity to take an active role in career exploration and opportunities that lead to deliverables that they can use as they apply for jobs or graduate school. The deliverables help them to feel prepared and more confident as they apply for jobs or to graduate schools. Roscoe and Strapp (2009) recommended partnering with campus resources to provide additional support to students. Roscoe and Strapp (2009) stated that students often do not take advantage of career services on campus. Therefore, in the capstone course, a representative from the career services department was invited to class to present on topics including writing a resume, writing a cover letter, and preparing for interviews. With instructor guidance, the capstone course provides students the opportunity to explore and solidify choices post-graduation.

References:
Win-Win Situation: Meeting APA Undergraduate Learning Goals 3 and 5 Via PCAR Service Learning While Receiving Monetary Benefits Through the AmeriCorps Program

Judy Correa Kaiser & Andrew Kaiser
St. Ambrose University
Presented at: The Society for the Teaching of Psychology's ACT, 2016
For further information, contact: kaiserjudym@sau.edu

Introduction
The American Psychological Association’s Guidelines for the Undergraduate Psychology Major (2013) states the importance of high-impact experiences that incorporate coursework in real-world application.
Seventy-percent of students graduated with student loans.
On average, students graduating in 2016 had $37,172 of educational loan debt (Kantrowitz, 2016).
St. Ambrose University psychology department faculty have developed a partnership with the city of Davenport AmeriCorps program that allows students to earn course credit, apply psychological knowledge, and promote social justice while receiving financial benefits from AmeriCorps.

Program Description
Following the principles of Participatory Community Action Research (PCAR) (Bringle, Reeb, Brown, & Ruiz, 2016), two courses in our curriculum are affiliated with the Davenport AmeriCorps.
Supervised Field Experience course (PSYC 348)
Internship in Forensic Psychology (PSYC 421).
(PCAR) facilitates undergraduate student learning and scholarship by engaging in community partnerships that are linked with the psychology curriculum learning goals (APA, 2013).

Course Requirement
3 Credit Hours=120 Contact Hours
Agency Contracts
Health Requirement, Criminal Background Checks First
SAU General and professional liability insurance for students and faculty supervisors.

AmeriCorps Iowa-Davenport
“The City of Davenport is utilizing the AmeriCorps program as a strategy for addressing the Davenport community’s high drop-out rates through strategic partnership, student-level supports, and capacity building.” (Brochure City of Davenport AmeriCorps Program, 2016)

Partnership
Registered students can pursue admittance to the city of Davenport AmeriCorps program. Once accepted, students are placed in an agency that has an established contract with the SAU psychology department and fulfills the City of Davenport AmeriCorps program goals.

Monetary Benefits
900 hours: $6,275 living stipend & $2,865 educational award
450 hours: $3,136 living stipend & $1,551.55 educational award
300 hours: $2000 living stipend & $1,212.44 educational award
SAU will match educational award up to 25%

**Non-Monetary Benefits**

**Student**
- Course credit
- Internship/practical experience
- Application of psychological content
- Supervision by faculty members and on-site
- Up to 10 percent of class time counts toward AmeriCorps
- Personal, academic, and professional development

**AmeriCorps**
- Helps recruit members
- Members are motivated, engaged, & conscientious
- Members are vetted by faculty (J. Best, personal communication, October 13, 2016)

**Challenges**

**Students**
- Must continue in the placement after internship is completed
- Not all class requirements count toward service hours

**AmeriCorps**
- Fewer options for agency placements
- Students’ schedules can be difficult to align with community agency needs

**Student Outcomes**
- 20% were aware of AmeriCorps prior to course
- 100% made decision to join AmeriCorps because university collaboration
- 80-100% stated the collaboration enhanced the experience of both
- 100% joined AmeriCorps for financial benefits
- 100% believed course/AmeriCorps led to increased professional development

**Open-ended Responses**
- Course provided extra support
- Opportunities to engage in social justice
- Giving back to the community outside college campus
- All students mentioned financial benefits!!!

**References**


Teacher Awareness of Goals of Students (TAGS): A New Measure for Understanding Teachers' Attitudes Towards Student-Centered Teaching

Ronald C. Whiteman  
The Graduate Center, CUNY and Baruch College, CUNY  
Anna M. Schwartz & Patricia J. Brooks  
The Graduate Center, CUNY and College of Staten Island, CUNY  
Ethlyn S. Saltzman  
The Graduate Center, CUNY and The Graduate Center, CUNY and College of Staten Island, CUNY  

Presented at: The annual conference for the Association for Psychological Science (APS); Boston, MA; May 2017  
For further information, contact: ron.whiteman@baruch.cuny.edu
Preparing future faculty in psychology is important as the number of psychology doctoral students pursuing an academic career has remained relatively low through the years (APA, 2002). The main focus for doctoral students in applied areas of psychology doctoral training is on research and research-related activities (Gaff et al., 2003). This often results in students not being fully prepared to teach in higher education institutions or understand professional and career development issues involved if pursuing an academic career. (Golde & Dore, 2001; Lovitts, 2001; Nyquist et al., 2001; Phelps, 2010). Students interested in academia are typically prepared through departmental programs, specific workshops, courses, apprenticeship models, or teaching assistant activities.

Our session highlighted activities of the University of Georgia’s (UGA) Preparing Future Faculty (PFF) in Psychology program. Four PFF scholars discussed their experiences, growth, and pedagogical development in teaching and development of undergraduate courses. The department of Counseling and Human Development Services offers an undergraduate minor including a catalog of courses in addiction studies, career development, gender and masculinity studies, human growth and development, and counseling. To demystify the nature of academic and faculty work, our PFF program works to integrate trainings, courses, evaluation, feedback, and supervision to increase self-efficacy, enhance classroom management, and facilitate instructor development.

Offering an experiential perspective, one GTA discussed her experiences as Muslim instructor and the dynamics that brings into a classroom composed of majority White, Southern Christians. The speaker highlighted differences in the geographical location of one’s institution, describing her experiences teaching at one Northern university with greater student diversity.

PFF students have monthly meetings where they consult with one another about issues or concerns in the class room which allows space for support, validation, and supervision from the director. Another opportunity offered through PFF is to create a course – which can be a challenging feat. One doctoral student created an undergraduate course titled The Experience of Gender in the U.S. which is now part of the department’s Human Services minor. Supervision and support through GTA course development is a valuable opportunity; this presenter stated that her future endeavors include developing a course on Counseling of Military Veterans.

One presenter discussed his personal pedagogical philosophy in which he aims to stop the perpetuation of academic disappointment and facilitate experiential and lecture-based learning. He then discussed his experience with two different preparing future faculty courses. The first provided the presenter with peer-support and suggestions as he began his teaching. The second class helped the presenter develop his teaching skills related to teaching diversity and multiculturalism. He concluded his presentation by describing how he incorporates social media, videos, and web links as supplemental material to his lectures in order to provide a holistic perspective of the content.

The next GTA provided a general overview of the PFF program, including the requisite supervision, training, and coursework. She additionally discussed the development of her own unique pedagogical philosophy, which incorporates feminist, anti-oppression, and social justice
principles. The presenter briefly shared her growth in learning to infuse a multicultural praxis into her career development courses. For the presenter, the faculty and peer support networks within the PFF program fostered an open environment in which she could discuss, explore, and collaborate on a variety of issues such as student engagement and challenges in classroom management.

The final presenter offered insight into his development and growth edges incurred throughout three years in the PFF program. Salient topics discussed included privileged identities in the classroom, concurrent counselor and teacher identity development, the intersection of diversity and Addiction Studies, and fostering a supportive and safe class environment with larger classes. The presenter described teacher enrichment activities the PFF program offers such as workshops, development of a teaching and diversity philosophy, SoTL projects, and navigating the teaching portfolio. Finally, he offered reflection of challenges throughout the PFF program such as maintaining engagement through the internship training year, job outlook morale, and balancing multiple departmental demands.

PFF integrates structural supports and peer networks that help GTAs process some of the inherent challenges and frustration of teaching. While PFF offers support, many GTAs express appreciation regarding the autonomy provided to the instructors. As Instructors of Record, GTAs are afforded the creative latitude to utilize classroom practices that are informed by their personal teaching styles, expertise’s, and interests. By way of example, while each course has set objectives, the syllabi are not pre-determined. As a direct result, GTAs are able to make their own pedagogical contributions. Specifically, GTAs design courses, syllabi, select additional text materials, develop lesson plans, and create assignments as well as experiential activities. Our PFF program strongly encourages an open classroom climate in which all perspectives, experiences, and voices are valued.

References


Section XX
Professional Development for Students

1. How Can I Support Career Exploration and Professional Development if I’m Not a Career Expert?

2. Students in Context: Applying Ecological Theory to Graduate School Education

3. Teacher Awareness of Student Goals (TAGS): A new measure for understanding teachers’ attitudes towards student-centered teaching

4. Creative Inquiry: A platform for match-making in research

5. Use of a Career Project to Inform Undergraduates’ Professional Development
How Can I Support Career Exploration and Professional Development if I’m Not a Career Expert?

Stacie M. Spencer, Ph.D.
MCPHS University
For further information, contact: stacie.spencer@mcphs.edu

Keywords: career exploration, professional development, teaching of psychology

Professional development is one of the five goals established in APA's Guidelines for the Undergraduate Psychology Major: Version 2.0 (Guidelines 2.0). This goal is easier for faculty to support when students want to follow in their footsteps than it is when students don’t intend to go to graduate school in psychology. Without formal training in career mentoring, faculty might wonder how to support the career exploration and professional development of students with interests and career trajectories that differ from their own.

You Don’t Need to be an Expert

The good news is, faculty don’t need to be career experts to help their students. In fact, faculty should strive to be career coadjutors. Although it sounds like a double-barreled washing machine, a coadjutor is a person who works together with another. Striving to be a coadjutor takes the pressure off mastering everything there is to know about careers. As coadjutors, faculty assist students by engaging them in processes of discovery, and students assist faculty by sharing information about what they discover.

How to Become a Crackerjack Career Coadjutor

The word coadjutor might not take off in the literature, but Crackerjack Career Coadjutor does have a nice ring to it. All that is needed to earn this title is motivation, problem-solving skills, the belief that there are jobs for individuals with bachelor’s degrees. Such an approach addresses both career exploration and professional development, access to resources, and engaging activities. Assuming the motivation, problem-solving, and positive attitude already exist, the focus here is on the approach, resources, and engaging activities needed to fulfill the faculty coadjutor role.

Provide Support for both Career Exploration and Professional Development

Career exploration is the process of learning about work options that fit an individual’s work values, strengths, and interests. Professional development is the process of developing skills needed to succeed in a specific occupation or job. The two processes feed each other. For example, as a student identifies a career interest, the skills needed to succeed in that career are identified, and plans to develop those skills can be made. And as a student develops specific skills, those skills might lead to the identification of careers for which they are important.

When assisting students, it is important to distinguish among careers, occupational titles, and job titles. The word career refers to a lifetime of work. Occupational titles refer to vocations (e.g., psychologist, engineer). Job titles are the titles employers use to identify a position (e.g., Partner Relations Associate, Domestic Adoption Program Coordinator). It is important for students (and faculty) to understand the value of the bachelor’s degree isn’t determined by whether a graduate pursues a job that puts “ist” at the end of the major, or has
“psych” in the title. Psychology majors don’t need to become psychologists, psychiatrists, psychological scientists, or psychology teachers to make use of the bachelor’s degree. Career exploration should focus on the roles and responsibilities of an occupation or job rather than a specific job title.

**Provide Students with Resources**

The following career resources are free and easy to access.


- **The APA website** ([www.apa.org](http://www.apa.org)). A launch-page for exploring the breadth of psychology and finding career-related resources. Within APA:
  - **Psych Learning Curve** ([http://psychlearningcurve.org/](http://psychlearningcurve.org/))
    - **Especially for Students** ([http://www.apa.org/about/students.aspx](http://www.apa.org/about/students.aspx))

- **O*NET** ([https://www.onetonline.org/](https://www.onetonline.org/)) – From the U.S. Department of Labor, O*NET is a database of searchable occupational titles and corresponding descriptions (tasks, work values, interests, skills, education, and salaries).

- **CareerOneStop** ([https://www.careeronestop.org/](https://www.careeronestop.org/)) – From the U.S. Department of Labor, CareerOneStop provides self-assessment tools, links to O*NET, and resources for career advisors.

- **Surveys of What Employers Want**

- **STP OTRP Teaching Resources** ([http://teachpsych.org/page-1603066](http://teachpsych.org/page-1603066)) - Links to several resources.
  - **An Online Career-Exploration Resource for Psychology Majors** (Appleby, 2016)
  - **Psychology Career Advice Videos** (Kit, 2015)
  - **A Job List of One’s Own: Creating Customized Career Information for Psychology Majors** (Rajecki, 2007)
Create Activities that Engage Students
Rather than tell students about careers, assign tasks that align with where they are in the career exploration and professional development processes; require them to access resources; and encourage them to reflect on what they discover. Here are a few examples to get started.

**Career Exploration**

- Complete and reflect on the CareerOneStop.
- Identify APA divisions that are interesting and discuss related career options.
- Search the APA Monitor, Eye on Psi Chi, and/or any of the APA resources for career information, describe the resource, and discuss how the information might be used.
- Create a handout, poster, video, or presentation that uses information from O*NET, professional organizations, job postings, the major curriculum, Guidelines 2.0, and the Hart and NACE employer surveys to describe a career of interest. Or, create a product that uses these resources to compare three occupations of interest.

**Professional Development**

- Compare the goals in Guidelines 2.0 with the results of the Hart Research Associates and the NACE survey results; provide evidence of existing skills; and create strategies to develop new skills.
- Identify interesting job opportunities posted on Indeed.com or Monster.com; list skills needed for those jobs; and create a plan to prepare for those jobs.
- Identify/apply for volunteer positions, internships, research opportunities, and jobs that provide the opportunity to develop skills and to network.
- Create an elevator pitch, a cover letter, and/or a list of behavioral evidence for the skills needed for a specific job.

**Conclusion**

Rather than attempt to be a career expert, faculty should strive to create relationships with students through which each assists the other. With this approach, faculty can meet the needs of all students and not just the students who plan to follow in their footsteps.

**References**

**Biographical Sketch**

Stacie M. Spencer is a Professor and the Director of the Bachelor of Science in Health Psychology at MCPHS University (formerly the Massachusetts College of Pharmacy and Health Sciences) in Boston, MA, where she teaches Health Psychology, Social Psychology, Research Methods, and a professional development seminar series. She earned her BA from Allegheny College, and her MA and PhD from Northeastern University.
Students in Context: Applying Ecological Theory to Graduate School Education

Sarah L. Ferguson, Ph.D.
Rowan University

Presented at: Association for Psychological Science Teaching Institute 2017
For further information, contact: fergusons@rowan.edu

100 to 150 word biographical sketch of each author:
Sarah L. Ferguson is an assistant professor of Quantitative Methods at Rowan University in the College of Education. Prior to her graduate work, Dr. Ferguson was a middle school science teacher and she retains certification as a teacher in the state of Texas. Currently she generally focuses on the application of advanced research methods and statistics approaches to issues in education and educational psychology. Her current research specifically focuses on two areas: educating others on the use of quality research methods and analyses, and an applied interest in supporting the career development pathway for individuals from high school to career in STEM fields.

A 150 word abstract along with an electronic file of the original poster:
Using Bronfenbrenner’s Ecological System Theory as a framework, the present study seeks to model the multiple ecological systems impacting students in graduate school programs. This study utilizes Leech (2012) as a starting point and integrates multiple theoretical perspectives into a single model based on Bronfenbrenner’s Ecological Systems theory. Students in graduate school programs are uniquely positioned between two ecological systems: one for their general life and one specific to the academic environment. As students’ progress through graduate school these two ecological systems integrate over time. Navigating these two systems and seeking work/school/life balance can be challenging for students and may impact student success. By explicitly modeling this reality, faculty and program administrators can better understand areas where students may need support.

References and/or suggested resources in APA style:
Students in Context: Applying Ecological Theory to Graduate School Education
Sarah Ferguson, PhD
Department of Interdisciplinary and Inclusive Education

ABSTRACT
Using Bronfenbrenner’s Ecological System Theory as a framework, the present study seeks to model the multiple ecological systems impacting students in graduate school programs. This study utilizes Leech (2012) as a starting point and integrates multiple theoretical perspectives into a single model based on Bronfenbrenner’s Ecological Systems theory. Students in graduate school programs are uniquely positioned between two ecological systems: one for their general life and one specific to the academic environment. As students progress through graduate school these two ecological systems integrate over time. Navigating these two systems and seeking work/school/life balance can be challenging for students, and may impact student success. By explicitly modeling this reality, faculty and program administrators can better understand areas where students may need support.

BACKGROUND
Previous Work:
- Adjusting to graduate education is challenging for students due to their multiple responsibilities such as school, work, research, and family roles (Labaree, 2003; Leech, 2012).
- Using a form of ecological theory, Leech (2012) situated the graduate student at the center with nested structures reflecting the individual’s resources and experiences, the program level considerations such as instruction and assessment, the microenvironment of department and faculty influences, and the macroenvironment of graduate school and discipline culture.

Current Study:
- The present theoretical framework more closely applies Bronfenbrenner’s (1992) ecological systems theory to the graduate school context.
- Using Bronfenbrenner’s (1992) ecological systems theory, the present approach situates the individual student in both the ecological frame of graduate school and the broader ecological frame of life.
- As students progress through graduate school, these two ecological systems begin to integrate, particularly for students who continue on in academic work or careers (Bronfenbrenner & Morris, 2006).

ECOLOGICAL SYSTEMS THEORY
A parallel nested ecological systems structure is developed with the student and their individual resources in the center (Leech, 2012). The microenvironmental systems, mesosystems, exosystems, and the macrosystem are modeled in two separate yet interconnected structures (Bronfenbrenner & Morris, 2006; Leech, 2012). The chronosystem is modeled in the change over time as these two ecological systems integrate. On one side (depicted on the left of the diagram), the ecological systems unique to the graduate school environment are developed. These include structures connected to courses, programs, colleges, universities, on out to the field at large and societal expectations (Leech, 2012).

On the other side (depicted on the right of the diagram), the traditional ecological systems theory is presented (Bronfenbrenner, 1992; Bronfenbrenner & Morris, 2006). This system includes family, work, local policies and services, media, on out to the attitudes, values, and ideologies of the culture and society in which the individual lives. This side of the theoretical framework is well known in ecological systems theory, but is included in the current theoretical diagram as a necessary counterpart to the graduate school ecological systems framework.

IMPLICATIONS
- By modeling these two ecological systems in connection, we are better able to represent the reality of graduate school education for our students.
- Program and student support systems can be developed to specifically meet the needs of students experiencing this transition in ecological systems and support student success through these changes.
- Additionally, the longer a student is in a graduate school program the further these two ecological systems merge, particularly for those training to be an academic.
- Programs should seek to be responsive to the different needs of students at different stages of graduate school.

FUTURE DIRECTIONS
- Future research on graduate school education and student needs can explore the multiple ecological systems and their influence on student success.
- Studies of graduate students’ and their experiences can be conducted to evaluate the impact of ecological systems at different points in their graduate school career.
- University programs and support services can apply this theoretical framework to their planning and program evaluation processes to assess their ability to meet the needs of students in the various aspects of their life while in graduate school.

REFERENCES
Teacher Awareness of Student Goals (TAGS): A new measure for understanding teachers’ attitudes towards student-centered teaching

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Anna M. Schwartz & Patricia J. Brooks
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Biographical sketch of the authors:

Ronald C. Whiteman is a doctoral student in the Behavioral and Cognitive Neuroscience Training Program at The Graduate Center, CUNY. His research primarily focuses on assessing cognition-emotion interactions (e.g., rumination, worry) in the face of academic failure and how they may impact the ability to learn and remediate errors. He is also an active member of the Graduate Student Teaching Association (an organization under Division 2 of the American Psychological Association), helping to develop pedagogical resources that seek to improve students’ learning motivation and promote a growth mindset in the classroom.

Anna M. Schwartz is a doctoral student in the Developmental Psychology Training Program at The Graduate Center, CUNY. Her research interests include language development, cultural psychology, and experiential learning. Over her four years as an active member of the Graduate Student Teaching Association (GSTA), she has co-chaired a peer-mentorship program, three local conferences on the topic of pedagogy and educational research and initiated a series of pedagogy workshops. During her term as Deputy Chair of the GSTA, she co-edited How We Teach Now: The GSTA Guide to Student-Centered Teaching (Society for the Teaching of Psychology, 2017). She is currently a recipient of the Committee for Interdisciplinary Science Studies Dissertation Fellowship.

Ethlyn S. Saltzman is a doctoral student in the Educational Psychology Program at the Graduate Center, CUNY and an adjunct instructor at Bronx Community College. Her research interests include collaborative learning and STEM education. She is an active member of the Graduate Student Teaching Association where she has helped coordinate pedagogy workshops on topics including Universal Design for Learning and student participation.

Dr. Patricia J. Brooks is Professor of Psychology at the College of Staten Island, CUNY, where she directs the Language Learning Laboratory. She serves as the Deputy Executive Officer of the CUNY PhD Program in Psychology (Area: Pedagogy) and Faculty Advisor to the Graduate Student Teaching Association of the American Psychological Association. Her research interests are in two broad areas: (1) individual differences in language learning and development over the lifespan, (2) development of effective pedagogy to support diverse learners. She has co-authored/co-edited four books including Cognitive Development in Digital Contexts (Elsevier, 2017) and How We Teach Now: The GSTA Guide to Student-Centered Teaching (Society for the Teaching of Psychology, 2017).

150 word abstract:
To learn more about the constellation of values, attitudes, and beliefs about teaching held by novice college instructors, a new six-item scale was developed to measure “teacher awareness of goals of students” (TAGS). We established that TAGS was a reliable measure in a sample of graduate students employed as adjunct instructors (N=123; \( \alpha = .79 \)). We examined relationships between TAGS and teacher attitudes exemplified by the Model Teaching Criteria (MTC: Boysen, Richmond & Gurung, 2015) and the Approaches to Teaching Inventory (Trigwell & Prosser, 2004), the latter holding subscales distinguishing between “conceptual-change/student-focused” and “information-transmission/teacher-focused” orientations. TAGS was associated with greater endorsement of MTC and a conceptual-change/student-focused orientation to pedagogy, but not with an information-transmission/teacher-focused orientation. The observed correlations suggest that there is a constellation of attitudes associated with student-centered approaches to teaching that includes awareness of students’ goals and motivations and a high value placed on conscientiousness in adapting to student needs.

**Suggested Resources:**


Creative Inquiry: A platform for match-making in research

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Presented at: Southeastern Conference on the Teaching of Psychology
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In 2005, the Creative Inquiry Task Force at Clemson was assembled to facilitate creative endeavors through student and faculty collaboration. The Creative Inquiry projects are designed to include all students in all disciplines, and to allow mentors to work with small teams of students over multiple semesters. These projects incorporate research, service-learning, international study/travel, entrepreneurship, and other associations (Lantz, Chowdhury, & Klotz, 2014).

Creative Inquiry supports these projects in three main capacities. First, the program makes project information available for potential students, and enables early communication between students and project leaders through the school website (www.clemson.edu/ci/). This form of online facilitated match-making allows interested students to learn about projects and research opportunities across the university and contact the project leaders. Leaders may be faculty, graduate students, or staff. Second, the program keeps students and leaders accountable for activity by incorporating course credit for students and semester activity logs for leaders. Undergraduate students are assigned a course grade based on their performance, and leaders must submit annual summaries of project progress. Third, the program offers financial support for conference travel, data collection, and laboratory supplies. Funding is requested at the beginning of the academic year and is awarded depending on size of the team and the scope of the project. Separate funds for data collection and conference-related travel may be requested on an individual basis.

Through this support, the Creative Inquiry program has supported over 1200 projects and matched over 15,000 unique students to those projects within and outside of their majors. This student-mentor collaboration has resulted in over 630 conference presentations, 315 publication, and four patents, since 2005. University wide, the behavioral sciences have demonstrated some of the best Creative Inquiry participation. The College of Behavioral, Social, and Health Sciences accounts for 15% of all students’ involvement, and 17% of the total number of projects; the second most of any college. Despite this, the average project team within the college only has six students, the third lowest of any college. In addition, behavioral science projects involve students from the seven other colleges. In particular, students from the College of Education make up the largest number of participating students from other colleges (N=37, 35% of total), followed by the College of Art and Architecture (N=23, 22% of total).

Across the university, the psychology department has particularly benefited from this program. Out of thirty-three departments, the psychology department has the second largest number of graduate students involved in Creative Inquiry projects (N=44, 12% of total), and the second largest number of undergraduate students involved (N=147, 6% of total). As a result, there is approximately one graduate student mentor for every three undergraduate students (1:3.3), allowing for an ample amount of personal mentorship and guidance. This
ratio is one-fourth as large as the department of Food Science (1:14.6), and half as large as the departments of Mechanical Engineering (1:7.5), Earth Sciences (1:7.5), and Environmental Engineering (1:6.5).

From these data, we can extrapolate a number of positive points. Providing a platform for students to connect with research opportunities has been overwhelmingly positive, resulting in professional presentations and publications. Research involving the Behavioral, Social, and Health Sciences remains a popular area of interest for undergraduate students. In particular, psychology research seems to be among the most popular research topic for students. Among those students from other departments, psychology seems to be especially appealing for those in education and the arts, making up half of all students from other departments. One reason for this success may be graduate student involvement in the psychology department. The psychology department had the second most graduate student mentors which contributed to a low student to mentor ratio.

High graduate student involvement is not surprising when considering the benefits of being a mentor in Creative Inquiry. Graduate students leading Creative Inquiry projects are offered laboratory management experience and an opportunity to collaborate with other departments. As was noted before, Creative Inquiry projects also lend themselves to increased research productivity and financial support. Undergraduate students can assist graduate students with thesis data collection, data set organization and analysis, as well as conference posters design or manuscript writing. In addition, the program provides a source of funding for conference travel, participant payment, and lab equipment.

The Creative Inquiry program is also equally valuable for undergraduate students. For self-directed students with a clear career goal in mind, the program allows undergraduates to develop a competitive resume while promoting curiosity and critical thinking. For students who are simply curious about the project topic or are unsure about their future plans, the program allows them to experience new fields of research and learn new ways to apply their psychological training. As was noted before, undergraduate students are enrolled in a project for course credit, so students do not have to choose between graduating on time and getting applied experience. In a time when productivity is vital to an early career, this level of opportunity is indispensable.

The Clemson University Creative Inquiry program brings together undergraduate students, graduate students, and faculty to promote research productivity and skill building. Based on the present data, psychology departments can particularly benefit from this type of structured program. The key to success seems to be the ease in which students can view projects and contact project leaders, the accountability associated with a structured program, and the financial support offered by the program. This success suggests that other institutions could develop a similar platform for undergraduate students and leaders to connect creative interests.

References

Overview of Career Project

Undergraduates may benefit from early opportunities to plan for careers and graduate training (Peterson et al., 2014). I developed a Career Project for a first-year, psychology-majors-only course through which undergraduates explore the knowledge, tasks, abilities, and educational requirements of four careers (two bachelor's-level, two graduate-level). Undergraduates address job fit and create action plans to address areas of perceived lack of fit; actions may include coursework, service, and research experiences.

Materials for the Project

For the project, students utilize:

- O*NET OnLine, a career exploration tool available through the U.S. Dept. of Labor, Employment, and Training Administration (O*NET OnLine, 2016).
- "Using the O*NET for the Career Project" handout I created. It shows how to locate careers using Career Cluster, Industry, Job Family, and Interest tools. Also, it shows how to navigate summary reports to locate information about the knowledge, tasks, abilities, and educational requirements of careers.

Assignment Details

Students locate the summary report for each of the selected careers. Students may verify the educational requirements by viewing the Job Zone section of the summary report. Using the summary report, they respond to the following prompts for each career.

Tasks with Fit

- List three job Tasks from the summary report that are a good fit for your interests, abilities, and experiences.
- Describe how previous occupational, community service, research, and/or internship experiences enhance your fit for these tasks. Students may also address how personality characteristics make them a good fit.
- Ex: "As a detail-oriented person, I feel that I would excel at maintaining client records... I was very good at finding others' small errors in business booking and enjoyed preparing weekly expense reports."

Knowledge

- Describe how your coursework supports the Knowledge necessary for the career. Use the course catalog to locate additional coursework to build relevant knowledge.
- Ex: "The introductory computer information systems course could help me develop knowledge of hardware and software."

Skills, Abilities, or Work Activities

- Identify specific jobs, workplaces, community service, research, and/or internship experiences to pursue to improve the Skills, Abilities, and Work Activities for the career.
- Ex: "The Center for Civic Leadership helped me find a community service site at XXX that serves children so I can gain more experience working with disadvantaged youth."

Challenge Tasks/Lack of Fit

- List two job Tasks from the summary report that present the greatest challenge/lack of fit.
- Describe how these tasks present a challenge or lack of fit. Create an action plan to address the challenge. Students describe concrete steps they can take to develop fit. Actions may include coursework as well as occupational, community service, research, and internship experiences. Some students describe how university support services may help them address personal issues that interfere with fit.
- Ex: "I am a non-confrontational person... I imagine that there may be great conflict involved in removing a child from a home to be placed in foster care... I think I would benefit from a few counseling sessions that focus on conflict resolution skills."

Wages and Growth

- Locate the median national and state wage and 10-year projected growth rates using the Wages and Employment Trends section of the summary.
- Ex: "In Ohio, $69,000 is the median wage; projected growth rate is +20%.”
Section XXI
Psychopathology

1. Global Perspectives of Abnormality
Global Perspectives of Abnormality

Brenda East
Durham Technical Community College
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Purpose

The purpose of the Global Perspectives of Abnormal Psychology (GPAP) Project is to promote global citizenship by examining current issues that impact psychological well-being. Students’ thinking is challenged by rigorously examining the literature, and critically analyzing the content. In addition, the GPAP Project provides students an opportunity to share experiences, and acquired knowledge through collaboration. Students participate in the learning process by contributing to the nature and direction of the project. Finally, a self-evaluation allows students to assess their strengths, weaknesses, successes, and failures that hopefully translate into engaging behaviors that facilitate social change.

Student Reflection:

Ms. East,
I want to thank you for a fantastic semester... I would like to let you know you did a great job guiding your students through the GPAP project.”
Emily Watkins

Thank you for taking time to review my students work. This Spring 2017 semester, my general psychology courses will be designated as global distinction courses in addition to abnormal psychology. Currently, I am enrolled in the Global Leaders Program earning a Global Leaders Certification from the World View Program from University of North Carolina at Chapel Hill in Chapel Hill, North Carolina. Please feel free to contact me if you would like more information about the globalization of my psychology courses.

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Global Distinctions Course Abnormal Psychology Durham Technical Community College

1617 E. Lawson Street
Durham, NC 27703
2015-2016 GPAP Research Topics

- Psychological Effects of Institutional Racism
- Global Perspective of Autism Spectrum Disorder
- LGBT and Psychopathologies
- Psychological Impact on Refugees
- Psychopathology and Religious Behaviors
- Toxic Parenting and Gender Stereotypes
- Sexual Assault on College Campuses
- Environment and Psychopathologies
- Psychopathy and Terrorists
- Toxic Parents and Psychopathologies
- Torture and Terror: Mental State of the Torturer
- Psychological Impacts: Culture of Rape
- Higher Education and Psychopathologies

Student Reflections

Educational Pathway Importance

“Absolutely, What I loved about the project is that it took all the things we learned and applied it to MODERN issues. That really helped me understand and critically think about the topics discussed in the class.”
Hanna Robinson

“Very important because it went in depth about trauma, rape, and mental illness from a cultural/glocal perspective. I’m majoring in psychology and want to be a mental health counselor.”
Shannon Hollander

“I think this project was a tremendous help in my educational pathway. It helped me focus on group work, researching, and research writing.”
Jillian Klutz

“…..it forced me to utilize scholarly sources. Sometimes scholarly sources are tough to get through, but it is important to know how to maneuver through it”
Muta Rugumany
Section XXII
Research Methods

1. Reframing Research Methods Courses as Skills Development Courses

2. Reframing Research Methods Using Application Assignments

3. Thoughtfully Designing a Psychology Research Methods Lab Curriculum

4. Teachable Opportunities: How to address the Psychology Replication Problem

5. Developing a Research Study in a Collaborative Format for an Undergraduate Research Methods Course

6. Course Sharing: Research Methods in Psychology

7. Online Research Methods Teaching Modules That Present Design Principles from a Critical Thinking Perspective
Reframing Research Methods Courses as Skills Development Courses

Lauren E. Brewer, Ph.D. & Kyle E. Conlon, Ph.D.
Stephen F. Austin State University

Presented at: American Psychological Association Convention
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Introduction

- The Texas Higher Education Coordinating Board has adopted a new strategic plan, TX60X30, which focuses on giving students the skills they need to be successful after graduation (THECB, 2015).
- Recent work by Claroc and Lewancwski has found that psychological research methods courses are often disliked by students but ideal for teaching and assessing a variety of employer-demanded skills (Claroc, Lewancwski, & Van Volkom, 2013; Claroc, Strohmert, & Lewancwski, 2016; Lewancwski, Claroc, & Strohmert, 2016).

Hypothesis

We aimed to test the hypothesis that students who took a research methods course that was reframed as a skills development course would report greater development of key skills relative to those in the course framed as a traditional research methods course.

Method

Participants
34 students self-selected into one of two sections of a Psychological Research Methods course

Materials & Procedure
- Consent including permission to access grades
- Skills Assessment Questionnaire
  - 25 skills identified as important by employers of psychology majors (Landrum & Harrod, 2003)
  - 5 skills identified as important by the TX60X30 strategic plan (THECB, 2015)
- Demographics Form
- Debriefing

Results

- When controlling for final grades, students who passed the skills development course ($M = 5.00$) reported greater development in their ability to work as a part of a team ($F(1,28) = 8.76, p = .01$) and in their ability to get along with others ($M_{DA} = 4.87; F(1,27) = 4.80, p = .04$) compared to those who passed the traditional research methods course ($M_t = 3.83; M_{DA} = 4.11$).
- Additionally, participants showed marginally greater development in their adaptability to changing situations after taking the skills development course ($M_t = 4.81$) compared to the traditional research methods course ($M_A = 4.28; F(1,28) = 3.85, p = .07$).

Conclusions

- These findings suggest that psychological research methods courses are critical in the skill development process of psychology majors.
- Reframing these courses as skills development courses allows students to recognize their own skill growth.

References


Contact Information

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Reframing Research Methods Using Application Assignments

Stephanie Thorson-Olesen, PhD | Viterbo University | Wisconsin

Abstract
- Research is an essential component of the psychology field
- A mixed method course evaluation was utilized to examine if course objectives could be achieved while incorporating application assignments
- According to the results, 94% strongly agree that the course teaching-learning methods supported course objectives
- View a sample syllabus, assignments, rubrics and supplemental materials to inspire psychology research

Introduction
- Psychology instructors often have students that present with anxiety and fear when it comes to taking research methods and statistics coursework (Bartsch, Case & Meerman, 2012)
- As a result, innovative approaches are needed to help students during early stages of research methods and statistics learning (Bartsch et al., 2012)
- Moreover, active learning approaches in the teaching of psychological research methodologies have proven useful (Grahe, Williams & Hinzie, 2000)
- In addition, one program examined the implementation of a course on scientific writing using a pre and posttest, which was found to be beneficial (Lutrell, Butkin, Eastman & Miller, 2010)
- As a result, the purpose of this project was to examine application-oriented instruction and evaluation methods incorporated into the course design
- Rather than solely teaching research methods, students were also engaged in conducting research with a scientific writing emphasis
- Plus, it is important to develop a culture of research in psychology programs because research that enhances knowledge in the behavioral and social sciences has proven invaluable (Human Research Protections, 2010)

Methodology
- Research question: Did the course achieve stated learning outcomes while using the application oriented instruction methods?
- Hypothesis: The course would achieve the stated learning outcomes while using application oriented instruction methods
- Sample: Undergraduate students enrolled in an undergraduate research methods course
- Design: Mixed method course evaluation, which took place in the final two weeks of the semester (online & anonymous)

Application Assignments
1. Annotated bibliography 1
2. Annotated bibliography 2
3. Annotated bibliography 3
4. Methodology (naturalistic observation)
5. Results and discussion
- In addition each student created and presented a research poster
- Example topics:
  - Who drank more? A comparison of alcohol consumption between males and females
  - Studying and social media: Morning versus afternoon
  - Examining the prevalence of music usage during exercise
- Supplemental instruction: There were several guest speakers including a librarian, writing center expert, IRB chair and a statistician

Results
- There was a 72% response rating
- Participants included: 6% freshman, 17% sophomores, 33% juniors and 44% seniors
- Participants responded to a five point Likert scale (1 strongly disagree – 5 strongly agree)
- Participants also commented:
  - I really liked how this course was formatted, especially with the application assignments. Instead of writing a huge research paper it was broken up into application assignments. These were so helpful because this class is overwhelming! I feel as though after these assignments I can write a research paper that would get a very good grade.
  - The course structure was well-planned and evenly paced. Each chapter was thoroughly covered and the activities associated with the chapter helped illuminate the content. I have learned a phenomenal amount and feel well-prepared for future courses in research.
  - Structured very well with coursework evenly distributed throughout the semester. Assignments built off of each other to form final assignments which was very helpful.
  - Breaking up the different parts of the research was very effective for me!
  - Though this course was difficult, I feel accomplished in completing it.
  - I feel prepared to do a study and to take my skills to grad school.
  - Loved the course. It really sparked an interest in research for me.
  - Thank you for a great semester and for making a difficult course less intimidating and manageable.
-总的，我认为这是一种非常有益的体验，使我对研究有了更好的理解。我非常感激Stephanie的付出，她真正让这门课程变得有趣且富有价值。

Discussion
- The findings suggest that the course achieved the stated learning outcomes while using application-oriented instruction methods
- Limitations consist of a small sample size and should be evaluated with multiple forms of assessment in future semesters
- Future research could also evaluate this model for graduate study

Conclusion
- The way research is introduced and developed in undergraduate psychology programs is crucial
- In conjunction with the traditional material taught in undergraduate research courses, it might be worthwhile to incorporate an application-oriented approach

References

Thoughtfully Designing a Psychology Research Methods Lab Curriculum

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Success in research methodology (RM) courses is critical because RM courses teach skills of comprehending, applying, and conducting research necessary for advanced coursework. In Fall 2016, our department implemented a lab component to the RM course to help students rehearse and apply these skills. This project involves the thoughtful redesign of the RM lab to create a set of lecture materials, activities, and homework assignments. Predictors included student feedback on prior learning of course material and difficulty ratings for course skills, and instructor feedback on course material and student learning. Outcome measures included the Attitudes toward Research scale (Papanastasiou, 2005), students’ RM course and lab grades, and RM knowledge scores. Findings indicate that upon completion of our thoughtfully-revised RM lab course, students’ impressions of the rigor of conducting psychology research were related to acquisition of RM knowledge, understanding of the professional utility of research, and overall positive attitude toward research.

Funding for this project was provided by the College of Arts and Sciences, UMass Dartmouth

References


Robin L. Locke received her Ph.D. from the University in Wisconsin-Madison in Developmental Psychology in 2005 where she studied developmental psychopathology, with specific interests in individual differences in context regulation of emotion, biological factors, and behavioral outcomes. That same year she became a postdoctoral fellow in the Warren Alpert Medical School of Brown University Clinical Psychiatry Training Consortium working with Drs. Ronald Seifer and Linda LaGasse. There she worked on a study of emotional processing in early childhood and a large, multi-site study on the effects of in utero substance exposure on child development. In fall of 2008, she joined the psychology faculty at UMass-Dartmouth and is currently an Associate Professor with research interests in how biological, behavioral, and cognitive correlates of emotional processing may have consequences for child behavior and social experiences. Email: rlocke@umassd.edu

Trina Kershaw is an Associate Professor of Psychology at the University of Massachusetts Dartmouth. She was born and raised just outside Philadelphia. She earned her PhD in Psychology at the University of Illinois at Chicago in 2006 under the direction of Stellan Ohlsson and joined the faculty at UMass Dartmouth the same year. Her training is in cognitive science, and her research focuses on complex cognitive processes, including learning, transfer, problem solving, and creativity. Recent research projects include assessing student learning of research skills, assessing innovation capability in undergraduate engineering students, and determining the best type of break to take when solving difficult problems.
Elizabeth E. Lloyd-Richardson, Ph.D. is an Associate Professor of Psychology at the University of Massachusetts Dartmouth. She is a licensed Clinical Psychologist with specialized training in Health Psychology and adolescent health risk behaviors. She has extensive experience in developing and conducting treatments that promote healthful behaviors in adolescents and young adults, particularly in the areas of weight loss, physical activity, smoking cessation, and non-suicidal self-injury. She has authored more than 60 papers and book chapters on these topics. She maintains an active clinical research lab with graduate and undergraduate students, with a particular interest in involving students in meaningful community-based research projects.

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Jennifer M.B. Fugate received her Ph.D. from Emory University in Psychology in 2008 where she studied how rhesus macaques and chimpanzees perceive conspecific facial expressions and vocalizations. Shortly thereafter, she joined the Interdisciplinary Affective Sciences Laboratory of Dr. Lisa Feldman Barrett at Northeastern University as a postdoctoral fellow. There she worked on a series of projects that investigated the role of language on emotion perception. In the fall of 2012, she joined the psychology faculty at UMass-Dartmouth and heads the SOCO (Social Cognition on the South Coast) Lab. She and her students continue to study the role of language on emotion perception, categorization, and emotional experience, as well as the representation of emotion categories.

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Teachable Opportunities: How to address the Psychology Replication Problem

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With the reproducibility of experiments central to the scientific method, psychology is faced with a defining and perhaps re-defining problem. Psychology is now debating (Mischel, 2008; Myer & Chavis, 2014) whether it has a replication “crisis”, or tendency for both classic and contemporary studies to fail to replicate. This presents serious questions not only for the validity of certain studies, but also for the value of psychological knowledge and the scientific status of the field. For example, classic findings regarding "universal" facial expressions (Fridlund, 1994; Ekman & Friesen, 1971) are now recognized to be universal only with context cues (Barrett & Gendron, 2016). Bem's (1967) classic research on self-perception of emotion has been unreplicable (e. g., Khaneman, 2011). Chartland and Bargh’s (1996) research on priming of elderly stereotypes is currently taught in social psychology textbooks, but has failed to replicate (Wagenmakers, Beek, Dijkhoff, & Gronau, 2016). Some statisticians (e.g., Cumming, 2013) are urging psychological researchers to abandon hypothesis testing in favor of effects sizes, confidence intervals, and meta-analyses. This change may further complicate professors’ ability to clarify what is and is not accurate in psychology statistics courses. Finally, a recent study indicated that power stances (i. e. standing like a superhero) improved confidence and performance in presentations (Carney, Cuddy, & Yap, 2010). The author has since retracted the finding due to its inability to replicate (Carney, 2016). This matter, and the instances or evidence, has to be taught. There is an immediate and ongoing bearing of the replication problem for the teaching of psychology. This is why we convened this panel and have sought to engage our fellow psychologists/educators. It appears that we as professionals in our field need to decide how to expose students to these complexities with planning and discussion. However, most would agree it would be a poor choice to introduce general psychology or research methods students to the courses by discussing how unreliable psychological findings are.

Can we take advantage of this this failure to replicate by assisting students in navigating the truths and falsehoods about science generally and psychology in particular? With textbooks and articles struggling to keep up with the changes, what can we professors teach our students about this issue without misleading or disheartening them? In our minds, replication has achieved the “status” of crisis, although others disagree (Schooler, 2014). But there are reasons to believe that the discipline’s response will be transformational, and reasons to be optimistic about it, through its teaching potentials, and greater research accountability.

The field of psychology is addressing this issue with the open science framework (OSF, https://osf.io/), with journals increasingly requiring researchers to submit their materials and analysis plans prior to data collection and write-up. One opportunity for instructors to educate their students through the replication problem is to explain why transparency is so important. Instructors can also encourage students to think critically to develop their own ways and reasons they would use the OSF. Another way the replication issue can become a learning tool is to have students read an article that has not replicated (prior to their knowing it did not replicate) and have them critique the article before and then after discovering its failure to replicate. During the SETOP presentation, a panel attendee proposed this as a way to engage students with research and critical thinking, asking why it
failed to replicate. Students attending the panel agreed they would like the opportunity to look for criticisms of sampling, construct validity, and other variables in a study that may prevent replication. These may differ from their initial criticisms, likely including external validity and sample size.

Another way students can benefit from the replication problem is for professors to include replication demonstrations or activities in class. Regardless of the subject matter, instructors can attempt to replicate classic studies in almost any area of psychology by presenting the original study and then performing it in class (quick and easy ones, such as the Müller-Lyer illusion or Bem’s self-perception research).

One attendee mentioned that with society changing so quickly, replication may simply not be possible because culture has moved on since the initial study was published. Regardless of how we address replication, it is critical that educators inform students about it rather than avoiding it.

The other, crucial, related issue in psychology is the lack of external validity to cultures beyond major Western countries. In these situations, such as facial expressions (Fridlund, 1994) or the Müller-Lyer (1889) illusion (which fails to replicate among Zulus, whose buildings are not square; e.g., McCauley & Henrich, 2006) do we qualify that the findings are unique to Western cultures, or vary by culture, depending on context? Do we use them as examples of cognition or evolution, or do we use them as examples of sampling and generalization limitations?

One way to approach the lack of generalizability is to point students to overseas news sources or journals (Nolan, 2017) in order to broaden their view and expose them to research in other places. We can also make an effort to address current events in the news or reports of recent studies to engage students in critical evaluation of the method, source, and agenda (Nolan, 2017). By using current events, students can see how differently scientists perform studies on the same topic, and thus understand that replication depends on using the exact same method and materials as the original study. Students could also analyze the quality of original studies and focus on the overall benefit of a study that may not replicate, including follow-up studies that did replicate, but have had long-term influence on psychological science.

While the field seems understandably overwhelmed by how to respond to this growing acknowledgement of research uncertainty, it is an exciting time to help students understand the importance in science of transparency, replication, and critical analysis of methodology. Whether or not professors realize it, we need to engage students with this “crisis” so that it is less of an emergency and more of a teachable opportunity.

References


Developing a research study in a collaborative format for an undergraduate research methods course

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Presented at: STP Teaching Preconference at SPSP

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Abstract

Professors are continuously looking for effective and innovative methods to assist students in creating and developing a research study. In the past I have allowed students to choose any topic of interest and work independently on developing their research. This approach created multiple challenges. I modified the course to allow students to brainstorm on topics related to Technology/Behavior and Learning/Memory. Small groups shared their similar research interests and picked a partner. Students collaborated on determining the research topic and developing the method of the proposed study. The weekly schedule of this process will be shared on this poster.

Outline of Class

Step 1: Brainstorm on topics related to Technology/Behavior and Learning/Memory.
Step 2: Explore literature on related topics and identify three potential topics.
Step 3: Create groups of 4 - 8 students that have shared interests in their three potential topics. Share ideas with the group members and select the research team that will work on the class project.
Step 4: Modify the topics of interest based on further discussion and exploration of literature. Submit two potential topics.
Step 5: Meet with professor for discussion of two topics and narrow it down to the final topic.
Step 6: Identify variables and hypotheses. Independently complete a comprehensive literature review.
Step 7: Collaboratively determine method of data collection and materials needed for the project.
Step 8: Independently write the proposed method section.
Step 9: Independently write the proposed results and discussion section.

Brainstorm

Technology
- Technology
- Internet
- Computer
- Social Media
- E-communication
- News
- Computer
- Testing
- Self-Identity
- Narcissism
- Self-Control
- FOAM
- Belief
- Addictiveness
- Communication
- Depression
- Self-Esteem
- Impulsivity
- Driving
- Personality
- Speech to Text
- Personality
- Personality
- Personality

Research Team Application

My 1st Choice:
My 2nd Choice:
My 3rd Choice:

Please explain your preferences for your 1st and 2nd choices. Think about your rationale for this. Do not simply put "because I am interested in this topic". You should relate this to what we discussed in class.

Examples of proposed studies

- Investigating the influence of positive and negative feedback from anonymous social networking sites on depression and self-esteem
- Parental electronic communication involvement as it relates to college adjustment, academic success, and the separation-individuation process
- The influence of perceptual confidence and working memory capacity on dual-task performance
- The relationship between Facebook use, self-esteem, and insecurity in romantic relationships
- Self-disclosure on Facebook as a predictor of public and private self-consciousness and anxiety
- The relationship of music tempo preference, arousal, and mood on exercise motivation
- The relationship between Facebook self-disclosure and narcissism
- Linking internet use, loneliness, shyness, and sociability
- Impact of contemporary media on body image and self-esteem
- Does the amount of selfies relate to narcissism?
- Cell phone usage while driving and risky behavior

Second Semester Lab

- Collaborative
- Poster Presentations
- Online ethics survey
- Create IRB application
- Review IRB’s of other students
- Set up surveys or experiments
- SPSS
- Collect data (2-3 weeks)
- Data Entry/Coding
- Results & Discussion
- Poster Presentations
- Final research paper
Course Sharing Poster: Research Methods in Psychology
Sarah E. Ainsworth
University of North Florida

A major goal of Research Methods courses is to provide students with tools to critically evaluate claims. This course sharing poster presents three writing assignments designed to support the “Three Claims, Four Validities” framework used in Beth Morling’s Research Methods in Psychology: Evaluating a World of Information textbook.

Each assignment requires students to evaluate a claim from an empirical journal article by assessing the four validities (construct, statistical, internal, and external).

Two forms of scaffolding are built into each assignment:
- Each article assigned includes annotations to aid student understanding of complex statistical results
- Assignment instructions include a structured checklist of questions students may consider when evaluating each type of validity

<table>
<thead>
<tr>
<th>Frequency Claims</th>
<th>Association Claims</th>
<th>Causal Claims</th>
</tr>
</thead>
</table>

The assignments also leave room for creativity as students are asked to:
- Generate questions for future research (frequency claim assignment)
- Propose an experiment to test a possible causal pathway (association claim assignment)
- Propose a conceptual replication (causal claim assignment)

Similarities across the three assignments allow for the instructor to provide students with in-depth feedback that students can incorporate in subsequent assignments.

Student Feedback
Quantitative:
- “The writing assignments helped me learn the course content.” (1 = Strongly disagree, 7 = Strongly agree)
  - $N = 37$, $M = 5.35$, $SD = 1.21$

Qualitative:
- They challenged my knowledge of the material and showed me what I needed to focus on more.
- The structure and detailed instructions made it less daunting, I never felt lost.
- They helped me learn the material and understand it better.
- I liked how we could see the background behind the concepts and applicable research.
- I liked how detailed the instructions were. It was good to have a clear guide.
- It gave me a chance to put the terms into a learning assignment. Interesting articles.
- It is a great method in helping to review the material.
- I liked that the assignments helped apply what we are learning in the course.

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Course Sharing: Research Methods in Psychology

A major goal of Research Methods courses is to provide students with tools to critically evaluate claims. This course sharing poster will share three writing assignments I designed to support the “Three Claims, Four Validities” framework used in Beth Morling’s Research Methods in Psychology: Evaluating a World of Information textbook. Each assignment requires students to evaluate a claim from an empirical journal article by assessing four validities (construct, statistical, internal, and external). The first assignment focuses on a frequency claim about sexting, the second focuses on a claim about the association between narcissism and academic dishonesty, and the third focuses on a causal claim that priming God concepts increases prosocial behavior. Two forms of scaffolding are built into each assignment. First, each empirical article assigned includes annotations to aid student understanding of complex statistical results. Second, assignment instructions include structured checklists of questions students may ask to evaluate each type of validity. The assignments also leave room for creativity as students are asked to generate additional questions for future research (frequency claim assignment), propose an experiment to test a possible causal pathway (association claim assignment), or propose an experiment that could serve as a conceptual replication (causal claim assignment). Similarities across the three assignments allow for the instructor to provide feedback that students can incorporate in subsequent assignments. These assignments provide students with in-depth practice evaluating claims from empirical journal articles and could be easily modified to suit the needs of the instructor.

Writing Assignment 1: Evaluating Frequency Claims
80 points

Instructions: A major goal of this course is to improve your ability to critique research findings, and the best way to accomplish this is to practice. This assignment will give you the opportunity to engage in critical thinking by interrogating a frequency claim from a peer-reviewed journal article. In order to successfully complete this assignment, you will need to have a firm understanding of the course content related to frequency claims covered in class and in the textbook. Use pages 67-68, Chapter 5, and Chapter 7 as references for this assignment.

The article is posted on Blackboard, and you will be able to choose 1 of 4 frequency claims from the paper to focus on for this assignment. Your paper will only include information from the article relevant to interrogating the specific claim you select. Your job will be to summarize the findings related to the claim you focus on and to interrogate the claim by considering construct validity, statistical validity, internal validity, and external validity. You will also provide an integrative evaluation of the article and comment on future directions. I recommend reading through the article one time to gain an understanding of the overall idea. Then re-read the article and take notes on how the article addresses the four validities before writing your paper.

No formal title page is needed. Instead, please put your full name on the first line of your paper. The text of the paper should be NO more than 4 double-spaced pages. There is no minimum page number requirement. I will NOT take off points for papers that are shorter
than 4 pages if you have covered all the required content. See below for a checklist of what to include in your assignment and a rubric that will be used for grading. If the article does not contain information requested from the checklist, then state that in your paper.

The assignment will be turned in on Blackboard. Please submit the assignment as an attached Word document (.doc or .docx). No other formats will be accepted.

**Assignment checklist:**

**Article summary (focus only on the frequency claim you select)**
- Identify the research question or main hypothesis
- Briefly describe the method that was used to conduct the study
- Briefly summarize the result of the study

**Interrogation of construct validity**
- Identify the conceptual definition of the variable used in the claim
- Identify how the variable from the claim was operationalized
- Identify whether the article included information about the reliability and validity of the measure. This information might include:
  - Internal reliability (Cronbach's $\alpha$), test-rest reliability, interrater reliability
  - Criterion validity, convergent validity, discriminant validity
  - Citations referring to previous research that assessed the reliability and validity of the measure
- Describe one way to assess the reliability and one way to assess the validity of the measure that was not discussed in the article
- Assess whether enough information was provided to evaluate construct validity, and describe whether you think the measure demonstrates construct validity

**Interrogation of statistical validity**
- Identify whether the study included a margin of error
- Explain why you think the true frequency in the population is likely or unlikely to be close to the frequency reported in the article

**Interrogation of internal validity**
- Explain why internal validity is or is not relevant to frequency claims

**Interrogation of external validity**
- Identify the population of interest and the sample
- Identify the sampling technique used and whether the sample was biased or representative
- Explain whether increasing the sample size would or would not increase the generalizability of the results
- Explain why you think the sample used was or was not appropriate given the research question
- Explain why you think the results would or would not generalize to two other populations, situations, or settings of your choice
Integrative evaluation
- Discuss which of the four validities should be prioritized when evaluating this claim and why
- Explain why you think the authors’ conclusions are or are not supported by the data

Future directions
- Develop two questions for future research that build on the current study
- Identify whether the answer to each question would yield a frequency claim, association claim, or causal claim

General guidelines
- Do not exceed the maximum page limit of 4 pages
- Attend to the overall quality of your writing by using proper grammar and sentence structure (remember to leave time to edit and proofread your paper)
Writing Assignment 1 Grading Rubric:

Full credit will be awarded to papers that meet each requirement listed in the checklist. Credit will be deducted for incomplete, incorrect, or inadequate coverage of each requirement.

_____ Article summary (5 points)

_____ Interrogation of construct validity (15 points)

_____ Interrogation of statistical validity (10 points)

_____ Interrogation of internal validity (10 points)

_____ Interrogation of external validity (15 points)

_____ Integrative evaluation (10 points)

_____ Future directions (10 points)

_____ General guidelines (5 points)

_____ 80 points total
Writing Assignment 2: Evaluating Association Claims
80 points

Instructions: A major goal of this course is to improve your ability to critique research findings, and the best way to accomplish this is to practice. This assignment will give you the opportunity to engage in critical thinking by interrogating an association claim from a peer-reviewed journal article. In order to successfully complete this assignment, you will need to have a firm understanding of the course content related to association claims covered in class and in the textbook. Use pages 68-71, Chapter 5, and Chapter 8 as references for this assignment.

The article is posted on Blackboard, and you will be able to choose 1 of 4 association claims from the paper to focus on for this assignment. Your paper will only include information from the article relevant to interrogating the specific claim you select. Your job will be to summarize the findings related to the claim you focus on and to interrogate the claim by considering construct validity, statistical validity, internal validity, and external validity. You will also provide an integrative evaluation of the article and comment on future directions. I recommend reading through the article one time to gain an understanding of the overall idea. Then re-read the article and take notes on how the article addresses the four validities before writing your paper.

No formal title page is needed. Instead, please put your full name on the first line of your paper. The text of the paper should be NO more than 4 double-spaced pages. There is no minimum page number requirement. I will NOT take off points for papers that are shorter than 4 pages if you have covered all the required content. See below for a checklist of what to include in your assignment and a rubric that will be used for grading. If the article does not contain information requested from the checklist, then state that in your paper.

The assignment will be turned in on Blackboard. Please submit the assignment as an attached Word document (.doc or .docx). No other formats will be accepted.

Assignment checklist:

Article summary (focus only on the association claim you select)
- Identify the research question or main hypothesis
- Briefly describe the methods that were used to conduct the study
- Briefly summarize the main result of the study

Interrogation of construct validity
- HINT: Include a separate paragraph interrogating the construct validity of each variable used in the claim
- Identify the conceptual definition of each variable used in the claim
- Identify how each variable from the claim was operationalized
- Identify whether the article included information about the reliability and validity of each measure. This information might include:
  - Internal reliability (Cronbach’s α), test-rest reliability, interrater reliability
  - Criterion validity, convergent validity, discriminant validity
  - Citations referring to previous research that assessed the reliability and validity of the measure
- Describe one way to assess the reliability and one way to assess the validity of each measure that was not discussed in the article
- Assess whether enough information was provided to evaluate construct validity, and describe whether you think each measure demonstrates construct validity

**Interrogation of statistical validity**
- Identify the strength of the association (effect size) and provide an interpretation
- Identify whether the correlation is statistically significant and provide an explanation of what this means

**Interrogation of internal validity**
- Explain why internal validity is or is not relevant to association claims
- Provide an example of a third variable that could explain the association you selected

**Interrogation of external validity**
- Identify the population of interest and the sample
- Identify the sampling technique used and whether the sample was biased or representative
- Explain why you think the sample used was or was not appropriate given the research question
- Explain why you think the results would or would not generalize to two other populations, situations, or settings of your choice

**Integrative evaluation**
- Use the three rule of causality to explain why causal inferences can or cannot be drawn from association claims
- Based on the directionality and third variable problems, discuss three potential causal pathways that could explain the association found in the study
  - Discuss which of the four validities should be prioritized when evaluating this claim and why
  - Explain why you think the authors’ conclusions are or are not supported by the data

**Future directions**
- Imagine that you are a researcher who wants to test one of the three causal pathways you listed above in an experiment
  - Describe how you would operationalize your independent variable and dependent variable
  - Explain why you think this experiment would or would not be feasible and/or ethical

**General guidelines**
- Do not exceed the maximum page limit of 4 pages
- Attend to the overall quality of your writing by using proper grammar and sentence structure
  - Remember to leave time to edit and proofread your paper. 😊
Writing Assignment 2 Grading Rubric:

Full credit will be awarded to papers that meet each requirement listed in the checklist. Credit will be deducted for incomplete, incorrect, or inadequate coverage of each requirement.

_____ Article summary (5 points)

_____ Interrogation of construct validity (15 points)

_____ Interrogation of statistical validity (10 points)

_____ Interrogation of internal validity (10 points)

_____ Interrogation of external validity (10 points)

_____ Integrative evaluation (15 points)

_____ Future directions (10 points)

_____ General guidelines (5 points)

_____ 80 points total
Writing Assignment 3: Evaluating Causal Claims

80 points

Instructions: A major goal of this course is to improve your ability to critique research findings, and the best way to accomplish this is to practice. This assignment will give you the opportunity to engage in critical thinking by interrogating a causal claim from a peer-reviewed journal article. In order to successfully complete this assignment, you will need to have a firm understanding of the course content related to causal claims covered in class and in the textbook. Use pages 72-76, Chapter 5, Chapter 10, and Chapter 11 as references for this assignment.

The article is posted on Blackboard, and you will be able to choose to focus on the causal claim reported in Study 1 or Study 2. Your paper will only include information from the article relevant to interrogating the specific claim you select. Your job will be to summarize the findings related to the claim you focus on and to interrogate the claim by considering construct validity, statistical validity, internal validity, and external validity. You will also provide an integrative evaluation of the article and comment on future directions. I recommend reading through the article one time to gain an understanding of the overall idea. Then re-read the article and take notes on how the article addresses the four validities before writing your paper.

No formal title page is needed. Instead, please put your full name on the first line of your paper. The text of the paper should be NO more than 4 double-spaced pages. There is no minimum page number requirement. I will NOT take off points for papers that are shorter than 4 pages if you have covered all the required content. See below for a checklist of what to include in your assignment and a rubric that will be used for grading. If the article does not contain information requested from the checklist, then state that in your paper.

The assignment will be turned in on Blackboard. Please submit the assignment as an attached Word document (.doc or .docx). No other formats will be accepted.

Assignment checklist:

Article summary (focus only on the experiment you select)
- Identify the research question or main hypothesis
- Briefly describe the methods that were used to conduct the experiment
- Briefly summarize the main results of the experiment

Interrogation of construct validity
• Identify the conceptual definition of the independent and dependent variable used in the claim
• Identify how the independent and dependent variables were operationalized
• Identify whether the article includes information about how well the independent variable was manipulated. This information might include:
  o Pilot study, manipulation check
  o Citations referring to previous research that assessed the validity of the manipulation
• Describe one way the researchers could assess how well the independent variable was manipulated that was not discussed in the article
• Identify whether the article included information about the reliability and validity of the dependent variable. This information might include:
  o Internal reliability (Cronbach’s α), test-rest reliability, interrater reliability
  o Criterion validity, convergent validity, discriminant validity
  o Citations referring to previous research that assessed the reliability and validity of the measure
• Describe one way to assess the reliability and one way to assess the validity of the dependent variable that was not discussed in the article
• Assess whether enough information was provided to evaluate construct validity, and describe whether you think each variable demonstrates construct validity

Interrogation of statistical validity
• Identify the effect size and provide an interpretation
• Identify whether the difference between groups is statistically significant and provide an explanation of what this means

Interrogation of internal validity
• Explain why internal validity is or is not relevant to causal claims
• Identify potential design confounds, and explain why design confounds threaten internal validity
• Identify whether the experiment used random assignment, and explain how random assignment affects the likelihood of selection effects
• Identify any other threats to internal validity (see pages 322-323 in textbook for list of threats to internal validity)

Interrogation of external validity
• Identify the population of interest and the sample
• Identify the sampling technique used and whether the sample was biased or representative
• Explain why you think the sample used was or was not appropriate given the research question
• Explain why you think the results would or would not generalize to two other populations, situations, or settings of your choice

Integrative evaluation
• Discuss which of the four validities should be prioritized when evaluating this claim and why
• Explain why the current experiment did or did not meet each of the three criteria for causation
• Explain why you think the authors’ conclusions are or are not supported by the data

**Future directions**

• Imagine that you are a researcher who wants to conduct a conceptual replication of this experiment by using a new method to operationalize both the independent and dependent variables
  o Describe how you would operationalize the independent and dependent variables
  o Explain why you think this conceptual replication would be beneficial

**General guidelines**

• Do not exceed the maximum page limit of 4 pages
• Attend to the overall quality of your writing by using proper grammar and sentence structure
  o Remember to leave time to edit and proofread your paper 😊
Writing Assignment 3 Grading Rubric:

Full credit will be awarded to papers that meet each requirement listed in the checklist. Credit will be deducted for incomplete, incorrect, or inadequate coverage of each requirement.

_____ Article summary (5 points)

_____ Interrogation of construct validity (10 points)

_____ Interrogation of statistical validity (10 points)

_____ Interrogation of internal validity (15 points)

_____ Interrogation of external validity (10 points)

_____ Integrative evaluation (15 points)

_____ Future directions (10 points)

_____ General guidelines (5 points)

_____ 80 points total
Online Research Methods Teaching Modules That Present Design Principles from a Critical Thinking Perspective

Michael L. Raulin, Zoey Butka, Miranda Delsignore, Christopher Pagley, Mary Suszczynski, Thomas Warg, Jeff Wiltrot, Elisabeth Winston, & Kristyn Wolf
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Online Research Methods Teaching Modules that Present Design Principles from a Critical Thinking Perspective

Michael L. Raulin, Zoey O. Butka, Miranda Delsignore, Christopher Pagley, Mary Suszczynski, Thomas Warg, Jeffrey Wiltrot, Elisabeth A. Winston, and Kristyn Wolf (names of junior authors alphabetical)
Youngstown State University

Everyone seems to agree that teaching students how to think critically should be the primary goal in the modern classroom (Doerr, 2010). Therefore, it is surprising that critical thinking often gets little attention in the classroom. Recent research suggests that most college students believe in the importance of critical thinking but cannot give a reasonable definition of critical thinking (Mirkin & Raulin, 2016). More distressing is that Paul, Elder, and Bartell (1997) found that the vast majority of college faculty in education and college faculty that taught subject matter courses in education also could not provide an accurate definition of critical thinking. Although it is a reasonably safe bet that most college faculty know how to think critically, if they do not know how to define critical thinking, they will be severely handicapped in training future teachers to be able to pass those skills onto their students. The idea that critical thinking is important in education is being passed on but not the information that would prepare teachers to actually pass on critical thinking skills.

This paper outlines another approach: building interactive online modules to teach critical thinking. Specifically, we have developed more than half a dozen modules to teach research methodology in psychology that avoids a cookbook-like approach and instead emphasizes the underlying principles behind each design decision. This is part of a project to develop eventually 40 or 50 modules. You can think of research methods in psychology as the application of critical thinking to the task of studying and understanding the factors that influence human behavior. This work was funded in part by a grant from the Association for Psychological Science (APS) to promote teaching innovations.

Method

The modules were developed using Qualtrics, an online survey tool that has the ability to respond to those taking the survey and adjust the feedback and questions accordingly. The modules were designed to be brief (roughly 15 minutes in length) and focused on a single topic. Complex topics were broken into subtopics to keep the modules short and focused. Eventually, the modules will be linked so that someone having trouble with a module can take some other modules that provide the underpinnings for more complex concepts.

As much as possible, each module consists of several sequences that involve introducing a concept, giving examples, and then testing the student for understanding. If students are able to answer the test question correctly, they are reinforced and the reason why the answer is correct is emphasized. If students get the answer incorrect, the reason for the incorrect answer is explained and the student is restated. Once a concept is learned and the student gets the answers correct, we move on to another related concept and repeat the process.

The focus of all of these modules is to present the material in an organized structure with each concept presented within the context of critical thinking. Instead of just telling students what to do to design high-quality research, we emphasize the logical reasons why these design elements exist. For example, instead of just presenting the idea of blind scoring, we emphasize the perceptual limitations of human beings. Specifically, we all tend to see what we expect to see, and we are absolutely convinced that our observations are accurate (Raulin & Lilienfeld, 2015). We also highlight take-home messages that represent the critical thinking components behind a research design principle.

Modules

The modules that we focused on developing first were those for which we could easily tie the procedures to a specific, well-documented problem and a logically-derived and empirically-tested solution. Instead of focusing initially on the method, we focused initially on the problem and derived that method for the student. Listed below are some of the modules already developed or in the process of being developed.

1. Metacognition and Critical Thinking
2. Theory, Hypotheses, and Validation
3. Measurement and Reliability
4. Validity
   a. Internal and External
   b. Construct Validation
   c. Validity of Measures
5. Individual Differences and Statistics
6. Logic of ANOVA
7. Observational Bias
   a. Formal Observational Procedures
   b. Blind Observations and Scoring
8. Controlling Threats to Validity
   a. Generalizability and Sampling
   b. Replication
   c. Correlations and their Challenges
   d. Confounding Variables
   e. Subject and Experimenter Effects
   f. Role of Deception
9. Design Principles
   a. Experiments
   b. Within-Subjects Design Logic
   c. Matched-Subjects Design Logic
   d. Single-Subject Design Logic
   e. Concept of Interactions
   f. Factorial Design and Interactions

Plans

Our plan is to develop at least two dozen integrated modules by early August of 2017. They will all be available online at MikeRaulin.org/research methods. After August of 2017, updates will only be posted in December and July of each year on dates that will be posted on the website well in advance. This site is free and available to anyone who wishes to use it. Because it runs on Qualtrics, it will automatically record the results of each student’s efforts, and we will use these data to refine and expand the modules. If the volume of traffic requires moving the website, we will maintain a link on the original website to direct people.

This study serves several purposes, but one of the most important is a proof of concept. We believe that interactive online modules like these can teach students how to think critically by using a Socratic Questioning method. Although it is unlikely that any computerize system will outperform a bright and motivated teacher who is skilled in the Socratic Method, this approach is far more cost effective than one-on-one instruction.

References


Poster presented at the Annual Meeting of the National Institute for the Teaching of Psychology St. Pete’s Beach, FL, January, 2017
Corresponding Author: Michael Raulin, mltraulin@ysu.edu
Online research methods teaching modules that present design principles from a critical thinking perspective

Michael L. Raulin, Zoey O. Buitka, Miranda Delsignore, Christopher Pagley, Mary Suszczynski, Thomas Warg, Jeffrey Wiltzout, Elisabeth A. Winston, and Kristyn Wolf
Youngstown State University

Everyone seems to agree that the goal of education should be to teach students to think critically about issues (Doerr, 2010). One would think that with such universal agreement, the research literature would be filled with studies of the best possible ways to teach critical thinking. Unfortunately, that is not the case. Perhaps as a result, many students have only a vague sense of what it means to think critically (Mirkin & Raulin, 2016). Moreover, college professors in both Education and in the Arts and Sciences are only modestly better at defining critical thinking (Paul, Elder, Bartell, & Wright, 1997).

Goal

This poster outlines the initial efforts to develop training modules to supplement research methodology textbooks and courses. These modules focus on training students in the logic behind design and control elements in research and teaching them the principles of critical thinking by using empirically validated pedagogical methods. This preliminary work was funded by the Association for Psychological Science (APS) through a grant to the senior author.

Developing the Modules

The modules were developed using Qualtrics, which provides interactive surveying technology to (1) present material, (2) test understanding, and (3) provide constructive feedback. The modules are designed to cover narrow topics that can be completed in roughly 15 minutes. The general strategy is to introduce a conceptual issue, immediately provide one or more examples, and then test understanding. We used the logic functions of Qualtrics to recognize correct and incorrect responses and to provide feedback. Finally, we post take-home principles prominently in the modules to facilitate the learning of critical thinking principles.

An example of a part of a module is shown in the next column.

Accessing the Modules

The modules and any future modules are on the website shown below. They are available to anyone who wants to use them. If they move to another site that can handle higher demand, there will be a link to the new site. No password is required, but we do ask that people log into the site using a consistent username so that we can link performance across modules. We recommend, but do not require, that the consistent username be the person’s email address.

www.MikeRaulin.org/research methods

Memorizing Facts is Difficult. Remembering Concepts is Much Easier.

Planned Development

Although we avoid making changes to the modules during the semester, our plan is to use the data that we develop to refine the modules and to update and/or expand them on a posted schedule, approximately twice a year.

Implications

This approach to training students in critical thinking can easily be extended to provide online resources for the training of critical thinking in dozens of contexts. By using Qualtrics to develop and implement these training modules, we created an approach that will constantly gather data that can be used refine the modules and collect data on how students learn (or fail to learn) how to think critically.

Directions for Further Research

We view this work as a proof of concept that online interactive training modules can be used to supplement traditional instruction methods and can do so in a way that helps students to understand elements of critical thinking. Moreover, we believe that such added instructional elements can help students to learn to apply those elements in a variety of ways. Our plan is to identify through data collection which approaches are most effective in teaching critical thinking and to use those methods with other populations, in particular, high school students.

This is the first step in a much larger project to study the process of critical thinking, identify the factors that inhibit students from using critical thinking inside and outside of the classroom, and find better ways to teach critical thinking skills and encourage their use.

We acknowledge the Association for Psychological Science for providing grant funding for this project to the senior author.

References


Section XXIII
Sensation and Perception

1. Tasting Psychology
Introduction

Students often list “sensation and perception” as one of their least favorite topics in their psychology classes. We think it’s because students fail to see the relevance of the material in their everyday life. One way to talk about a variety of concepts using less than 15 minutes of class time is to have them count their taste buds.

Taste Bud Counting Method

Materials
- Blue food dye
- Cotton tip
- Reinforcement circles
- Optional: mirrors (for phones), magnifying glass

Procedure
- Paint small part of tongue blue with dye and cotton tip
- Place reinforcement circle over colored area of tongue
- Count (or estimate) number of papillae in circle

Classification
Depending on the number of papillae, you can be classified as one of the following types of tasters:
1. < 15 papillae → non-tasters
2. 15-35 papillae → tasters
3. > 35 papillae → super-taster

Individual Differences in Taste Bud Density

![Image of taste bud density]

Taste Buds and Papillae

- 4 kinds of papillae, but filiform papillae have no taste function
- Many TASTE BUDS live in PAPILLAE
- ~50-100 TASTE RECEPTORS live in TASTE BUDS

Applicable Topics

DEVELOPMENTAL PSYCHOLOGY / HEALTH PSYCHOLOGY / LEARNING / NATURE VERSUS NURTURE
- People tend to revert to eating habits (healthy and otherwise) that are established in childhood (Scroff, 2016).
- Children tend to eat and weigh less and report more negative affect when pressured to eat (Carlson, Flaherty, Francis, & Birch, 2006).
- Number of taste buds may be controlled by genetics, but flavor perception is caused by both nature and nurture.

The more taste cells you have, the stronger the flavor (Zuniga et al., 1993).

EXPERIMENTAL PSYCHOLOGY / PSYCHOPHYSICS / SENSATION & PERCEPTION
- The “taste bud” map is a myth. While you may have different taste receptors, the locations are distributed across the tongue. This is a misconception of what is meant by sensitivity and thresholds. It is not uncommon to see a “flavor map” of the tongue (do a quick google search or visit a coffee farm or vineyard). The problem is that this map is bogus. Sensitivity/threshold to different flavors does seem to vary by location on the tongue, but receptors still exist in those locations (Fernley & Hayes, 2014).
- PROP/PTC is a chemical that is either really bitter or not, but people tend to have a wide variety of experiences in their perceptions. Cross modality matching is a great way to introduce psychophysics.
- Flavor is made up of so much more than taste: how the food looks, smells, feels, sounds, tastes, and prior experience.

Venues for Information Dissemination

CLASSES
Can be used in core college courses or in AP classes in psychology, biology, and/or neuroscience class as a 15 minute demonstration to illustrate a variety of concepts, some of which are listed above.

SCIENCE OUTREACH
Is very good for science outreach activities to teach younger kids about the importance of scientific inquiry and how our genetics and environment shape who we become. Some venues include local schools and libraries for science or STEM programs and/or for Brain Awareness Week (annually in March).
Section XXIV
Service Learning

1. Benefits of a Brief Service Learning Experience in Biopsychology Courses

2. Can Service Learning Promote Critical Thinking and Civic Mindedness in a First Year Seminar Course on Human Neuroscience?

3. Addressing the Needs of the Students through Addressing the Needs of the Campus
Benefits of a Brief Service Learning Experience in Biopsychology Courses

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Can service learning promote critical thinking and civic mindedness in a first-year seminar course on human neuroscience?  

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Introduction

Purpose: To investigate how service learning activities contribute to critical thinking and civic identity development in first year students.

Rationale: Although service learning has been identified to be a high impact practice for increasing student engagement, we would like to better understand how this approach may differentially affect an established learning outcome, critical thinking, and the newly added goal of developing civic mindedness, or the desire and capacity to engage with the community to work towards the common good.

Context: Over the past several years, a group of WWC staff and faculty has worked to align learning outcomes across many different elements of our uniquetrid educational program, which includes academic (general education, majors, minors, concentrations) work learning (mandatory on-campus work, 10-20 hours per week) and service (community engagement experiences), as well as student life and career development. One framework that has emerged for a set of common outcomes across the trid is the development of civic-minded graduates. The model has been adapted to fit the mission and goals of our institution, but may be useful for others interested in exploring ways to support students in the formation of their civic identities.

Method

Participants: Ten students (5 female, 4 male, 1 non-binary, mean age = 18) in a first year seminar course entitled “Human Neuroscience: Fact, Fiction, Future.” All students provided consent for the instructor to analyze written reflection assignments and present excerpts of that work after removal of identifying information.

Materials: During the 2016 fall semester, students in the course wrote regular reflections on their service experiences. For this project, these ten written assignments were grouped into three categories: Early (3) - assignments completed in the first two weeks of the semester; Middle (6) - assignments written in weeks 3-14; and Late (1) - the final reflection written in the last week of the semester. All assignments had a specific prompt related to service experiences and ranged in length from one to four pages.

Analyses: We used qualitative approach to systematically search for evidence of critical thinking and civic mindedness in students' writing. For critical thinking we used the AAC&U VALUE rubric (handout), evaluating the extent to which students demonstrated their ability to explain issues, use evidence, analyze context, form a position, and support a conclusion. For civic mindedness, we piloted a developmental model that scaffolds the knowledge, skills, values, and actions necessary for building a civic identity (Fig. 1). For both critical thinking and civic identity outcomes, we read each written assignment and noted if the student addressed any components present in the rubrics. We then compiled individual comments to highlight important themes and document how critical thinking and the development of civic identity were reflected in student responses to service learning.

Results: Critical Thinking

In early assignments, student writing showed evidence of some critical thinking skills at the benchmark level, according to the AAC&U rubric. Issues to be considered were usually stated plainly, but with limited description or clarification. "This involves me in my community. It is required that I do it at Warren Wilson College." Positions were generally simple, with little acknowledgement of context or multiple perspectives on issues. "I am very passionate about local food, and believe everyone deserves fresh and nutritious food to nourish their body.

In mid-semester assignments, students did begin to explore more deeply, demonstrating more benchmark and some milestone level skills.

Assumptions were identified and questioned. "Before this I never really thought much of these activities as service, but now... I can sit down and actually understand why." Conclusions were logically fed to information and some related outcomes were clearly identified. "Overall, this experience has made me question the way I think about things, which I value. I have noticed myself having more constructive conversations with friends in my free time." On the final assignment, all students demonstrated some critical thinking skills at the benchmark or milestone levels.

Issues to be considered were described, but not fully explored. "It also made me realize that dementia and Alzheimer's involves a lot more than just losing a few memories. Dementia is a debilitating disease that can totally change the state of a person's well-being.

Discussion

Although examples of civic mindedness at the foundation level were pervasive in student writing, some important skills of critical thinking were not addressed, even at benchmark levels. For example, students were asked only to use their own knowledge and experiences in their reflections, and this "evidence" was not subjected to critique or questioning.

While a range of other pedagogical approaches can certainly promote critical thinking, peer learning with integrated critical reflection offers a unique opportunity to support the development of students' civic identity, because forming a civic identity requires direct engagement with community issues and interaction with individuals who have diverse experiences and views.

Critical inquiry is an important foundational skill within civic mindedness, and can potentially be developed within the context of service learning; need not be "separate" or "additional." To provide more opportunities to practice critical thinking, assignments should directly ask students to articulate assumptions, explore complexities, and incorporate additional sources of evidence.

Future work should focus on validating and scaling up assessment (all FYS, upperclassmen, alumni) to investigate how our educational model can better prepare all students to engage in action to foster a just, equitable, and sustainable world.

Results: Civic Mindedness

Knowledge: In early assignments, students explored personal strengths and limits and expressed the relevance of disciplinary knowledge to community issues: "These classes could also give me the tools to help those around me and understand others." In mid-semester assignments, students began to apply discipline-specific knowledge and show deeper awareness of community issues. In the final assignment, students reflected on their personal fears and goals: "I was concerned that I would do something wrong, and I recognize that my lack of exposure to people with such profound challenges was something I was uncomfortable about." "I am really thankful I got to experience this because I feel like it started to prepare me for the psychological field of study I am interested in.

Skills: As the number and variety of service engagements increased, students wrote more about practice with skills such as collaboration, communication, and diversity: "This really opened my mind and how to respond to people and communities, with people who are not exactly like me but [that I can] still relate to." Values: Empathy, open-mindedness, and self-efficacy were all important ideas expressed in student writing, with self-efficacy expressed even after the first service experience and open-mindedness prominent in later reflections: "I learned that I have doing helps on service work, knowing that there is an impactful effect to my actions." "I will help me learn from different perspectives and have a broader mindset by learning from others.

Collective Action: Students wrote about taking on leadership roles in service next semester, identifying community needs, and how to work effectively with community partners: "Clear communication and tolerance will be important, not to confuse intentions, and also to be open-minded and free of any expectations, open to whatever they have to bring.

References


Can Service Learning Promote Critical Thinking and Civic Mindedness in a First Year Seminar Course on Human Neuroscience?
A Warren Wilson graduate is committed to engaging in collective action to foster a just, equitable, and sustainable world.
Addressing the Needs of the Students through Addressing the Needs of the Campus

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Premise for the Course

Three goals were identified related to the small college experience:

- Provide students with hands on experience related to the mental health field
- Provide an opportunity for students to apply skills developed in other courses to a real world setting
- Provide the campus with necessary psychosocial skills

Objectives of the course:

- Develop foundational philosophies associated with outreach
- Improve presentation skills and evaluation skills of presentations
- Learn design techniques for outreach programs
- Practice designing and implementing outreach programs for target populations

Example Projects

- Specific organizations or groups such as Greek Life, Psych clubs
- Specific classes that target freshman or seniors; psychology courses
- Larger presentations to whole campus based on common concerns as identified by counseling or resident life staff
- A table with information about a topic that may be connected with a laser presentation.
- Bulletin boards in the academic or residential hallways
- Informational table tents
- Informational pages in the campus publications

Implementation

- Recruit appropriate students to participate
- Build relationships with student services partners
  - Student counseling center
  - Resident life staff
  - Dean of students/VF for student life
  - Athletic director
  - Chair of first year studies
- Syllabus and course design
  - Philosophy and background on the definition of outreach
  - Student involvement in selection of targeted populations
  - Presentation skills primers
  - Development of consultation skills
  - Research and presentation design

Course Structure

- Students are asked to identify a “target” population to work with or students work in groups to develop activities around a single issue
  - Example populations include: Athletes, Freshman, Commuters, Music students
  - Example issues include: Sexual assault, Suicide prevention, Athletic programming
- Students are responsible for soliciting opportunities to reach the population and/or students must implement appropriate outreach designs based on goals of outreach programs
- When possible partnerships with on and off campus organizations are encouraged.

Needs Addressed

Members of the Outreach Teams:

- Students learn to work in team setting to achieve practical goals
- Students learn how to consult with various agencies and tackle the challenges of pleasing the “customer”
- Students have valuable experiences that can be resume building [two students were offered employment based in part on outreach experience]
- Attendees at presentations have remarked that they are more likely to listen to information b/c it is a fellow student presenting
- Administrator's
- Can utilize “free” programming for the campus at a time when needs are higher and budgets are lower
Section XXV
Social Psychology

1. From a Social Psychology of obedience and conformity to that of agency and social change

2. Designing Social Psychology "Interventions": A Group Activity Teaching Social Psychology from a Positive Perspective


4. Course Sharing: Using Monopoly to Teach Prejudice and Discrimination

5. Course Sharing: “Psychology at the United Nations”

6. “I Would Never Fall for That!” Using an Illegitimate Authority to Teach Social Psychological Principles

7. Teaching Privilege in a Psychology Course

8. Humans of Longview: Using Social Media in Psychology Courses

9. Measures for an Intervention to reduce implicit racial bias in college students
10. Invisibility and Intersectionality as Guides for Understanding Social Issues Within Psychology Courses
From a Social Psychology of obedience and conformity to that of agency and social change

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Introducing psychology to first year students comes with the dual challenges of presenting it in a clear and compelling manner while also prompting students to think critically about the theories with which they are presented. Many of social psychology’s “greatest hits,” including the Milgram experiment, the Stanford Prison study, and Sherif’s examination of intergroup conflict, tend to focus on the darker side of human behavior. However, if we were to think of social psychology as a discipline that mutually influences and is influenced by contemporary socio-political contexts, then we need to introduce the science as not only studying how individuals are inclined to adapt, conform, and assimilate to the world as is, but also how and under which conditions individuals are agents for social change. The following suggestions are ideas for revisiting the content and way of presenting social psychology to first year students in lectures and seminars.

The suggestions presented are based on the premise that most classical experiments of social psychology were triggered by contemporary history of their time. The findings of those studies have become part of our theoretical knowledge and have shaped much of our understanding of how individuals interact in groups and, in some cases, modified the patterns of behavior upon which this knowledge was based. This ‘feedback loop’ between science and society implies that the kind of psychological knowledge we disseminate has the potential to modify or dissolve patterns of behavior, increase alternatives to social action, or alter certain social conditions (Gergen, 1973).

Many classic studies in social psychology were undertaken to help understand and explain historical incidents of tyranny, prejudice, and failure to help others in crises. For example, Asch (1951) has shown how individuals are inclined to conform with the majority against their own logical reasoning. Sherif (1956) has shown how individuals in competing groups could be prejudiced and hostile towards each other. Milgram (1963) has shown how individuals could be obedient to authority to the extent of torturing others, and Zimbardo (2007) has shown how when individuals are given authority roles they can humiliate and abuse their colleagues.

This has shaped the way we understand human behavior and led to a “conformity bias” in some of the content of introductory courses where individuals are presented as conformists blindly following authority, incapable of addressing, let alone changing, their own circumstances (Reicher & Haslam, 2013; Smith & Haslam 2017). This could be re-balanced by including more alternative views in course content that highlight human capacity for resistance, solidarity, deviance, and change.

First, classic theories and experiments could be supplemented with qualitative empirical theories that tackle a wider understanding of human behavior. For example, Le Bon’s (1895/1947) classic crowd theory explains how individuals become irrational and lose their self-awareness and accountability when submerged in a group. A supplementary view that focuses more on solidarity within groups and the potential of collectives to bring about positive change is that of Drury & Reicher’s (2009) elaborated social identity model. This model proposes shared identity as what constructs the norm of a crowd. This shared new identity, power, and energy give the crowd a transformative potential.

Another addition could be including contemporary experiments that tackle the capacity of individuals to exercise agency despite of and because of situational influences (See Swann & Jetten, 2017), as well as theories that problematize social reproduction, supplementing the science of ‘order’ of social influence with a science of ‘movement,’ analysing processes of social change (Moscovici, 1972). For
example, Moscovici’s social representation theory (1984) posits the continuous construction process of knowledge within societies. In addition, discussing nuanced approaches to classical studies such as those of Asch, Milgram, and Zimbardo could be helpful to emphasize cases where participants did not conform and where experimental conditions enabled agency and resistance. While the main results from these studies emphasize the inevitability of conformity, obedience and the effect of de-individuation overwhelming reason, there was also evidence of resistance and conditions that enabled social solidarity against authority (See Smith & Haslam, 2017; Swann & Jetten, 2017).

The second suggestion has to do with the way the course is tested. Instead of exams focused on content recall, exams could be oriented towards a problem and action-based learning philosophy, where students apply their knowledge on issues or problems in their experienced world and propose ways of analyzing them, as well as potential interventions. By letting students choose the social phenomena to study, and choose the theories to analyze it, we are allowing them to create their own psychology, that responds to current needs, instead of re-producing the social psychology they have learned as is.

The third suggestion tackles the seminar room as a space of reflection and critical thinking. Students can be prompted to consider the contexts of experiments and theories, and whether and how experiments would yield different results in different contexts. When and under which conditions are normative behaviors changed? Questioning when course theories apply and analyzing if and how current world events fit into established theories would build important aspects of critical thinking. Seminars could benefit from discussing case studies and exposing students to conflicting theories of behavior. Finally, instructors can nurture an environment of socially responsible students who seek to critically understand course content and apply it in real world.

In conclusion, these ideas are aimed at shifting the orientation of social psychology courses from a science of explaining obedience and conformity to the world as it is, to a science that studies and facilitates human agency in creating an alternative world. This approach may help students to leave social psychology courses with both the knowledge and the empowerment to create social change in the real world.
References


Designing Social Psychology "Interventions": A Group Activity
Teaching Social Psychology from a Positive Perspective

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The Milgram Experiment. The Stanford Prison Experiment. The story of Kitty Genovese. While these foundational experiments and case studies clearly demonstrate core principles of social psychology, they tend to overemphasize the “dark side” of human behavior. Much of the basic canon of any introductory psychology course focuses on the goal of teaching these specific principles, and the ubiquity of these stories in the public consciousness demonstrates, as a field, that we are succeeding. However, in focusing on only these “greatest hits”, we may be missing not only other stories but also other methods of communicating the ways that these social psychology principles can improve people’s lives and society as a whole. Group activities can provide the necessary space and structure for students to develop key understandings of these powerful principles in a manner more conducive to positive change (Chickering & Gamson, 1999; Webb, Troper, & Fall, 1995). Thus, in collaboration with fellow Psychology One teaching fellow Natalia Velez, we crafted the “Social Psychology Interventions” activity to teach vital social psychology concepts while incorporating aspects of social engagement.

Inspired by intervention science, a growing field of social psychology that is explicitly interested in applying research to social problems (Walton, 2014), the focus of this activity is on having students develop interventions that reduce or modify a social behavior. In small groups, students utilize social and general psychology topics to design their own intervention, helping them integrate core concepts and utilize scientific thinking through study design. Additionally, groups present the intervention they develop, fostering a deeper discussion of the topics between students.

Teams are given 35 minutes to discuss and develop a basic intervention study. Each group of students receives a packet that includes general instructions (figure 1) and a topic page with background and brainstorming questions (figure 2). To guide the discussion within groups, they are also provided a detailed worksheet where they are asked to formulate research questions, hypotheses, study designs, and operationalize key constructs (figure 3).
Imagine you are a social psychologist charged with developing an intervention to reduce or modify a behavior seen in society. You and your team of fellow psychologists will apply ideas from both social and general psychology to develop this intervention. Each group will then present the intervention you designed at the "Insert creative/funny conference name here." Each group will briefly describe their problem, and address their research questions, hypothesis, study design, operationalization of terms, and expected data.

Each team will be given a problem and a worksheet to help you formulate your intervention. Textbooks and lecture notes can be used to help you consider possible interventions. Also, below is a list of common terms and ideas that can be used. Note: not every intervention or problem is suited to all concepts; make sure you pick the best approach for your issue.

1. Obedience
2. Conformity
3. Compliance
4. Social referencing
5. Deindividuation
6. Groupthink
7. Group polarization
8. “Foot-in-the-door”
9. Fundamental Attribution Error

Also, feel free to bring in concepts from previous lectures such as, but not limited to:

1. Observational learning and “social modeling”
2. Schemas and misinformation
3. System 1/System 2 thinking, metaphors, and confirmation bias
4. Social reasoning
5. The “Pygmalion Effect” (think: self-fulfilling prophecy/ "Academic Bloomer” study) and Mindsets
6. Schacter-Singer theory of Emotion (think: the “Bridge” study)
Aim 3: Creating dialog with people of different political affiliations

Partisanship, defined by Merriam Webster as “a firm adherent to a party, faction, cause, or person; especially one exhibiting blind, prejudiced, and unreasoning allegiance”, has been on the rise in the United States Congress over the last 60 years and is now at an all-time high (Andris et al., 2015). Partisan attitudes have been shown to be both top-down (Congress influencing their constituents) and bottom-up (constituents influencing their Congressperson) on sensitive issues such as gun control, the environment, and LGBTQ rights (Lindeman & Haider-Markel, 2002). This inability to have a rich dialog has not only created gridlock in Congress, it has been a source of tension across communities and families.

As a team, you’ll work together to design an intervention to increase or improve dialog between people with different political affiliations. In particular, focus on ways to shift people’s views by having them take the other group’s perspective. Keep in mind the following key concepts from your readings:

Keywords: group polarization, groupthink, central/peripheral route to persuasion, normative/informational conformity, experience sharing, Theory of Mind, group polarization, pluralistic ignorance

Brainstorming: Take a few minutes to discuss the big picture with your teammates.
1. What are some common/broad arguments that have been presented to challenge the ideas of other political parties?
2. Based upon political affiliation, where do you think most people get their information about complex policy issues? What kinds of messaging are used?
3. Based on the questions above, think about how you might leverage similar techniques to instead encourage others to discuss political issues from the other group’s perspective.

Figure 2: Sample Topic Handout
The framing for this activity is that of an “academic conference”. At the end of the 35-minute discussion and development portion of the activity, the students come back together as a whole in order to present the intervention they’ve designed in front of the other groups. Groups are instructed to provide an overview of their topic and present the details of their study in 5 minutes or less. This affords all members of the group the opportunity to speak at
least once during the presentation. Additionally, to keep all students engaged during the presentations, each group is requested to think of a question or constructive comment to pose to the presenters. These questions and comments are addressed to the members of the group during a short "Q and A." after each presentation. This not only keeps students engaged while their peers are speaking, it offers a rare opportunity for students to engage with one another on an academic level in a welcoming environment.

While this activity was originally conceptualized and implemented as part of a 50-minute small group discussion section, the basic framework is flexible and may be recreated as a small group assignment outside of class or a large project that spans the length of an entire course. Additionally, the intervention topics are fully customizable. The prompts utilized in the initial activity design are reducing implicit bias, encouraging others to donate to charity, and creating a dialogue with people of different political affiliations. Topics can be modified to include relevant issues or concerns to a specific student population. Sample materials downloadable in a Word file format may be found at https://stanford.box.com/s/483fqtdktj5up7z8b3x7k7bax0j99z89. This activity integrates the concept of positive change into discussions of social psychology. It is an excellent way to assist students in connecting the material to real-world topics, as well as assisting students in creating connections to each other.

References


Room for Debate: An Assignment for Debating Controversial Research Findings in Social Psychology

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In this talk, I'll outline a debate assignment in which students argue either for or against a controversial research finding in social psychology (e.g., priming effects, the existence of psi). As part of the assignment, students prepare opening statements, make points and counterpoints over several rounds, and support their positions with peer-reviewed journal articles. In addition, students read commentaries by researchers in the field to see how social psychologists are confronting the issues. Data on student reactions to the assignment will be presented, as will suggestions for how instructors can amend the assignment for their own courses.
Using Monopoly to teach Prejudice and Discrimination

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Abstract
I conduct a class exercise in my Social Psychology class. The members of the class are put into groups, and each group plays Monopoly for one class period. The students are each assigned to play with certain restrictions. Some students play by regular Monopoly rules, some are privileged (they get to move twice they number they roll on the dice, collect more money when passing Go, buy properties at a reduced rate, buy houses and hotels two for one, etc.). Other students are disadvantaged (they can only buy some properties, get less money when passing Go, pay more for their properties, go to jail for not being able to pay taxes, etc.). The students play with these rules for about half the class. Then, everyone plays by regular Monopoly rules for the second half of the class. At the end of the class, the players add up their “assets.” It becomes quite clear to the students that those who were “disadvantaged” at the beginning of the game will never catch up. This always leads to a very lively discussion about prejudice and discrimination.

Introduction
I have found it difficult to teach my students about prejudice and discrimination. While some students have experienced direct prejudice or discrimination, others have not. Those who haven’t experienced it directly often don’t believe themselves to be prejudiced, and see the world as a just place. I wanted to use an activity in class that would allow my students to see for themselves what happens when prejudice and discrimination occur, but in a non-threatening manner.

Method
In order to teach my students about prejudice and discrimination, I have them play a modified version of Monopoly, designed by Richard Harvey (2011). I set up several game boards in the classroom, and one class period is devoted to this activity. Students are randomly assigned to play by various rules. Some students play by regular Monopoly rules, but most of the students play by different rules. One player in each game can only move half the amount rolled, can only buy properties priced at $150 or less, must pay double for all property, roll doubles to get out of jail, only receives half the amount of money when passing Go, and goes to jail if he or she cannot afford fines. Another player in the game goes to jail for rolling anything higher than a 7, can only buy properties priced at $100 or less, must pay double for all property, goes to jail for not being able to pay fines, and only receives $100 for passing Go. One player in each game is allowed to move twice the amount rolled, collects $300 for passing Go, can buy houses and hotels at half price, pays twice the taxes, and can buy property for less than the stated price.

Method, continued
The students will play by these rules for approximately 20-30 minutes. Then, everyone plays by regular Monopoly rules for approximately 20-30 minutes. For the last part of the class, the students write down how much money they have earned (or lost), and we discuss what happened. The students realize that once someone has been disadvantaged, it would take a very long time for those players to “catch up” with the students playing by regular Monopoly rules, and that they would probably never catch up with the advantaged players.

Results and Discussion
At the end of the semester, I asked the students to fill out an evaluation of Social Psychology Monopoly. When I asked whether they feel they learned something about prejudice, all of my students responded “agree” or “strongly agree” on a 4-point Likert scale, which ranged from strongly disagree (1) to strongly agree (4) (M = 3.33 out of 4.00). When asked if they believe they learned something about what it would be like to be discriminated against by playing the game, again, all students responded with “agree” or “strongly agree” (M = 3.38 out of 4.00). When asked if they think they would have learned more about prejudice and discrimination through class lecture and discussion, all but two students (95%) disagreed or strongly disagreed (M = 1.67 out of 4.00). As expected, the students thought the game was enjoyable (M = 3.65) and no one thought it was a waste of class time (M = 4.00). When I asked my students if Social Psychology Monopoly should be played in future sections of social psychology class, they all agreed or strongly agreed (M = 3.79).

Some of the comments students provided about this activity include, “It was a blast! I love having fun activities that apply the concepts we’re learning about.” “Not so enjoyable because of the stress of being Player 2, but technically, that is the point.” “It shows you what it feels like.” “Being Player 3 sucked! But overall it was a good method of teaching, and it was fun.” “Loved the game!” “I learned better by interacting and doing class activities like surveys or playing games. This helped me a lot.”

Reference
Social Psychology Monopoly Rules

Banker
You are to distribute property and income as follows:

Player 1 gets the normal amount of money plus all the red properties
Player 2 gets half the money
Player 3 gets half the money and gets one railroad of choice
Player 4 gets twice the amount of money plus the green properties

All Players must buy every property they land on, unless they aren’t allowed to, or it is already owned.
If you run out of money, you must mortgage your properties; if you’ve mortgaged all your properties, then you must borrow money from the bank (keep track of how much money is borrowed).

Player 1
Play by normal Monopoly rules.

Player 2
1. You can only move half the amount you roll (always round down on odd numbers).
2. You can only buy properties priced $150 or less and you must pay double for all property.
3. If you land in jail, you must roll doubles to get out or pay a $200 fine to the bank.
4. You must always pay twice the amount to any player, fine, or property (houses and hotels).
5. You can only receive half the amount due from other players, the board, or bank. (You get only $100 for passing Go.)
6. If you cannot afford to pay fines, other players, or the board, you must go to jail.

Player 3
1. You must go directly to jail for rolling a number higher than 7.
2. You can leave jail by rolling a number lower than 7.
3. You can only buy property priced $100 or less and you must pay double for all property.
4. You must always pay twice the amount to any player, fine, or property (houses and hotels).
5. You can only receive half the amount due from other players, the board, and bank. (You get only $100 for passing Go.)
6. If you cannot afford to pay fines, other players, or the board, you must go to jail.
7. You are allowed to raise the price for your railroad up to $500 for Player 2. The other players must pay the regular amount.

Player 4
1. You are allowed to move twice the amount you roll.
2. You receive twice the amount regularly awarded from Monopoly cards.
3. You collect $350 for passing Go.
4. You can buy property for $25 less than the stated price.
5. You can buy houses and hotels two for one.
6. You have to pay twice the amount for taxes.
7. You can sell your property to other players at any price they are willing to pay.
8. You can buy property from other players at any price they are willing to sell.

Course Sharing: “Psychology at the United Nations”

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"I would Never Fall for That!":
The Use of an Illegitimate Authority to Teach Social Psychological Principles

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Abstract

The current class activity explores attitudinal beliefs and behavioral responses of "obedience" in response to an illegitimate authority figure in an ambiguous situation. Students either self-reported the likelihood that they would comply to a request made by a stranger to surrender their cell phone, or were asked directly and in person by a confederate to relinquish their cell phone. The exercise revealed a marked discrepancy between how students predicted they would respond and how they actually did respond to the request. Specifically, in five different classes, the average percentage of students in the class complying with the request was 81.2%. In this poster, we provide recommendations for how this exercise might be employed to make meaningful applications to myriad social psychological principles.

Introduction

- Experimental learning creates deeper inferences in subject matter (Hetman et al., 2003), increases integration and synthesis of core themes and course material (Blessing & Blessing, 2015), and improves student retention rates (Schmidt et al., 2009).
- Experimental learning also leads to higher exam scores and improvements in problem-solving, communication, and interpersonal skills (Terry et al., 2001).

- So, how might lessons about our vulnerability to obedience be framed in an experimental learning context?

- We devised a scenario by which students were confronted by a demand of an illegitimate authority figure, one involving risky stakes (i.e. the loss of a cell phone).
- We surveyed additional students to assess self-reported estimates of their own behaviors in such a hypothetical context. As cellphones represent a critical part of the average student’s life (Bennison & Arcuri, 2015; Nikkola, 2015) and having one’s phone taken away has been linked to negative physiological and affective responses (Cayton et al., 2015), this task involved a meaningful personal sacrifice to a perfect stranger.

- After the exercise, discussions were facilitated on myriad social psychological concepts (see student learning opportunities). Depending upon the behavior of the students (relative obedience or defiance), material can be tailored to more directly address the experiences of the class.

Method

Participants

University of Baltimore students (N = 164) participated in this research in one of two ways – in an experiential obedience exercise (n = 109) or in a survey task (n = 55). The experimental obedience exercise was introduced in five undergraduate classes ranging in size from 11 to 38 students. The courses were varied in terms of college level and academic focus (i.e., upper-level psychology, sophomore seminar, introductory biology, entrepreneurship, and marketing).

Experimental obedience exercise

At the start of class, one of two confederates entered the classroom, and positioned themselves at the front of the classroom. Without identifying themselves, the confederates instructed students to place their cell phones into a box, saying “I need you to put your cell phones in this box.” Following the protocol after the original Milgram (1963) study, if students asked if they had to comply, the confederate simply repeated the request with an authoritative tone (e.g., “It is important for you to follow instructions and put your phone in the box”). Otherwise, the confederates in no way provided students with any justification for the request. Once the cell phones were collected, the confederate counted the phones and returned them to the students.

Survey task

The survey task was divided into two conditions. In the parallel condition, students (n = 30) read a scenario identical to the protocol in the obedience task. They were asked to estimate how likely (on a scale ranging from 0 to 100%) they would be to comply with a request made by an unknown stranger to put their cell phone into a box.

In the second variation, we added a “noncompliant” student into the description. In this scenario (n = 25), the following sentence was included, “A student sitting next to you matters under her breath, ‘I am not doing that and fail to comply to the request.’” After reading scenario, students completed the same items about compliance likelihood (about their own and others’ behavior). Students were also asked to report how compliant others would be using the same measurement scale, and questioned as to why they would or would not comply.

Results

An overwhelming majority of students (81.2%) exposed to the experimental obedience task relinquished what they might consider their most personal and valuable belonging to a complete stranger with no justification. Despite the fact that the authority figure in this exercise lacked legitimacy, this compliance rate exceeded both Milgram’s base rate of obedience (63%) and self-reported estimates of compliance to an illegitimate authority (22.4% likelihood).

A paired-samples t-test also showed that students thought that they would be significantly less likely to comply to an authority figure (M = 16.5%, SD = 25.4) than their peers would (M = 41.0%, SD = 29.8), t(20) = 5.91, p < .001.

An independent samples t-test revealed that students reported being less likely to comply in the “noncompliant peer” scenario (M = 8.7%, SD = 18.3) than when noncompliance was not mentioned (M = 22.4%, SD = 28.9), t(50) = 2.13, p = .04. Interestingly, estimates of others’ compliance were not affected by the presence of a dissenter, t(52) = −.48, p = .63.

Discussion

Several things are noteworthy about these results:

First, students in this upper-level psychology course would have learned about Milgram’s research in several courses prior to this exercise, yet this class was 100% obedient.

In contrast, students in the marketing class were actively depositing their phones in the box when one vocal dissenter challenged the confederate. The remaining students conformed to the behavior of the vocal dissenter (allowing for a segue into minority influence).

Third, after the guided discussion about the social psychological implications of the experimental exercise, three classes applauded. Given the rarity of this experience, we believe this to be evidence of the impactful nature of this exercise.

The current exercise demonstrates how obedience research continues to be relevant in modern times. While there are numerous contextual circumstances for which obedience appropriate (Lie & Bemus, 2017), this exercise exposed our collective vulnerability to blind obedience and the potential dangers attached to our willingness to accept illegitimate authority.

Student Learning Opportunities

- Obedience (behavior in response to perceived authority) and conformity (to the behavior of other students) consider their most personal and valuable belonging to a complete stranger with no justification. Despite the fact that the authority figure in this exercise lacked legitimacy, this compliance rate exceeded both Milgram’s base rate of obedience (63%) and self-reported estimates of compliance to an illegitimate authority (22.4% likelihood).

- A paired-samples t-test also showed that students thought that they would be significantly less likely to comply to an authority figure (M = 16.5%, SD = 25.4) than their peers would (M = 41.0%, SD = 29.8), t(20) = 5.91, p < .001. However, estimates of others’ compliance were not affected by the presence of a dissenter, t(52) = −.48, p = .63.

Sample Survey - Parallel Condition

Sample Survey - Noncompliant Peer
Teaching Privilege in a Psychology Course

*Kim Lamana Finn
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Humans of Longview: Using Social Media in Psychology Courses

Vicki Sheafer
LeTourneau University
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Measures for an Intervention to reduce implicit racial bias in college students

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39th Annual NITOP January 3–6, 2017, St. Pete Beach, Florida

Fifty-two years after the Civil Rights act and sixty-two years after Brown vs. The Board of Education great racial disparities still exist in America. The Pew Charitable trust reported that median wealth of college-educated white households ($301,300) is more than 11 times that of black households ($26,300) with similar education levels. While 81% of African-Americans with at least some college say they have been discriminated against due to race, sixty-two percent of whites report that race has little to do with their level of success. (Pew, 2016)

Seventy-eight percent of whites hold the optimistic view that the U.S. either has (38%) or will (40%) make the changes necessary to give blacks equality with whites. Of blacks few believe equality has been reached (8%) while 42% believe it will be eventually (Pew, 2016.) Suggestions that the election of Barack Obama has shown America to be post-racial have led to the supreme court eliminating key aspects of the Voting Rights act of 1965 (Liptak, A, 2016.) Recently we used data about South Carolina voter registration (South Carolina Voter Registration Demographics, December 19, 2016) and results of the recent election (South Carolina Results, December 19, 2016) to look at the relationship between racial make-up and voting results in the counties of South Carolina. As shown in figure 1, the percent of white voters correlated .92 with percent voting for Trump. Thus, 85% of the variance in voting can be explained merely by knowing the racial make-up of the electorate.

Racial microaggressions (Sue, et al, 2007) are insults, indignities, and marginalizing messages sent by well-meaning people unaware of the hidden messages. Psychology now knows that a great deal of our behavior and attitudes are based on automatic associations made outside of
awareness (Khaneman, 2011). Thus, many people insist that they have no racial bias and are unaware of their biases. Dovidio (Mitchel, 2015) stated that while whites often believe they are color blind and don’t see race, their biases are pervasive and have a huge pernicious effect on blacks. The Implicit Association Test (Banaji & Greenwald, 2013) demonstrated that when measured in such a way that they could not choose a conscious answer, the majority (about 75%) of Americans showed a preference for whites over blacks. Thus, while “Explicit bias is infrequent; implicit bias is pervasive.” (Banaji & Greenwald, 2013, p. 208.)

Our goal is to attempt to replicate efforts to change biases using in-person groups and e-mail assignments using methods identified by Devine, Forscher, Austin and Cox (2012). A first step is to verify measures we plan to use to demonstrate a reduced bias.

**Method**

The Implicit Association Test (Banaji & Greenwald, 2013) provides an important tool in understanding prejudice as it goes underground. With people less inclined to admit to or even be aware of racial bias research questionnaires with high face validity can give a distorted message. The IAT is available on the web but reports results only categorically. However, a Free IAT which can be downloaded allows researchers to collect quantitative data on implicit bias. We used the on-line version of the IAT to validate the results we got from the in-house version created from the Free IAT.

In addition, we used the Symbolic Racism 2000 Scale (Henry & Sears, 2002) as an explicit measure of racial bias.

Forty-five students in an introductory psychology lab took the on-line version of the IAT. They then completed the Symbolic Racism Scale and then retook the IAT in-house version.

**Results**

For the African-America students the results were very similar for the IAT on-line and the IAT in-house. (see Table 1) However, nearly one third of the European-American students showed a major shift upon taking the in-house version.
As expected black students scored lower on the Symbolic Racism Scale $M=.29$, $SD=.12$ than white students, $M=.39$, $SD=.16$, $t(42)=-2.28$, $p<.05$, $d=.80$.

They also had higher average scores on the In-house IAT, $M=.30$, $SD=.47$ than white students $M=-.15$, $SD=.49$, $t(41)=3.10$, $p<.01$, $d=.96$. A positive number here indicates a preference for blacks over whites and a negative number indicates an implicit preference for whites over blacks.

**Discussion**

An in-house version of the IAT offers notable advantages. Researchers are able to obtain quantitative measures which improve statistical power. Scores can be obtained more anonymously via ID numbers without intervention. Recording of scores is done automatically.

The change in white student scores on the IAT from one version to the other is troubling and puzzling. Because we did not control for order effect, interpreting the change is difficult. Each student completed the on-line IAT with the expected distribution with most indicating a preference for whites over blacks. They then received their results indicating that preference and were asked to complete a very obvious racial bias scale. Six of the twenty subjects then showed a significant shift to the side indicating a preference for blacks over whites.

This shift could reflect boredom with the task, frustration with being labeled biased or a practice effect. The IAT is not thought to be susceptible to deliberate faking so it seems unlikely that the students have changed their answers to appear less biased. Perhaps the priming associated with the results and the obvious measure led to an increased sensitivity to issues of race. Thus, the white students may have had a temporary reduction in bias. Receiving a result indicating that one has a bias for white over black, followed by the Symbolic Racism Scale which forces the individual to confront the ugly reality of prejudice may have an emotional impact. We plan to test this hypothesis by redoing the assessments and counterbalancing for order effects.

Clearly the results could be an artifact of a small sample size as well.
References


South Carolina Voter Registration Demographics (December 19, 2016). Retrieved from: https://www.scvotes.org/cgi-bin/scsec/96yr?countykey=ALL&D1=RACE

Figure 1. Percent white voters by percent of votes for Trump by county South Carolina 2016
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*Table 1.* Categorical responses to the on-line and in-house versions of the IAT.
Measures for an intervention to reduce implicit racial bias in college students.
William P. Wattles, Ph.D., Chaniqua Mazyck
Francis Marion University

Rationale
The median family wealth discrepancy underscores the enormous inequalities between the races in the U.S. While the median income for a white college-educated family is $301,300 the figure for a black family of similar education is $26,306. Despite these differences and the fact that 81% of college-educated blacks feel they have been discriminated against, a majority of whites (62%) do not believe their race has any roll in their success. As racial prejudice has become less socially acceptable overt racism has decreased and implicit bias more important in perpetuating inequities. This paper discusses efforts to validate measures to be used for an intervention to reduce implicit bias.

Measures
The Implicit Association Test provides an important tool in understanding prejudice as it goes underground. With people less inclined to admit to or even aware of racial bias research questionnaires with high face validity can give a distorted message. The IAT is available on the web but report results only categorically. However, a Free IAT which can be downloaded allows researchers to collect quantitative data on implicit bias. We used the online version of the IAT to validate the results we got from the in-house version created from the Free IAT. In addition we used the Symbolic Racism 2000 Scale as an explicit measure of racial bias.

In-house versus On-line results
African-American students performance on the In-house IAT was very similar to that on the On-line IAT. However, nearly one third of the European-American students showed a major shift upon taking the In-house version. Number of students in each category shown below.

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Race and the Election
The election of President Barack Obama has been suggested by some as evidence of a post-racial U.S. Election statistics demonstrate the fallacy of that idea as in South Carolina the correlation between percent of white voters and percent voting for Trump is .92.

Means scores by race
As expected black students scored lower on the Symbolic Racism Scale M=-29, SD=.12 than white students, M=.39, SD=.16, t(42)= -2.28, p<.05, d=.80. They also had higher average scores on the In-house IAT M=.30, SD=.47 than white students M=-.15, SD=.49, t(41)=3.10, p<.01, d=.96. A positive number here indicates a preference for blacks over whites and a negative number indicates a implicit preference for whites over blacks.

Discussion
An in-house version of the IAT offers notable advantages.
- Researchers are able to obtain quantitative measures which improves statistical power.
- Scores can be obtained more anonymously via ID numbers without intervention.
- Recording of scores is done automatically.
The change in white student scores on the IAT from one version to the other is troubling and puzzling. Because we did not control for order effect interpreting the change is more difficult. Each student completed the On-line IAT with the expected distribution with most indicating a preference for whites over blacks. They then received their results indicating that preference and were asked to complete a very obvious racial bias scale. Six of the twenty subjects then showed a significant shift to the side indicating a preference for blacks over whites. This shift could reflect boredom with the task, frustration with being labeled biased or a practice effect. The IAT is not thought to be susceptible to deliberate faking so it seems unlikely that the students have changed their answers to appear less biased. Perhaps the priming associated with the results and the obvious measure led to an increased sensitivity to issues of race. Clearly the results could be an artifact of a small sample size as well.
Invisibility and Intersectionality as Guides for Understanding Social Issues Within Psychology Courses

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Creating inclusive learning spaces for diverse groups of students or for students interested in coalitional work in their communities can be challenging, but also quite rewarding. Psychologists have a long history of advocating for social justice (Lewin, 1952), and as teachers of psychology we have a responsibility to train students to approach social issues through rigorous research methods and innovative lenses informed by interdisciplinary scholarship (Walton & Dweck, 2009). I suggest the psychology of invisibility (Fryberg & Townsend, 2008) and intersectionality (Cole, 2009; Crenshaw, 1991) as useful tools for teaching psychology courses across diverse types of institutions and groups of students who seek to use their skills for positive social change.

Guided by these theories, I teach a course on the Psychology of Gender, Race, and Sexuality (GRS) that facilitates students’ ownership of their learning through collaboration, incorporation of information about groups that matter to them, and situating their analyses in the context of social structures. Central to the class is the Intersectionality Project, which is a semester long assignment that asks students to collectively choose a social issue, work in smaller groups at “intersections” to examine how a single issue affects different groups of people and present their findings to their peers.

There is ample evidence demonstrating that an absence of social representations in curriculum has negative consequences for marginalized groups who may find it difficult to imagine themselves in domains where they have been historically underrepresented (e.g., Native Americans in STEM fields; Fryberg & Townsend, 2008; Rios & Stewart, 2013; Rios, Stewart, & Winter, 2010). Therefore, addressing this invisibility by diversifying the curriculum inevitably helps students understand how psychological science is relevant to them and their communities. Arguably, one of the most influential theories to emerge from Women’s Studies is intersectionality, which challenges the notion that gender oppression is central to all women’s lives (Crenshaw, 1991; Hurtado, 1997). Intersectionality posits that individuals experience their multiple identities simultaneously, and identities vary in the power and privilege afforded to individuals. For example, the question of who has access to the best educational opportunities and why, requires an intersectional analysis of race, gender, social class, and disability. Importantly, intersectional theory seeks to highlight interlocking systems of oppression and issues of particular relevance to previously invisible, socially marginalized groups.

As the concept of intersectionality becomes increasingly mainstreamed in American culture, key features of the theory are becoming diluted. In the context of higher education, students understand intersectionality simplistically as uniqueness at the junction of race, gender and sexuality rather than differential amounts of power and privilege embedded in these social identities. The idea that science is neutral and free of biases excuses us from looking more closely at how social contexts shape an individual and group psychology. Integrating intersectionality across course curricula highlights ways psychology has addressed intersections of identity (e.g.
gender within race), as well as contributed to the invisibility of certain groups (Rios, Bowling, & Harris, 2017). It may seem daunting to be inclusive of all our students’ identities. So, how do we approach such a complex task?

The Intersectionality Project easily lends itself to other psychology courses (and arguably across disciplines) at the undergraduate and graduate levels. The project explicitly focuses on intersectionality and requires students to enact real-life activism related to their chosen topic. As a class, students collectively choose a social issue (e.g. sexual violence, addiction), and then organize themselves into smaller working groups to examine a particular “intersection” (e.g., African American women, undocumented persons), and present their findings to their peers at which point differences become salient in the context of social structures (e.g. access to reproductive health care for different groups of women; Crenshaw, 1991). This semester long process facilitates student collaboration and opens space for them to include information about groups they are interested in (e.g. Latinx students who rarely see themselves represented in psychology curriculum) and situates their psychological analyses in social structures (e.g., the law, education; Bain, 2004). Students learn to consider how societal and institutional level issues affect people at the group and individual levels.

As a large group, the class selects one social issue to address (e.g. same-sex marriage, sexual violence, reproductive justice). Students then identify intersections of identity to research in small groups of three or four (e.g., White stay-at-home fathers, undocumented immigrant women). By agreeing on one social issue to research as a class, students take ownership of their experiential learning (Bain, 2004). In smaller groups, students consider how the intersections of gender, race, and sexuality affect how groups of people experience the issue. In these same smaller groups, students decide on a relevant intervention to carry out which may take the form of coordinating with a community organization, the creation of products such as brochures for an organization, or a social media outlet, any of which facilitates collaboration and an authentic outlet for students (Bain, 2004).

The final assignment takes the form of small group presentations where students present an overview of their “intersection” (e.g., African American women), their activism, and connections made between their activism and course material. At this level of analysis, students apply psychological concepts to explain their findings, and apply theory used throughout the semester including the psychology of invisibility (Fryberg & Townsend, 2008), Cole’s (2009) recommendations for intersectionality and research in psychology, Greenwood’s (2008) intersectional political consciousness, and intersectional invisibility (Purdie-Vaughn & Eibach, 2008), as well privilege (Case, Iuzzini, & Hopkins, 2012) and numerous other psychological theories and concepts. Groups present their work to the larger class to illuminate differences and similarities of experiences at a particular intersection (e.g., White women compared to African American women and reproductive justice), key lessons they learned during the process (e.g. research and activism are hard!), and their previously held assumptions about the equality of laws, practices, institutions, or groups of people. Through the Intersectionality Project, students learn to weigh evidence at critical intersections and build confidence in their psychological analyses of social issues.
References


Section XXVI
Scholarship of Teaching and Learning

1. Effectiveness of Creativity- and Performance-based Classroom Activities on Autism Spectrum Disorder Knowledge

2. The "Second R": Students' Perceptions of the Importance of Writing

3. “Flip” real-world events for better student application, discussion, and engagement

4. Preliminary Investigation of Learning Benefits of Online Quizzing in Introductory Psychology

5. Chronological versus Topical Developmental Psychology: Is Comparison Even Possible?

6. Student Learning Outcomes: Writing in the Discipline

7. The Advantages of Being a Guinea Pig: Student Perceptions of Psychological Research Participation as a Learning Experience

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10. Quantitative Skills, Critical Thinking, and Writing Mechanics in Blended vs. Face-to-Face Course Sections

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30. Did My Student Just Say That!?

Effectiveness of Creativity- and Performance-based Classroom Activities on Autism Spectrum Disorder Knowledge

Amber Chenoweth & Brittany Jackson
Hiram Collage

Presented at: The Society for the Teaching of Psychology's ACT, 2016
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Introduction

Autism Spectrum Disorders (ASD) are characterized by:

- Deficits in social behavior
- Deficits in verbal and/or nonverbal communication
- Increase in repetitive behaviors
- Increased sensitivity to a variety of stimuli (e.g., touch, lights, sounds)
- Preference for highly structured routines

Inclusion initiatives often result in typical developing students interacting without a full understanding of their peers with ASD. There is often a perception that individuals with ASD are “not the same,” leading to less openness to interaction (Harnum, Duffy, & Ferguson, 2007). This can lead to a range of responses, such as confusion and frustration when attempting to interact with their peers with ASD, and bullying those with ASD (Swaim & Morgan, 2001).

Hiram College is situated in a rural setting and is fortunate to be within walking distance of the Hiram Farm Living and Learning Community. The Hiram Farm is a fully-functioning organic farm providing occupational therapy option for adults with ASD. Students at the college often volunteer and/or intern, and this student-worker interaction serves to increase student understanding of the complexity of ASD. Further, it has stimulated interest in ASD among students on our campus & increased course offerings to serve this interest.

The authors of this presentation team-teach the course INTD 32650 “Exploring Ability and Disability Through Performance: Autism Spectrum Disorder.” This course combines the disciplines of Psychology and Theatre, and guides students in learning about ASD through:

- Exploring literature and scientific papers
- Discussions with medical providers and families
- Personal interaction with people who have ASD
- Creation of a short performance piece highlighting particular issues surrounding ASD

We have offered this course in two formats:

- Face-to-Face as a 12-week semester during Fall 2015.
  - Students met 3 hours per week across two class sessions and experienced material synchronously
  - Engaged in small and large group discussions fully facilitated by the two instructors
  - Built-in field trips to New York City to see theatrical presentation of The Curious Incident of the Dog in the Nighttime” and to the Hiram Farm Living and Learning Community

- Online:
  - 8-week semester during Summer 2016
  - Students experienced material asynchronously through guided online course activities (utilizing Moodle as the LMS)
Engaged in weekly online forum discussions responding to prompts created by the two instructors
No opportunities for field trips as a means for experiential learning

**Method**
Participants included 38 students enrolled in one of two sections of INTD 32650 (Fall 2015, face-to-face course format, \(N = 30\); Summer 2016, online format, \(N = 8\)). Students completed questionnaires distributed through SurveyMonkey.com:

- Prior Experience Survey (pre-test only)
  - Years experience interacting with individuals with ASD
  - Relationship (e.g., classmates, friends, co-workers, children, self)
- Autism Knowledge Survey-Revised (AKS-R; Stuart et al., 2008; pre/post)
  - 6pt Likert-type scale: 1 = fully agree, 6 = fully disagree
  - Example items:
    - “Autism is more frequently diagnosed in males than females.”
    - “Children with autism do not show affection.”
- The Openness Scale (Harnum et al., 2007; pre/post)
  - Vignette describing individual with ASD-like symptoms in a school setting
  - 5pt Likert-type scale: 1 = strongly agree, 5 = strongly disagree
  - Example items:
    - “This student makes you feel afraid.”
    - “I would feel comfortable around this student.”
- Class Experience Survey (post-test only)
  - Open-ended prompts asking students to reflect on specific class activities
  - Example item:
    - “Reflect on how the final performance pieces affected your understanding of individuals with Autism Spectrum Disorder.”

Students were asked to complete survey at the beginning and conclusion of the course. Between the survey timepoints, they engaged in the following class activities:

- Short creative writing assignments
- Class discussions
- Interviews
- Performance piece development and presentation
- Analysis and discussion of film/TV portrayals
- Field trips (face-to-face format only): NYC to see The Curious Incident of the Dog in the Night-time, Hiram Farm Living and Learning Community

**Results and Discussion**

**AKS-R** (see Table)
Mixed ANOVAs were completed for “Fully Disagree” item x time, \(F(9, 279) = 4.32, p < 0.05\), and “Fully Agree” item x time, \(F(9, 279) = 3.07, p < 0.05\). Overall, students increased in their knowledge of ASD from pre to post in both class settings, with the majority of items at the “ideal answer” end of the scale. However, post hoc analyses revealed F2F students had more differences pre to post.

**Openness Scale**
No consistent changes pre-post between class settings, with students’ answers at the “ideal answer” end of scale in both tests. This suggests possible bias toward social desirability responses.
Qualitative Comparison
Qualitative analyses revealed common themes between the two class settings when asked about class activities:

- Exposure to new and others’ perspectives
- Diversity
- Understanding
- Empathy; perspective-taking
- Helpful (or not)
- Stereotyping (either increase or decrease)
- Repetitiveness
- How caregivers are affected

Conclusion
Regarding autism knowledge, the pre-tests revealed students are aware of many aspects of ASD already. However, there are still areas of improvement needed. Regarding openness to interaction, the students appear to be welcoming to individuals with ASD. However, we need a different, more sensitive and less potentially biased measure. Overall, students responded favorably to the course activities, indicating ways in which they gained greater understanding of ASD, were exposed to a diversity of perspectives, and learned how to be creative when exploring a complex and sensitive topic.

References


Table

<table>
<thead>
<tr>
<th>Question</th>
<th>Ideal answer</th>
<th>F2F post mean change</th>
<th>Online post mean change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Autism is an emotional disorder.</td>
<td>FD</td>
<td>3.20 0.08</td>
<td>3.75 0.25</td>
</tr>
<tr>
<td>2. Early intervention can lead to significant gains in children's social and communication skills.</td>
<td>FA</td>
<td>1.64 -0.64 p=.058</td>
<td>1.88 0.00</td>
</tr>
<tr>
<td>3. All children with autism display poor eye contact.</td>
<td>FD</td>
<td>5.36 1.00 p=.001</td>
<td>4.50 0.37</td>
</tr>
<tr>
<td>4. Children with autism typically perform better when tasks are presented visually than when tasks are presented verbally.</td>
<td>FA</td>
<td>3.20 0.52</td>
<td>2.75 0.62 p=.049</td>
</tr>
</tbody>
</table>
5. Problems with social relatedness that are present in autism are different from social problems seen in other psychiatric conditions.  

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<tbody>
<tr>
<td>5.</td>
<td>Problems with social relatedness that are present in autism are different from social problems seen in other psychiatric conditions.</td>
<td>FA</td>
<td>3.00</td>
<td>-0.40</td>
<td>3.38</td>
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</table>

6. Autism is more frequently diagnosed in males than in females.  

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<tbody>
<tr>
<td>6.</td>
<td>Autism is more frequently diagnosed in males than in females.</td>
<td>FA</td>
<td>1.24</td>
<td>-0.88</td>
<td>p=.002</td>
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</table>

7. Children with autism do not show attachments, even to parents/caregivers.  

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<tbody>
<tr>
<td>7.</td>
<td>Children with autism do not show attachments, even to parents/caregivers.</td>
<td>FD</td>
<td>3.40</td>
<td>-0.72</td>
<td>p=.013</td>
</tr>
</tbody>
</table>

8. Research indicates that sensory integration therapy is an effective treatment for autism and its symptoms.  

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<tbody>
<tr>
<td>8.</td>
<td>Research indicates that sensory integration therapy is an effective treatment for autism and its symptoms.</td>
<td>FD</td>
<td>2.64</td>
<td>-0.16</td>
<td>2.25</td>
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</tbody>
</table>

9. Children with autism are deliberately uncooperative.  

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</thead>
<tbody>
<tr>
<td>9.</td>
<td>Children with autism are deliberately uncooperative.</td>
<td>FD</td>
<td>5.68</td>
<td>0.56</td>
<td>p=.013</td>
</tr>
</tbody>
</table>

10. Most parents/caregivers of children with autism report their first concerns were related to the child's social behavior.  

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</thead>
<tbody>
<tr>
<td>10.</td>
<td>Most parents/caregivers of children with autism report their first concerns were related to the child's social behavior.</td>
<td>FD</td>
<td>2.08</td>
<td>-0.40</td>
<td>2.13</td>
</tr>
</tbody>
</table>

11. Autism tends to run in families.  

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</thead>
<tbody>
<tr>
<td>11.</td>
<td>Autism tends to run in families.</td>
<td>FA</td>
<td>3.44</td>
<td>0.16</td>
<td>3.13</td>
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</tbody>
</table>

12. We now have treatments that can cure autism.  

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</thead>
<tbody>
<tr>
<td>12.</td>
<td>We now have treatments that can cure autism.</td>
<td>FD</td>
<td>5.80</td>
<td>0.32</td>
<td>p=.058</td>
</tr>
</tbody>
</table>

13. Children with autism can grow up to live independently.  

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</thead>
<tbody>
<tr>
<td>13.</td>
<td>Children with autism can grow up to live independently.</td>
<td>FA</td>
<td>1.36</td>
<td>-0.44</td>
<td>p=.046</td>
</tr>
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</table>

14. There is one approach/program that works for all children with autism.  

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</thead>
<tbody>
<tr>
<td>14.</td>
<td>There is one approach/program that works for all children with autism.</td>
<td>FD</td>
<td>5.96</td>
<td>0.60</td>
<td>p=.022</td>
</tr>
</tbody>
</table>

15. It is important that all children diagnosed with autism receive some form of special education services at school.  

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</thead>
<tbody>
<tr>
<td>15.</td>
<td>It is important that all children diagnosed with autism receive some form of special education services at school.</td>
<td>FA</td>
<td>2.92</td>
<td>0.36</td>
<td>2.13</td>
</tr>
</tbody>
</table>

16. Autism occurs more commonly among higher socioeconomic and educational levels.  

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</thead>
<tbody>
<tr>
<td>16.</td>
<td>Autism occurs more commonly among higher socioeconomic and educational levels.</td>
<td>FD</td>
<td>4.52</td>
<td>-0.24</td>
<td>3.88</td>
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</table>

17. Autism can be diagnosed as early as 18 months.  

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</thead>
<tbody>
<tr>
<td>17.</td>
<td>Autism can be diagnosed as early as 18 months.</td>
<td>FA</td>
<td>1.76</td>
<td>-0.64</td>
<td>p=.001</td>
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</table>

18. With the proper treatment, most children diagnosed with autism eventually outgrow the disorder.  

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</tr>
</thead>
<tbody>
<tr>
<td>18.</td>
<td>With the proper treatment, most children diagnosed with autism eventually outgrow the disorder.</td>
<td>FD</td>
<td>5.48</td>
<td>0.56</td>
<td>p=.016</td>
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</tbody>
</table>


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</thead>
<tbody>
<tr>
<td>19.</td>
<td>Children with autism do not show affection.</td>
<td>FD</td>
<td>4.24</td>
<td>-0.08</td>
<td>4.13</td>
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</tbody>
</table>

20. The need for routines and sameness is one of the earliest behavioral features of autism.  

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<tbody>
<tr>
<td>20.</td>
<td>The need for routines and sameness is one of the earliest behavioral features of autism.</td>
<td>FA</td>
<td>2.52</td>
<td>0.16</td>
<td>2</td>
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</tbody>
</table>
The "Second R": Students' Perceptions of the Importance of Writing

Adrienne L. Williamson, Pam Marek, and Jennifer Willard
Kennesaw State University
Presented at: The Society for the Teaching of Psychology's ACT, 2016
For further information, contact: awill176@kennesaw.edu

Educators have positioned writing as a fundamental skill for students to develop during their academic careers. Writing not only serves as an important outcome by which students communicate their knowledge, but it is also used as a tool for practicing and conveying competency in higher-level skills such as logical reasoning and critical thinking. Furthermore, employers continually rank written communication as a necessary skill for success in the workplace (National Association of Colleges and Employers [NACE], 2015). There is evidence that writing can improve with training across a semester within a general psychology course (Fallahi, Wood, Austad, & Fallahi, 2006) and that providing structure and examples related to a writing assignment is more likely than simple practice to lead to improvement (Madigan & Brosamer, 1990). However, the success of training in writing may depend, to some extent, on students’ perceptions of the importance of written communication as well as their motivation to gain these skills.

In the current study, we examined students’ perceptions of the importance of writing skills to employers, faculty, and to students themselves. We also explored students’ views of courses that include a significant writing requirement in terms of learning, enjoyment, and difficulty, and the number of hours they thought they would spend working on the course, and if given an option, whether they would choose to enroll in a course with an emphasis on writing.

Method

Participants
Participants included 370 students (39 Psychology majors) enrolled in 14 sections of introductory psychology at Kennesaw State University (Summer and Fall 2016). Participants were on average 20.20 years old ($SD = 4.12$) and largely identified as Caucasian American or White (56%). They received 1 credit toward their research participation requirement as an incentive.

Materials and Procedure
We randomly assigned participants to read one of three course descriptions that placed varying emphasis on writing assignments: the scaffolding paper course, which required a 10-page major paper with a number of brief scaffolding assignments; the no-scaffolding paper course, which required a major paper but no scaffolding activities; and the no-paper group, which did not require a major paper. All classes included four quizzes and two exams. Using a 7-point Likert scale, students rated their perceptions of learning, enjoyment, and course difficulty. They also indicated how many hours per week in a 16-week semester they would expect to spend reading, writing, and studying in the course. Next, after reading descriptions of all three courses, students indicated which course they preferred and the strength of their preference. Additionally, they also rated their perceptions of the importance of writing formal research reports and reviews for employers, faculty, and themselves. Finally, they provided basic demographic information.

Results
We conducted one-way repeated-measures ANOVAs to examine importance ratings and one-way between-groups ANOVAs for all other analyses. We used Bonferroni’s pairwise comparisons for all post-hoc tests and an alpha level of .05 for all statistical tests.

**Ratings for Learning, Enjoyment, and Difficulty**

Students differed in how much they thought they would enjoy the class depending on which course description they read, $F(2, 364) = 4.28, p = .015, \eta^2 = .02$. The no-paper group indicated they would enjoy the class significantly more than the no-scaffolding paper group, $p = .01$. There was no difference in enjoyment rating among the other groups. There was no significant difference related to course description in how much students anticipated they would learn, $F(2, 364) = 1.74, p = .176, \eta^2 = .01$, or in how difficult they expected the class would be, $F(2, 362) = 2.41, p = .091, \eta^2 = .01$.

**Time Spent Writing, Reading, and Studying**

To eliminate the undue influence of outliers, an exclusionary criteria was implemented. The highest estimates of time per week with fewer than five participants were excluded (i.e., estimates exceeding 20 hours for writing, 30 hours for reading, and 30 hours for studying). Across classes, students indicated they would spend an average of 4.02 hours writing ($SD = 3.55$), 6.13 hours reading ($SD = 5.12$), and 6.78 hours studying ($SD = 5.50$) per week. There was no significant difference in how much time students predicted they would spend writing, $F(2, 349) = .31, p = .732, \eta^2 = .002$; reading $F(2, 345) = .18, p = .834, \eta^2 = .001$; or studying $F(2, 342) = .07, p = .932, \eta^2 < .001$, in the three courses.

**Course Preference**

When indicating preference for one of the three courses, 69.15% preferred the no-paper course compared to 21.49% for the scaffolding paper course, and 9.37% for the no-scaffolding paper course. Strength of preference ratings for the preferred course differed significantly, $F(2, 359) = 17.90, p < .001, \eta^2 = .09$. Strength of preference ratings for the no-paper course ($M = 5.75, SD = 1.27$) were significantly stronger than those for the scaffolding paper course ($M = 4.88, SD = 1.41$) and the no-scaffolding paper course ($M = 4.85, SD = 1.03$), both $ps < .001$. Ratings for the two paper options did not differ, $p > .999$.

**Importance of Research Report Writing to Employers, Faculty, and Students**

As shown in Figure 1, students rated the importance of writing formal research reports and reviews differently for employers, faculty, and themselves, $F(2, 714) = 87.31, p < .001, \eta^2 = .20$. Students’ ratings of importance for employers ($M = 5.27, SD = 1.48$) were significantly lower than their ratings of importance for themselves ($M = 5.60, SD = 1.53$) or for faculty ($M = 6.33, SD = 1.07$), $ps < .001$. Students’ importance ratings for themselves were also significantly lower than those for faculty, $p < .001$.

**Discussion**

Across the three courses, there was some variation in how much students thought that they would enjoy the courses, but there were no differences in their perceptions of how much they thought they would learn or how difficult they thought the courses would be. Furthermore, students’ estimates of the time allocated for writing was unaffected by the writing components in each of the courses. These findings suggest that students may be unaware of how course structure, such as scaffolding of writing, is related to their learning, course difficulty, or time spent engaging in writing. As discussed by Brown, Roediger, and McDaniel (2014), people have misconceptions about strategies that lead to learning – in particular, the idea that learning comes with ease. This misconception may explain why students in our study overwhelmingly preferred the course that did not include a major paper.
Regarding the importance of writing, our finding that students rated the importance of “writing formal research reports or reviews” higher for themselves than for employers is consistent with findings from Miller and Carducci (2015) who compared students’ ratings of “effective writing” with ratings given by employers in an earlier survey by Landrum and Harrold (2003). Miller and Carducci reported that students rated “effective writing” as more important than did the prior sample of employers. In a more recent survey (NACE, 2015), 70% of employers reported written communication skills as an important attribute to check on a candidate’s resume; thus, writing does seem relevant to subsequent employment, a fact that students may not intuitively recognize. As Martini, Judges, and Belicki (2015) have suggested, students seem unaware that their courses foster transferable skills.

In the present study, it is possible the question wording (referring to formal research reports) led students to conclude that the specific writing genre was not relevant to their potential careers. To attempt to increase students’ motivation for writing and potentially enhance successful training in writing, faculty may want to clarify the purpose of written assignments and their connections to learning goals. Faculty may also opt to inform students of data illustrating that employers do in fact think writing is important.

**Figure 1.** Students’ importance rating by group rated by students.


“Flip” real-world events for better student application, discussion, and engagement

Amy L. Hillard
Adrian College
Presented at: The Society for the Teaching of Psychology’s ACT, 2016
For further information, contact: ahillard@adrian.edu

Consistent with the APA’s fourth goal for majors, many psychology courses encourage not only acquisition of new knowledge but also application of this knowledge to understand real world events. However, students may not have enough knowledge of the events to be successful. To address this problem, I created and evaluated “flipped” (online) material featuring real-world examples of course concepts, which was used to preface class discussion and facilitate application of course concepts.

Method. I created course websites with links to popular videos, articles, and other media. I used Pinterest to gather source material, Weebly to design webpages, and Disqus to add discussion boards to webpages. (Each requires an account but is free.) Example websites are available at:
   - http://hillardsocial.weebly.com/
   - http://psycofgender.weebly.com/

Prior to in-class discussion each week, students reviewed the website and left a substantive comment on the discussion board to demonstrate their engagement with the material. Instructions from syllabi:

Substantive comments involve several sentences of observation, comment on others’ questions/observations, or a thoughtful question with a rationale for asking it. Suggestions include: what surprised you, whether the information changed your perspective on an issue, what you find to be the most important concept, or explicit ties to readings (e.g., applying terms to examples).

Results. Quantitative and qualitative data indicate that this assignment increased application of the material and that students enjoyed it. Students rated the website as more helpful to their learning ($M = 5.73, on a scale where 1 = not at all helpful, 7 = very helpful$) than students from a previous semester who had a different application project ($M = 5.06$), $p < .05$. Ratings of helpfulness for lectures and in-class activities did not significantly differ but showed a trend favoring the flipped over the standard assignment (Lectures: $M = 6.26$ flipped, $M = 5.88$ standard; in-class activities: $M = 6.13$ flipped, $M = 5.76$ standard), all $ps > .05$.

On evaluations, students reported that the website increased their learning and application:
   - “Material and website overlap to reinforce concepts.”
   - “It is very helpful being able to put course concepts with real world activity.”

Students also reported that the assignment facilitated discussion and engagement:
   - “They were perfect and got discussion rolling…”
   - “It was engaging and we could have in-depth conversations in class.”
   - “It is pretty awesome we get to have a turn to speak in a secure kind of medium.”

Discussion. I found that in-class discussion was improved because students had access to the same information on real-world events, and because I could facilitate discussion by sharing interesting or insightful student comments from the discussion board. Students enjoyed it, too. In addition to
being used as a form of “just in time teaching” (to identify misunderstandings), this assignment is useful for encouraging critical thinking by presenting multiple perspectives, which may be especially helpful when discussing controversial issues. As a result of engaging in this “flipped” material outside of class, students seemed to better achieve the goal of understanding concepts and applying them to real-world events.
Preliminary Investigation of Learning Benefits of Online Quizzing in Introductory Psychology

Jeffrey Nevid, Ph.D. & Yea Seul Pyun, M.A., St. John’s University

Background

- A substantial body of research demonstrates the learning benefits of active learning exercises.
- One form of active learning leverages the testing effect, which refers to the common finding that retrieval of information via testing or quizzing improves later retention to a greater extent than mere rereading or restudying learning materials.
- An increasingly popular form of quizzing in recent years incorporates electronic learning platforms offered by college publishers.
- The educational benefits of online quizzing in actual classroom situations remains to studied.

Purpose of the Study

- The purpose of the study was to evaluate the learning benefits of online quizzing within the context of a regularly scheduled introductory psychology course (Psy. 1000c).

Method

- A total of 77 undergraduate students in an introductory psychology course were included in the study.
- Students were required to complete online quizzes on MindTap corresponding to half of the chapters (i.e., 7 chapters).
- To receive course credit, students needed to complete all assigned quizzes at a 100% correct (mastery) level with unlimited attempts.
- Performance on multiple choice course exams were correlated with student completion of MindTap quiz assignments for each individual chapter.

Table 1

Correlations Between MindTap Completion and Performance on Course Examinations

<table>
<thead>
<tr>
<th>Textbook Chapter</th>
<th>Topic</th>
<th>Total # of Students</th>
<th>% of Students Completing MindTap Quizzes</th>
<th>Correlation between MindTap Completion and Chapter Performance on Course Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Science of Psychology</td>
<td>70</td>
<td>80.0%</td>
<td>r = .26*</td>
</tr>
<tr>
<td>4</td>
<td>Consciousness</td>
<td>70</td>
<td>75.7%</td>
<td>r = .27*</td>
</tr>
<tr>
<td>5</td>
<td>Learning</td>
<td>70</td>
<td>74.3%</td>
<td>r = .18</td>
</tr>
<tr>
<td>8</td>
<td>Motivation and Emotion</td>
<td>64</td>
<td>89.1%</td>
<td>r = .10</td>
</tr>
<tr>
<td>9</td>
<td>Human Development</td>
<td>64</td>
<td>84.4%</td>
<td>r = .18</td>
</tr>
<tr>
<td>11</td>
<td>Personality</td>
<td>67</td>
<td>89.6%</td>
<td>r = .15</td>
</tr>
<tr>
<td>14</td>
<td>Methods of Therapy</td>
<td>67</td>
<td>89.6%</td>
<td>r = .19</td>
</tr>
</tbody>
</table>

Table 2

Group Differences for Exam Performance for Chapters 1 and 4 Based on MindTap Completion

<table>
<thead>
<tr>
<th>Version Chapters</th>
<th>MindTap Completion</th>
<th>M</th>
<th>SD</th>
<th>A(40)</th>
<th>p</th>
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<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>68.21</td>
<td>18.51</td>
<td>-2.25</td>
<td>.05</td>
</tr>
<tr>
<td>No</td>
<td>55.24</td>
<td>22.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
<td>65.41</td>
<td>14.74</td>
<td>-2.27</td>
<td>.03</td>
</tr>
<tr>
<td>No</td>
<td>56.08</td>
<td>14.92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results

- Significant relationships emerged for two of seven chapters is correlating MindTap completion with course exam performance.
- Students who completed online quizzing for Chapters 1 and 4 on Mindtap had significantly higher scores than those who did not complete the assignments.
- MindTap completion rates increased through the course of the semester, which may well have restrained relationships with exam performance for chapters covered later in the semester.

Discussion

- Preliminary evidence points to possible learning benefits of online quizzing.
- Relationships between MindTap completion and exam performance may have been constrained by the high level of completion of MindTap assignments, especially those for chapters assigned later in the semester.
- Research is needed to more directly compare classes with online quizzing with comparable classes not assigned online quizzing.
### Student Learning Outcomes: Writing in the Discipline

**Eileen O'Brien, PhD**  
*University of Maryland*

**For further information, contact:** eobrien@umbc.edu

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#### Requirements for WI Designation
- Require effective writing for critical inquiry and/or the presentation of scholarly research.
- Submit at least 3000-3750 words (12-15 standard pages) of graded finished written assignments.
- Provide opportunities for extensive feedback and/or revision, typically on two or more papers outside of class.
- Evaluate students on the basis of effective writing as well as content.
- Provide guidelines for written assignments and address effective writing in the academic discipline.
- Include consideration of the ways in which the principle and practice of academic integrity apply to written assignments.

#### Capstone Writing Intensive (WI) Courses
- Adolescence and Emerging Adulthood
- Autism
- Contemporary Social Issues: Making a Difference
- Social Health Psychology
- Schizophrenia
- Family Psychology
- Development and Education
- Cognitive Psychology Seminar

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#### Common Rubric using APA Guidelines

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<thead>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>fair</td>
<td>good</td>
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#### ABSTRACT

"His poster reviews the development and use of a rubric to design Student Learning Outcomes Assessment (SLOA) in a capstone Psychology writing intensive course. Using APA Guidelines for the Undergraduate Psychology Major: Version 2.0, faculty developed a rubric reflecting the baccalaureate outcomes suggested by APA. These guidelines were aligned with upper-level course outcomes, articulated to the Psychology baccalaureate program, and addressed UMBC overall competencies.

Guidelines informed the identification of indicators for seven dimensions of written communication which then were used in the common rubric. This rubric had two main goals: 1) to determine the specific writing issues among undergraduates, and 2) to enhance curriculum mapping to identify targeted courses that emphasize writing as a way to improve writing skills.

All capstone courses require a formal paper and critique of research. In the first semester, rubric scores for students in these capstone courses demonstrated that graduating majors had problems formulating their ideas in writing. Over 28% of students were evaluated as less than competent in the areas of writing skills, critical thinking, and application of APA format. The second semester rubric demonstrated similar findings.

These results validated anecdotal feedback from faculty. Backwards mapping will occur to further determine enhancements needed to lower level courses, which explicitly provide early written feedback/instruction in the major. Further discussion targeting lower level Psychology courses will be explored as scaffolding of writing skills in the discipline will be anticipated.

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#### Fall 2015 Compared to Spring 2016

**Next Steps**

Curriculum Mapping to isolate lower level courses to scaffold specific dimensions from rubric.

Continue to monitor SLOA data noting impact of changes to curriculum.
The Advantages of Being a Guinea Pig: Student Perceptions of Psychological Research Participation as a Learning Experience
Leilani B. Goodmon, Ph.D., Patrick Smith, Ph.D., & Kristina Schwirian
Florida Southern College
For further information, contact: lgoodmonriley@flsouthern.edu

INTRODUCTION
At many institutes of higher learning, it is common practice to require undergraduates in psychology courses to serve as participants in psychological research studies. Participation can require the devotion of valuable time outside of class. Furthermore, IRB applications may list no direct benefit, other than contributing to scientific knowledge and earning some course or extra credit. However, the current question for the present study is what additional educational benefit might our students gain from the research participation experience? In a previous study in 2013, Australian undergraduates rated the educational value of research participation more highly than the costs (Roberts & Allen, 2013). Thus, the current purpose was to determine, through a qualitative analysis, if the possible positives aspects outweigh the negative aspects of serving as participants in research.

METHOD
Participants: 32 undergraduates enrolled in an introductory psychology course at Florida Southern College.
Participation in Research: Students were required to participate in at least five research studies for course credit (50pts in a 500pt course) (min. 2.5 hrs).
Written Assignment: As a required, course writing requirement, students wrote a 2-page paper, describing their positive or negative experiences from participating in psychology research studies.
Item Analysis: Two research assistants counted the frequency of positive and/or negative subjective statements within the student essays.

RESULTS
† High inter-rater reliability—0.92
† 15 themes emerged:
   † 4 to 1 ratio of positive to negative themes:
   † 80% positive
   † 20% negative
† 100% indicated at least 1 positive aspect, beyond receiving course credit.
† Average of 41% of responses were positive.
   † e.g., 73% of respondents found it interesting.
† Average of 18% of responses were negative.
   † e.g., 9% of respondents were embarrassed while participating.
† 67% indicated that they learned something from participating.

RESPONSE THEMES
<table>
<thead>
<tr>
<th>Positive Themes</th>
<th>% of Respondents</th>
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<td>Impacted my life positively</td>
<td>11%</td>
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<tr>
<td>Engaging</td>
<td>16%</td>
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<tr>
<td>Exciting</td>
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<td>Curious about findings</td>
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<tr>
<td>Enjoyed some more than others</td>
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<tr>
<td>Learned about the psychology major</td>
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<tr>
<td>Researchers were impressive</td>
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<td>52%</td>
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<td>Contributed to psychology field</td>
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<td>Learned something new</td>
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<td>Interesting</td>
<td>73%</td>
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<table>
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<td>Frustrating</td>
<td>16%</td>
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<tr>
<td>Difficult</td>
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CONCLUSION
The results indicate that beyond merely receiving course or extra credit, students in undergraduate participant pools experience benefits from the participation experience that outweigh the costs. Overall, they find the research experience to be enjoyable and meaningful. Most importantly, they learn something from participating.

REFERENCES
Introduction and Overview
Research-based Psychology Honors Programs (PHPs) offer many benefits to students, faculty, and colleges/universities. PHPs provide students with experiences that build skills that are essential for success in graduate school and the workplace. They enable faculty to engage in rewarding collaborations with undergraduates on research projects that may advance faculty research programs. In a climate of increasing competition among colleges/universities for student enrollment, PHPs provide the types of experiences that attract undergraduates. This Course Sharing poster provides a comprehensive outline of a rigorous, research-based PHP. The year-long PHP includes an Honors Seminar taught during the Fall semester of the senior year, an independent research project (Honors Thesis) that students work on throughout the year under the mentorship of a faculty advisor, and an oral defense of the project at the end of the Spring semester.

Program Timeline for Students
Freshmen/Sophomores/Junior Year:
• Develop a relationship with faculty by serving as a research assistant.
Summer Before Senior Year:
• Read literature in area of interest (coordinate with faculty advisor).
Fall Semester:
• Enroll in the Honors Seminar.
• Write Honors Proposal (first part of Thesis).
Spring Semester:
• Take Honors credits under faculty advisor.
• Collect data (typically, some students collect data in Fall or work with an existing dataset).
• Write and revise full version of Honors Thesis.
• Grafty defend Honors Thesis to two-person faculty committee (does not include advisor).
• Graduate with one of three levels of Honors in Psychology: Honors, High Honors, or Highest Honors.

The Role of the PHP Director
The Director coordinates all aspects of student and faculty participation in the PHP. This includes teaching the Honors Seminar, guiding students through program hurdles, assisting faculty in enhancing students’ skill sets, and serving as an indefatigable cheerleader for all who participate in the PHP.

PHP Director’s Basic Timeline
Fall Semester:
• Teach the Honors Seminar (syllabus available via email).
• Provide PHP guidelines to advisors (see handout).
Spring Semester:
• Regularly communicate with Honors students to ensure they are on track.
• Interview applicants for the next year’s program (see application handout).
• Secure faculty to serve as oral defense committee members.
• Supervise Honors students’ oral defense scheduling.
• Determine each student’s level of Honors and print certificates.
• Ask students to complete an exit sheet detailing their Honors experience and future plans.
• Recognize Honors students and advisors at graduation events, and use the opportunity to build program loyalty. Ideas:
  - Gift to students: Specially designed, members-only coffee mug (e.g., “UB Psychology Honors Program 2016-2017”)
  - Recognition for advisors: “Superstar” award given after mentoring 5 PHP students, including individual comments from former students.

Ongoing PHP Director Activities
• Advertise the PHP through:
  - Departmental presentations.
  - Class announcements.
  - Email newsletters.
• Personal letters sent to top students in the major from the PHP Director.
• Maintain current website (see application handout for UB’s PHP website address) with program information, application information, list of past students, project titles, and advisors.
• Meet with interested students to discuss the PHP and help prepare them for enrollment.
• Maintain a connection with PHP alumni.
• Follow their progress.
• Highlight the connection among PHP members.
• Provide updates on departmental activities.

Promoting Faculty Participation
A research-based PHP is dependent on faculty-student collaboration. To promote cooperation:
• Encourage students to build relationships with faculty members well before their senior year.
• Highlight the benefits of working with undergraduate researchers to faculty.
  - Opportunity to provide mentoring experience that all faculty have received.
  - Collaboration may advance research program.
• Keep faculty time commitment in perspective:
  - Advising is a big responsibility but:
    - Faculty choose how many they wish to be.
    - Membership is only for one year.
  - Serving as an oral defense committee member is a minimal investment.
  - Average is 2-3 hours per committee (read student’s thesis and conduct 1-hour defense).

Evaluating Students’ Work
Established guidelines (full criteria available via email) help advisors and oral defense committee members gauge their evaluation:
• Highest Honors: Reserved for work that is exceptional for an undergraduate thesis.
• High Honors: Chosen for students who have done a good job with their thesis.
• Honors: Chosen for students who have satisfactorily completed their thesis.

Questions? Contact:
• Wendy J. Quinton, Ph.D., wquinton@buffalo.edu.
• Please take a handout and complete contact sheet to request additional document.

Course Sharing: Developing a Research-Based Psychology Honors Program (PHP)
Wendy J. Quinton, Ph.D., Director, Psychology Honors Program
University at Buffalo, The State University of New York.
Class Dis-Mythed: Exploring the Prevalence and Perseverance of Myths in Upper-Level Psychology Courses

Michael J. Root, Ph.D. and Caroline Stanley, Ph.D., Bridgewater State University

Introduction

Research indicates that psychology students and the general public believe many myths about psychological phenomena (Furnham & Hughes, 2014). Examples of psychology myths include the belief that humans only use 10% of their brains and that memory works much like a video camera. People's beliefs in these myths have been surprisingly difficult to reverse even after attempts to refute them (e.g., Fennam, 1992). Many factors play a role in psychological myth perseverance (Lilliemeld, Lynn, Rusco, & Beyerstein, 2010). For example, people tend to desire explanations that are quick and simple. They are also likely to believe explanations that sound plausible or familiar. The misleading representations of psychology in various media outlets is also among the many contributing factors to myth persistence.

The purpose of the present study was twofold. First, because most psychological myths research has focused on introductory psychology students, we wanted to measure the prevalence of such myths in upper-level psychology courses. These students have taken several courses in psychology and we wanted to determine if they showed similar myth beliefs. Second, we wanted to discern whether course content alone (i.e., readings, lectures, class activities, tests, and assignments) was sufficient to disabuse students of their myth beliefs about psychological phenomena.

Method

Participants

Participants were volunteers enrolled in one of three upper-level psychology courses (Learning & Memory, Cognition, or Personality) from one of two mid-sized universities, one in the Midwest and one in the Northeast. Each course was taught by a different professor. Table 1 outlines the demographic characteristics of the sample at the beginning and end of the 2015 Spring semester.

Table 1

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</table>

Table 2: Percentage of Responses at the Beginning and End of Semester by Course

<table>
<thead>
<tr>
<th>Table 2: Percentage of Responses at the Beginning and End of Semester by Course</th>
<th>Correct Answer</th>
<th>Incorrect Answer</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning &amp; Memory (54 myths)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning (N = 37)</td>
<td>35%</td>
<td>47%</td>
<td>18%</td>
</tr>
<tr>
<td>End (N = 29)</td>
<td></td>
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<tr>
<td>Cognition (44 myths)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Beginning (N = 20)</td>
<td>32%</td>
<td>51%</td>
<td>16%</td>
</tr>
<tr>
<td>End (N = 27)</td>
<td></td>
<td></td>
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<tr>
<td>Personality (16 myths)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Beginning (N = 49)</td>
<td>32%</td>
<td>53%</td>
<td>15%</td>
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<tr>
<td>End (N = 42)</td>
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<tr>
<td>Overall Totals (114 myths)</td>
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<tr>
<td>Beginning (N = 116)</td>
<td>33%</td>
<td>50%</td>
<td>17%</td>
</tr>
<tr>
<td>End (N = 105)</td>
<td></td>
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</tbody>
</table>

Results & Discussion

Rating scale responses were collapsed into three categories: "Correct", "Incorrect", or "Don’t Know”. Average number of "Correct", "Incorrect", and "Don’t Know" responses were converted to percentages for beginning and end-of-semester responses for each course.

Overall totals in Table 2 indicate students believed 50% of the myths related to course content at the beginning of the semester. End-of-semester beliefs remained the same. The results suggest that pedagogical strategies alone (i.e., readings, lectures, class activities, tests, and assignments) were insufficient to change students’ minds about course related myths. Unless a myth was explicitly debunked in a course (e.g., material in Learning & Memory contradicted their belief that people have different learning styles), myth beliefs persisted or even increased throughout the semester. The reduction in "Don’t Know" at the end of the semester suggests that students may be more confident but just as incorrect about course related myths.

Our results suggest that typical course content and any critical thinking skills acquired during a semester are not sufficient to prompt skepticism about myth statements. Instead, we argue that a more effective strategy to dispel common myths that may hinder undergraduates reasoning and critical thinking skills is for instructors to make undergraduates explicitly aware of these myths and how research fails to support them.

References

Quantitative Skills, Critical Thinking, and Writing Mechanics in Blended vs. Face-To-Face Course Sections

Chris Goode, Marika Lamoreaux, Elizabeth Sheehan, Kristin Atchison, Elizabeth Jeffress, & Heather Lynch
Georgia State University
Elizabeth Sheehan
University of Kentucky

Introduction

• Blended learning (BL) can refer to any combination of traditional, face-to-face (FTF) instruction with other resources delivered online or with related technologies, but is typically 20-30% face-to-face.
• Meta-analytic comparisons of FTF with BL instruction reveal a small, but significant advantage of BL (Means et al., 2009).
• Few studies incorporate designs, controls, and analysis necessary for rigorous comparison of BL with FTF.
• We compared BL and FTF within instructors, at a large, public institution with a diverse student body, with practically random assignment to course sections, controlling statistically for GPA, etc.

Method

• Participants were 161 undergraduate psychology majors, 335 women/16 men; 36% African American, 32% White, 3% Asian, 17% NR.
• Registered for course without knowing whether it was to be BL or FTF and with limited choice of instructor.
• Measures related to APA Psychology Major Guidelines 2.3, 2.4, 4.1 (APA, 2013):
  • Mastery of Quantitative Concepts (QM; test questions)
  • Expression of Critical Thinking through Writing (CTW; applied rubric to final writing sample, controlling for scores on early writing samples)
  • Writing Mechanics (NM; applied rubric as for CTW)
  • GM 2015 Line (GOML) test of online readiness
• Four instructors taught Advanced Research Design and Analysis (required for the major) in both FAL3 and SP14 semesters, either as BL or FTF with a balanced starting order.
• Instructors generally taught BL as a 50/50 “flipped” version of the course with video lectures/materials presented online/application of methods during FTF meetings 1 of 2/day/week.
• QM test as exam or homework questions.
• Rubrics applied to early and late writing samples by 2 blind raters.
• Used ANCOVA to test effects of instruction type, instructor and the interaction while controlling for GPA, early writing sample (as appropriate).

Results

• Critical Thinking through Writing change from early to late writing sample: Main effect of instructor after controlling for GPA and early CTW score with ANCOVA, p < .01, η² = 0.08. Students of instructor 1 scored significantly lower than those of instructors 2 and 4. Note that the negative change scores indicates students performed worse at the end of the semester than the beginning.
• Writing Mechanics change from early to late writing sample: Main effect of instructor after controlling for GPA and early NM score with ANCOVA, p < .01, η² = 0.12. Students of instructors 1 and 3 scored significantly lower than those of instructors 2 and 4.

Discussion

• QM was slightly lower in BL than FTF sections but most of the variability was among instructors.
• Did different instructors emphasize different parts of the course? Did FTF students access online materials?
• Some students’ “Critical Thinking declined: Are successful implementations of BL “flipped” Active learning done mostly by education researchers? Is more training for novice teachers required for BL?

Conclusions

• Students in BL sections performed significantly worse than those in FTF sections on quantitative measures but the effect was very small.
• No significant main effect of instructor type on critical thinking or writing mechanics.
• Instructor variability was the largest overall effect.
• Time allowed for the course was the only GOML predictor of quantitative mastery in the BL sections.

Acknowledgements

• This project was made possible through the generosity of Georgia State University’s Center for Excellence in Teaching and Learning, and the office of the Provost.
• These anonymized data are protected by the approval of Georgia State University’s Institutional Review Board.

References

• Authors acknowledge the research support of Georgia State University’s Center for Excellence in Teaching and Learning, and the office of the Provost.
An Undergraduate Course in “Acting for Psychologists”
Lori R. Van Wallendael and Kathleen A. West
University of North Carolina, Charlotte

For further information, contact: lrvanwal@uncc.edu

Introduction
In the spring of 2016, we offered a new team-taught topic course on Acting for Psychologists. The course was designed to offer Psychology students a chance to develop their nonverbal and verbal communication skills through training about the psychology of acting and the useful acting in psychology research and practice. The class met once a week for 2.75 hours. Topics covered included the decoding of nonverbal communication, how actors create emotion, interviewing skills, cognitive dissonance, drama as therapy, tailoring messages to a specific audience, and the use of confederates in research. Each class included at least one improvisational acting exercise, and students wrote reflections each week on what they had taken away from the class. This paper presents a selection of materials used in class, including syllabi and class assignments, as well as data on student evaluations of the course.

Learning Goals
By the end of the semester, students should:
• Gain an overall appreciation for the connection between acting/theater skills and psychology.
• Understand how non-verbal communication works and is essential for most interactions.
• Be able to think spontaneously as the ability to improvise is essential for many psychological professions.
• Reflect on how actions and attitudes are related and influence one another. Also, it is important that students understand how this process can be used with both positive and negative consequences.
• Have a better understanding of the power of audience recognition when interacting with someone. This includes things like how ads are specifically designed to target audiences and how a person might alter their behavior given a certain audience.
• Gain an appreciation for the classic research studies in psychology that relied on acting (i.e. confederates) to collect data. Further, it is important to understand how the classic studies influenced the body of psychological knowledge but also, in many cases, led to an appreciation for ethically dealing with research subjects.

Course Description
Psychology is the scientific study of behavior and mental processes. A good psychologist needs a wide range of skills so he/she prepares for a career in this field. This course is designed to be an exploration of creative and effective communication skills often utilized in various facets of a psychologist’s job. This includes improvisation and reenactment interaction that will require the use of non-verbal and verbal communication skills. This course will also review classic psychological research involving aspects of theater/acting (for example, research on confederates).

Selected readings:
• Selected journal articles describing research that involved confederates.

Video and film resources used:
• What’s Love Got to Do With It?
• The Stanford Prison Experiment (1971) and actual footage of the experiment.
• Experimenter (2015) – film on Stanley Milgram, and actual footage of the obedience experiments.

Where Do We Go From Here?
• We hope to submit the course for credit as a General Education “Oral Communication” goal course, to give Psychology majors more options for completing this requirement.
• The course was offered as a “Topics in Psychology” elective this time, but we would like to add it to the catalog as a regular offering in the future.
Hello, My Name is Sigmund Freud: Using Role Play Discussions to Facilitate Learning
Jessica S. Waesche, Ph.D.
University of Central Florida

Abstract

We are always looking for new ways to increase engagement and facilitate student learning, particularly in the online learning environment. I developed discussion activities for my online Abnormal Psychology class that required students to take on various roles. The course was broken up into 7 modules, and each module contained a discussion activity. Individual student roles varied from module to module. In the initial 2 modules, students were assigned the roles of various historical figures related to Abnormal Psychology and asked to discuss topics relevant to each module’s material. For modules 3 through 6, while discussing various mental disorders, students were assigned to play roles of either a clinician from a particular theoretical perspective or the role of a client with a disorder being discussed in that module. The “client” would discuss their symptoms and questions about treatment with “clinicians” who would make treatment suggestions. Finally, in the seventh module, students wrote a reflection paper, reflecting on what they had learned from these role play discussions. I was able to compare student exam grades in this course with exam grades from a section of this course that I taught in a previous semester to a traditional (non-role play) discussions. Statistical analyses revealed that students in the role play discussions scored significantly higher on 4 out of the 7 module exams. Student feedback regarding the role play discussions was also very positive. This technique appears to be an engaging way to help students learn in an Abnormal Psychology class.

Statement of Problem

As faculty, we are always trying to better stimulate student engagement and assure learning. One method for increasing student engagement that has been gaining in popularity is engaging students in role play activities. These activities can vary in scale from large, multi-day events such as role-playing the past (to) smaller activities contained within one class room (Carmos, 2014). Research on role play activities in face to face classes does show that they tend to significantly improve engagement performance when compared to traditional didactic discussions (McCarthy & Anderson, 1997). In addition, students report that these activities are more enjoyable and help them to better understand course material (Carmos, 2014; Stevens, 2015). When making the transition from in-person to online teaching, it can be challenging for instructors to translate these in-person activities to the online format. However, it is well worth the challenge, because role play discussions do encourage the students to engage with the material at a higher level than simply responding to specific discussion prompts (Duarte, Arrieta, Nelson, Comiti, & Liang, 2010).

As an instructor of a large section (125 students) of an online undergraduate Abnormal Psychology class, my goal was to find a way to realistically transfer the role play experience to the online environment. During previous semesters, I had employed the strategy of assigning students in small discussion groups (10-15 students per group) and asking them to discuss questions relevant to the material in each module. Drawing inspiration from the book Mind on Fire (Carmos, 2014), I transformed these discussion groups into role play groups. My hypothesis was that by taking on various roles, students would engage more deeply with the course material and perform better on the exams.

Method

My online Abnormal Psychology course is divided into 7 modules, each spanning a 2-week period. Topics for each module were as follows: 1 - Defining and Understanding Abnormality; 2 - Assessment and Diagnosis; 3 - Mood and Anxiety Disorders; 4 - Psychotic, Somatic, and Dissociative Disorders; 5 - Substance Use and Personality Disorders; 6 - Eating and Childhood Disorders; 7 - Applications of Abnormal Psychology. Assignments in each module included a multiple-choice exam and a small group discussion (10-15 students per group). During the Fall 2014 semester, these discussion groups were given specific prompts to discuss. For example, during Module 3 they were asked to discuss possible explanations for why the gender difference in depressive disorders emerges during adolescence. During Module 5, they discussed several questions related to the increase in diagnosis of ADHD and Autism Spectrum Disorder. This Fall 2014 class served as the comparison group in this study.

During the Spring 2016 semester, I redesigned the discussion groups to engage in role play discussions. Modules 1 and 2 covered foundational information and did not contain any discussion of specific disorders. Therefore, in these two modules, students were assigned to take on the role of a famous person from the history of psychology and discuss a topic from that person’s perspective. Historical figures for these modules included Hippocrates, Aaron Beck, Sigmund Freud, and B.F. Skinner. The groups discussed topics such as causes of mental illness and the merits of the current DSM-5 classification system. For modules 3 through 6, which cover various disorders, students were assigned to portray either an individual as an individual with a mental illness being covered during that module or a therapist from a particular theoretical orientation. Students who were assigned to portray a clinician with a mental illness had the option to create their own personas or use a provided case example. Students who were assigned to portray a clinician were given a theoretical orientation (e.g., behavioral therapist, family therapist, and psychiatrist) and then could create their own persona or take on the role of a specific person from that orientation. In these discussion groups, clients were to discuss their symptoms and seek advice about treatment options and clinicians were to suggest treatment options and all additional questions of the clients. In order to allow the students to better understand each other’s roles, more broadly, roles were rotated for each module. During Module 7, instead of a discussion group, students were asked to write a reflection paper discussing what they learned from these discussion groups. Specific questions were given for students to address in their papers, including how it felt to take on the role of a client and whether or not the assignment helped them to learn the material.

Results

Exam grades from the seven module exams and the final exam from the Fall 2014 semester (traditional discussion groups) and Spring 2016 semester (role play discussions) were compared using independent sample T-tests. The maximum score for the module exams was 50 points and the final exam maximum was 200 points. Sample sizes for each group ranged from 116 to 123 due to missing data. Students were allowed to drop one module exam grade. Results are displayed in Table 1. Results indicate that for modules 1, 2, 3, 4, and 5, students in the role play condition scored significantly higher on the module exam. For module 6, students in the traditional discussion condition scored significantly higher on the module exam. For modules 5 and 7 and the final exam, there were no significant differences between the groups.

Discussion

Overall, the role play discussions appeared to have a positive effect on student learning. Out of the eight exams given during the course, the section with the traditional discussion groups performed significantly higher than the role play group on only one exam. Scores on the remaining exams were either significantly higher for the role play group or showed no difference. While it is possible that this difference may be attributable to other factors, it is certainly not that other course material was changed between the two semesters. Unfortunately, there is no way to examine whether there might have been individual differences between the groups prior to the start of the respective semesters. In addition to displaying higher exam grades, it is also important to note that the class that engaged in role play discussions provided very positive feedback regarding the discussions. Review of the reflection papers submitted during module 7 indicated that the students enjoyed the role play discussions and felt that they helped in learning the course material. One question that students were asked was whether this assignment should be given again in future semesters. A substantial majority of students (over 90%) agreed that the assignment was beneficial and should be repeated in the future. Several students commented that they wished that other instructors would adopt this strategy as well.

Based on my experience and the feedback from students, I plan to implement these discussion groups activity again during the Spring 2017 semester. One comment made by students was that they wished they had been able to portray a client more frequently. Groups were structured with “clients” and 3-4 “clinicians” so most students only had one opportunity to portray a client. This format also resulted in problems when the “clients” were less active in the discussion group. To remedy this problem, I plan to make the groups larger (approximately 14-15 students) and have a more even balance of clinicians and clients. This would allow students to portray clients twice during the semester.

References

Do They Check?:
An Exploration of Student Engagement with Instructors’ Written Feedback

Introduction:
- Providing detailed written feedback on student assignments is time-consuming for instructors.
- Such feedback is intended to help the student learn and perform better in the future.
- This feedback can only achieve its purpose if the student actually reads it.

Goals:
- Determine how many students actually read feedback that is provided on their papers/assignments.
- Explore whether variables such as gender, major, year in school, or grade on assignment impact whether students read feedback.

Hypotheses:
- Grade received on the assignment will impact whether student reads feedback (unsure of direction).
- Students taking a course in their major will be more invested and therefore more likely to read feedback.
- No specific hypotheses regarding gender or year in school.

Method:
- 76 students from Midwestern liberal arts college.
- Three separate psychology classes with no overlap in enrollment.
- Each of three group investigations were set up to elicit feedback on assignment, such as statement below: XXXXX was replaced with unique codeword for each student.

- Tracked how many and which students sent the email to earn extra credit.
- Tracked student grades on target assignment.
- Gathered demographic data from course roster.

Results:

Variables Influencing Response:
- **Grade earned on the assignment did not predict whether student read the feedback.**
- **Course, gender, major, and year in school did predict whether student read feedback.**

Discussion:
- **The majority of students did NOT read my feedback.**
- Some of my informal assumptions about who would be more likely to check feedback were incorrect:
  - Grade received on the assignment did not matter.
  - Students taking the course in their major were LESS likely to read feedback.
- Demographic characteristics did matter:
  - Females were far more likely to check feedback.
  - Year in school matters, but direction is unclear (our sample was mostly juniors and seniors).
- The type of assignment probably matters:
  - When feedback was given on the first of a three-series assignment (three similarly written papers), a much higher percentage of students read the feedback, presumably to help them as they wrote the second paper.

Caveats & Future Directions:
- **Limitations of the study:**
  - One key assumption I make is that is if students have such an easy way to earn extra credit, they will take the opportunity to do so. I have no way of knowing if any students did read the feedback but chose NOT to send me the email.
- **Potential issues to explore further:**
  - Various forms of feedback may be more likely to be checked (e.g., hand-written vs. electronic, typed vs. audio).
  - Student & faculty expectations regarding the purpose of feedback (previous experience may influence whether students think they “should” read feedback).

Sources:
- Department of Psychology, Morningside College, 2023.
Career Development for Psychology Majors

Laura Rose
University of Maryland
Mary Shuttlesworth
Mount Aloysius College

For further information, contact: laurose1@umbc.edu
Increasing Human Service Students' Sense of "Employment Worth" and Career Negotiation Skills

Jill R. Sudak-Allison & Dr. Amy Getty
Grand View University

For further information, contact: sudak-allison@grandview.edu

1. START SMART AND ITS HISTORY AT GRAND VIEW UNIVERSITY

The Start Smart salary negotiation program began at Grand View University in 2013 with a three-year license. Start Smart, originally affiliated with the WAGE (Women Are Getting Every) Project and AAUW, started as a grassroots program developed by Evelyn F. Murphy and Anne Holle (www.wageproject.org). In 2015, AAUW took over administration of the program completely and modified the curriculum. While Start Smart is designed for students who have not yet entered their professional fields, a sister program, Work Smart, with just two or three variables to Start Smart, is also available. The city of Boston committed itself to offer free Work Smart workshops to at least half of the women working in the city over the next five years (http://www.aauw.org/work-smart-boston/).

At Grand View, we initially offered two general sessions each semester, but gradually expanded the program into various senior-level capstone classes, while still offering the classes to the public. We now offer 2-3 sessions per semester, depending on demand. The program has received largely positive feedback from participants, with good survey numbers directly after the workshop as well as from several students reporting that they were able to negotiate salary and benefits at a current job or used the skills to negotiate better job offers and starting salaries after graduation.

Grand View has recently renewed its three-year license to extend through the 2019-2020 academic year.

The Start Smart workshop itself is interactive, covering the basics of brainstorming their worth as employees, creating a budget, benchmarking salaries in various fields, and learning strategies for negotiation. During two course meetings, the students stop to discuss and practice skills as they work through the material, and the last portion of the workshop is devoted to a role-playing activity to help students practice their newly-learned skills.

2. PURPOSE

Students typically enter the human services field as they are passionate about helping improve the quality of life for those they advocate and serve (career outlook, Fall, 2011). Grand View's Human Services Program has a rich history of providing students with exceptional "hands on" high impact learning experiences. These experiences also include two internship courses designed to elevate students' engagement while pursuing their vocation, which in turn increases their ability to find employment.

Although high in meaningful connection and sense of purpose, these professions also come with high stress and lower pay. The Start Smart curriculum seems to be a natural add on to help equip Grand View's Human Services students to gain a sense of and learn to negotiate their future employment worth.

3. EVIDENCE OF EFFECTIVENESS

Now that you have completed the workshop, how confident are you that you can negotiate for the salary and benefits that match your education and experience?

<table>
<thead>
<tr>
<th>Not at All</th>
<th>Fairly Confident</th>
<th>Confident</th>
<th>Very Confident</th>
<th>Extremely Confident</th>
<th>No Response</th>
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<tbody>
<tr>
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<td>32</td>
<td>20</td>
<td>6</td>
<td>3</td>
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</tr>
</tbody>
</table>

Has your confidence increased since attending this workshop?

- Yes: 75%
- No: 25%

4. STUDENT REFLECTIONS – PARTICIPATING STUDENTS PROVIDE THEIQUOTES

INCREASED SKILLS/KNOWLEDGE

Very informative. Enjoyed "how to" advice as counter offer & finding out whether you're getting a good job offer. Great resources. Very helpful workshop.

Good overview of skills needed to search for jobs. Websites were a good visual.

It was time well spent. Learned about negotiation skills. Showed me how to increase the money I make professionally. Made me think of really making sure to get what you are worth to start.

BE RESPECTFUL/FAIR/AGILE WHEN APPROACHING A SALARY INCREASE, BECAUSE YOU ARE WORTH IT.

I am able to negotiate salary & benefits, I gained confidence. I am now confident I can face any employer & bargain well.

5. REFERENCES

Helping Undergraduates Succeed at Job Interviews: Self-reflection in e-portfolios
Christine Lackner and Tanya S. Martini
Brock University, St. Catharines, Canada

For further information, contact: tmartini@brocku.ca

BACKGROUND
- Students often struggle to articulate their career-relevant skills
- Martini, Judges, & Belak, 2015, and how they have been developed
- through important learning experiences
- Difficulties with communicating skill-based learning may create
- challenges if students are asked to describe their skill set during
- behavioral questions during a job interview

Behavioral Interview Questions require that students describe
- experiences in which they have demonstrated a particular skill
  - Example: "Tell me about a time when you worked as part of a
    team and things weren't going well. What did you do?"
- Career development professionals recommend such questions be
  addressed using the STAR format, in which answers include
  information about:
    - Situation/Task
    - Actions Taken
    - Results of those actions

Improving Interview Performance
- Career-related self-reflection predicts students’ interview
  performance and job offers (Stumpf, Austin & Hartman, 1978)
- Encouraging self-reflection among students may improve job
  interview performance by enhancing their ability to leverage key
  learning experiences in response to behavioral interview questions

Capstone Transition to Work Course
- Students reflect on their curriculum and co-curricular learning
  experiences, and how they have contributed to transferable skills
- Understanding the connection between experiences and the skills
  they develop is particularly helpful when answering behavioral
  interview questions
- Main assignments:
  - Reflection on 8 significant learning experiences
  - Career wiki
  - LinkedIn profile
  - Integrated learning e-portfolio
  - Mock employment interview (videotaped)
  - 4 behavioral questions
  - Different interview questions at the beginning and end of the
    course

STUDY GOALS
The goals of the present study were to examine:
- Student perceptions of significant learning experiences, since
  these are likely to be the ones drawn upon while answering
  behavioral interview questions
- Whether self-reflective assignments (LinkedIn e-portfolio)
  improve students’ ability to answer behavioral interview questions

METHOD
Participants
- Fourth year psychology majors enrolled in the “transition to Work
  course” (N = 30, 22 male, 48 Caucasian)

Key Measures
- Student descriptions of significant learning experiences
- 5 ratings of mock interview questions
- 2 measures of STAR content (8 questions relating to at
  least one STAR component; all STAR components mentioned)
- 3 measures of communication (articulation; completeness; on-
  topic)

RESULTS
Student Perceptions of Significant Learning Experiences
- 34 significant learning experiences provided by students
- Experiences coded by students themselves into one of six categories
  - degree-related course experiences (25%)
  - paid work (23%)
  - volunteer work (10%)
  - extracurricular activities (12%)
  - leisure-based experiences (e.g., travelling abroad; 4%)
  - personal development (e.g., death of friend; “coming out”;
    rejection of family religion; 24%)

Changes in Interview Performance
- One-way MANOVA examined whether performance on the five
  mock interview questions changed from beginning to end of course
  - Multivariate F test (F(5, 25) = 2.30, p < .01) and univariate
    follow-up tests (all F(1, 29) = 27.23, all p < .001) indicate
    significant improvement on all dimensions

Predictors of Interview Improvement
- Created a grand interview score for baseline and final interviews by
  summing z-scored context and communication totals
- Grand interview scores regressed on individual course assignment
  grades, after controlling for overall baseline interview scores
- Results indicated that only performance on the integrated learning e-
  portfolio predicted final interview performance (after controlling for
  initial interview performance; R² = .32; F(1, 25) = 6.30; p < .05)

DISCUSSION
- More than half (52%) of the significant learning experiences described
  were co-curricular only 25% came from the formal curriculum
- Possibly, students find it easier to see the relevance of co-curricular
  activities to the “real world” in which they will have to live and work
- Also research suggests that students often do not recognize how course
  assignments foster transferable skills (Martini, Rail, & Norton, 2015)
- What to do?
  - Explicitly state the career-related skills that their course-based work is
    intended to foster
  - Increase students’ understanding of “What does this have to do with
    me?” (Roberson, 2013)
- Grades on the integrated learning e-portfolio assignment predicted
  final interview scores after controlling for baseline interview scores
  - Both the LinkedIn and the e-portfolio assignments were intended to
    foster self-reflection
  - Possibly, the LinkedIn profile did not prompt the same depth of self-
    reflective thinking that was required for the e-portfolio
- Why?
  - LinkedIn assignment completed during the first two weeks of class;
    e-portfolio completed in stages across the entire semester
  - Feedback on student writing and thinking while completing the e-
    portfolio likely helped to deepen their self-reflection

REFERENCES
Roberson, W. J. (2013). Reality of undergraduate psychology majors’ understanding of skill-based
Roberson, W. J. (2013). Reality of undergraduate psychology majors’ understanding of skill-based
Roberson, W. J. (2013). Reality of undergraduate psychology majors’ understanding of skill-based
Roberson, W. J. (2013). Reality of undergraduate psychology majors’ understanding of skill-based
A Mindful Master’s Degree in Psychology

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Abstract: With increasing prevalence of mindfulness approaches in Western counselling, it is timely for psychological education to address these, but what might a university curriculum with integrated mindfulness look like? We provide an example, the “KARUK” programme for master level psychology students at Aalborg University in Denmark. A Danish psychology degree requires 3 years study of psychological disciplines. At Aalborg University, the two master level years are organised by so-called profession programmes in accordance with the idea of problem based learning (PBL). Both PBL and mindfulness programmes are oriented towards students taking the use of self and others matches their preferences in terms of intervention forms covered, client groups targeted, and pedagogy of the programme. We recognize the need for a pedagogical, and cognitive psychology (KARUK) programme to integrate a crucial skill for mindfulness in theory, pedagogy, and personal practice. This was accomplished by scheduling teaching as independent workshops on each topic intensive work for 2-4 days within a problem theme or client group, alternating with shorter weeks of reading and reflection. The 3-week workshops sessions endured continuity to the programme and training of, as well as learning about, mindfulness. Three sessions were of 4 hours duration and covered the general idea and history of mindfulness, intervention techniques, scientific evidence, and not least mindfulness practice. The model made KARUK a top-priority programme among students.

FRAMING
- Bsc psych + 180 ECTS psychology
- Msc psych + 90 ECTS psychology
- 40 ECTS profession program
- 35 ECTS common courses
- 15 ECTS praxis (external)
- 30 ECTS Master’s Thesis

WORKSHOP CONTENT
Basic themes:
- Psychology of social inclusion
- Cognitive Behavioral Therapy (x 3)
- Applied Developmental psych
- Applied Neuropsychology
- Psychiatry Minor
- Medicating themes (isoeut., a.g.,
- Animal Assisted Therapy
- Cross-cultural psychology
- Preventing educational drop-out
- Compassion Focused Therapy

MINDFULNESS GOALS
- Knowledge about and of mindfulness – as research, as tool to teach, and as attitude to self and client
- Embedded metacognitive skills development
- Bridge to praxis and longterm perspective: Prepare for post-graduate training in e.g., MBU, MBCT, ACT, DBT
- Sustainable self involvement

Basic assumption:
A broad and regular personal practice is a prerequisite for using mindfulness professionally as a psychologist

MINDFULNESS CONTENT AND PROGRESSION

<table>
<thead>
<tr>
<th>WHEN</th>
<th>WHAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. semester</td>
<td>Theoretical and practice-based coursework: What, how, origin, effects. Are taught the practices from mindfulness teacher, from 9. farm students, and from online audio guiding. We recommend personal daily practice for 2-3 months (bodyscan, breathing exercises and meditations, compassion meditations and mental practices) and lookback with personal experiences and perceived effects. Embodied experience is required for understanding, which evolves as experience grows.</td>
</tr>
<tr>
<td>6. semester</td>
<td>Practice with specific clients; therapy and/or instruction. Rehearsal of 1) using mindfulness as own therapeutic attitude; 2) flexible methods in therapy; 3) formal guided meditations for groups. Supervision from both practice leader and from mindfulness teacher.</td>
</tr>
<tr>
<td>9. semester</td>
<td>Provide 8-week course for 7. Semester students: Pairwise teach 1-2 of the sessions. Supervision from mindfulness teacher. Feedback from peer and younger student. Option for supervision in project work involves mindfulness instruction</td>
</tr>
<tr>
<td>10. Semester</td>
<td>Option for supervision if project work involves mindfulness instruction</td>
</tr>
</tbody>
</table>

"The ability to relate differently to negative affect came from having their own ongoing mindfulness practice, so that they might teach mindfulness out of their experience of it. A vital part of what the MBRI instructor conveyed was his or her own embodiment of mindfulness in interactions with the class."
- Segal et al., 2003, p. 54 [italics in original]
ABSTRACT

U.S. citizens score relatively low on evolution literacy (Miller, Scott, & Okamoto, 2006) which is one component of scientific literacy. Blesiak-Rashek and Donovan (2016) reported that, although scientific literacy increased slightly in a sample of students across three years of college, there was no change in evolution literacy, even among students who took multiple science courses. However, this previous study did not examine which science courses explicitly taught evolutionary concepts, or whether intentional coverage of these concepts produced a change in evolution literacy. In the current study, a within-subjects design was used to assess evolution literacy among students on the first and last day of an evolutionary psychology course. Evolution literacy, specifically genetic literacy, increased significantly, $t(11) = 2.45$, $p = .032$, during the course, while beliefs in young earth creationism decreased significantly, $t(11) = -2.89$, $p = .015$. Taken with previous findings, these results suggest that college coursework is unlikely to enhance evolution literacy unless relevant concepts are explicitly covered in class.

BACKGROUND

- Evolution literacy is an important component of scientific literacy. U.S. citizens tend to perform poorly on tests of evolution literacy (Miller, Scott, & Okamoto, 2006).
- Only half correctly reject the statement that humans and dinosaurs coexisted.
- Blesiak-Rashek and Donovan (2016) measured evolution literacy in students before and after three years of college.
- Observed no improvement, even in those who took multiple scientific classes.
- Perhaps evolution only receives the necessary amount of attention in content courses with an evolutionary focus.

OBJECTIVE

- To assess the impact of a one-semester course in evolutionary psychology on evolution literacy in a college sample using a within-subjects design.

METHOD

Participants

- 32 undergraduate students in an Evolutionary Psychology course at the University of Baltimore participated.

Materials and Method

- Short form of the Evolutionary Attitudes and Literacy Survey (EALS) developed by Short & Hawley (2012)
- Series of statements regarding evolutionary concepts and common misconceptions
- Agreement indicated on a seven-point Likert scale

Procedure

- Participants completed the survey once at the start of the course, then again just before the final exam.
- Results were analyzed using paired-samples t tests ($\alpha = .05$).

RESULTS

- After completing the evolutionary psychology course, students showed significant improvement in scores of genetic literacy, $t(11) = 2.45$, $p = .032$.
- Beliefs in ‘young earth creationism’ were significantly reduced, $t(11) = 2.89$, $p = .015$.

CONCLUSIONS

- There was a marginally significant reduction in distrust of the scientific enterprise, $t(11) = 2.07$, $p = .062$.
- Scores on the other five categories of evolution literacy were not significantly altered at the end of the course.

REFERENCES

New Information about the Eclectic Approach to Supplemental Instruction  
Cassandra Domingo

Introduction

Supplemental Instruction is a peer tutoring program that offers a secondary, structured time to help equip students with proper study tools and habits. It is used for historically difficult courses with high dropout rates.

Bergmanns, Neckeboock, Dochy and Struyven (2012) found that, despite all being trained similarly, tutors in their study fell into one of three categories (see table 3). Each of these tutoring styles has distinct advantages and disadvantages.

By combining all three of these tutoring styles into one structured session, each pitfall can be avoided. I chose to investigate this method.

In my initial investigation, those who attended the eclectic SI sessions in Spring of 2016 had, on average, a 20% higher final grade. SI attendees had also reported a higher level of self confidence than their peers in more areas, such as taking effective notes and using APA formatting (Domingo, 2016). This investigation extends that work.

Method

Participants

The participants were students of the SUNY Broome Psychology 110 course of Fall, 2016. I divided the students into 5 groups to analyze the data.

- Students who came regularly at the start of the semester (Beginning)
- Students who came regularly at the end of the semester (Ending)
- Students who came a few times per month (Sporadic)
- Students who came regularly throughout the semester (Complete)
- Students who never attended SI (Class)

All groups were a mix of female and male students between the ages of 16 and 45.

Materials and Apparatus

I used various materials and equipment including:

- Videos
- Images
- Practice exams drawn from test banks
- Biopac MP40

These materials were used as needed according to the demands of the students.

Procedure

There were a total of 5 one-hour eclectic SI sessions available per week.

1. Sessions began with announcements of upcoming due dates or exams.
2. Students identified the topics they felt they were struggling with the most.
3. The session either centered around the last class’ lecture or a topic the students brought up.
4. Students summarized what they remembered about the topic. Every student worked together to fill in the blanks which created a lecture-like recap, but with active participation.
5. I used guiding questions I led students to answer and their question if they were stuck.
6. I used elaborative rehearsal and active learning activities such as concept maps or the method of loci to cover remaining material.

Throughout the session, we reviewed study techniques and worked on examples to increase student independence and confidence.

Results

<table>
<thead>
<tr>
<th>E = Exam</th>
<th>P = Paper</th>
<th>E1</th>
<th>E2</th>
<th>E3</th>
<th>E4</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>Final Grade</th>
<th>SI Attendance</th>
<th>Class Attendance</th>
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<tbody>
<tr>
<td>N</td>
<td></td>
<td>6</td>
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<td>66</td>
<td>68</td>
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<td>86</td>
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<td>Student 5</td>
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<td>Student 6</td>
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<td>72</td>
<td>89</td>
<td>81</td>
<td>82</td>
<td>82</td>
<td>97</td>
</tr>
</tbody>
</table>

*Student 1 had a disability and still performed the non-attendee final grade

Discussion

- This study focused on one Psych 110 course. All groups saw the same exams, lectures and textbook.
- Students who attended SI turned in every assignment and took every exam.
- Students who only came sporadically achieved higher grades than their peers, but by fewer points than those who attended regularly.
- Students 1 and 7 attended SI in the beginning of the semester and outperformed their peers on the exams given at that time. Their performance decreased after they stopped attending SI.
- Student 5 began attending half way through the semester and showed dramatic improvement on the final 2 exams and last two projects.
- No information was gathered regarding which students may also have attended one-on-one tutoring. This may have had a possible impact on students’ grades.

Conclusion

Students who attended the eclectic SI sessions regularly had a 10% higher final grade than their peers who did not attend. Even students who attended sporadically still had a 7% higher grade. SI attendees outperformed their peers by 10% on the final exam mean. Thus, SI attendance directly correlates with increased performance on exams, papers and projects. Students should have access to eclectic SI and should be encouraged to attend regularly to maximize their learning and academic skills.
Generalizing Student Created Comics from Neuroanatomy to Psychomythology Senior Capstone


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Background

As reported at NITOP (Isaac, et al., 2014; Isaac, et al., 2015), using student created comics in neuroanatomy seminars as a major writing assignment provided robust learning experiences for the students. This year, we found generalizing the assignment to a senior capstone seminar focusing on psychomythology worked equally well. The topic of psychological myths touches on all areas of psychology including revisiting research methods and statistics. Additionally, it lends itself to critical evaluation of literature.

Readings & Class Discussions

As a class, we discussed basic ideas regarding a revised Bloom’s Taxonomy presented by Iowa State University’s website (www.celt.iastate/teaching/effective-teaching-practice/revised-bloom-taxonomy), and APA’s Learning Goals (2013) to set the stage. Additionally, to increase student involvement in the topic, we viewed selected myths from the Discovery Channel’s MythsBusted television series. While most of the myths viewed in class were Psychology-related investigations, a few were not. Students evaluated the methodology including their controls, the information presented, and the interpretations for each myth. Students evaluated each investigation suggesting improvements for each episode viewed.

Students led discussions on The Horse that Won’t Go Away (Heinzen, Lilienfeld, & Nolin, 2015) to focus on critical thinking and then 50 Great Myths of Popular Psychology (Lilienfeld, Lynn, Ruscio, & Beyerstein, 2010) became the primary basis for discussions. Students selected 32 myths to discuss in class. They wrote reflection papers on the myths they did not present to the class.

The Assignment

Students identified myths not discussed in class for their comic chapter topics. They formatted their work using Comic Life 3 software by PixaQ. The assignment required creativity as well as critical thinking and literature search skills. In-class workdays promoted student sharing and engagement. Students were enthusiastic about the comic assignment and course design based upon unsigned end-of-semester written feedback. The comic chapter assignment in a topical senior seminar generalized very well from neuroanatomy to psychomythology. A goal still in progress is to make the 300-plus page collection available as an electronic open resource to others.

Figure 1. APA’s Learning Goals presented to the class.
Manipulating Social Proof to Encourage Midterm Meeting Attendance Among Struggling Students
Christie Cathey, Danee L. Hudson, Michelle E. Visio, Brooke, L. Whisenhunt, Taylor Smith, Jacob Tipton, Sidonia Grozav, Flora Forbes, & Charles Hoogland
Missouri State University
For further information, contact: christiecathey@missouristate.edu

Introduction
Midterm Meetings for Struggling Students
- Introductory Psychology instructors at Missouri State University invite students with grades of ‘D’ and ‘F’ to meet during office hours.
- Instructors discuss course performance and study strategies with students at these meetings.
- Meeting attendance is associated with improved performance at end of the semester.

The Problem – Few Students Attend Meetings
- Students presumed to be in need of extra help (i.e., those with low grades) tend to be those who are less likely to take advantage of optional opportunities for assistance (Moore, 2008).
- Typically, fewer than 25% of the struggling students we invite to meet with us at midterms take us up on the offer to meet.

Possible Solution: Use Principle of Social Proof
- People look at the “social proof” of what others are doing, especially when they are unsure how to behave.
- People are more likely to engage in a behavior if they believe similar others are doing the same thing (Cialdini, 2001).
- Can this principle of social proof be used to improve rates of attendance at midterm meetings?

Current Study
- Instructors sent students with grades of ‘D’ or ‘F’ one of three emails inviting them to attend a midterm meeting.
- One email presented social proof information by mentioning what similar students typically do; one email presented likely outcomes by mentioning that meeting attendance is associated with improved final grades; one email contained just the invitation to meet with no additional information.
- We predicted that students would be most persuaded by information related to social proof and would be most likely to attend a meeting when they believed that similar others have attended in past semesters.

Method
Participants
- 130 students enrolled in one of three sections of Introductory Psychology in Spring 2016 with midterms grades of ‘D’ or ‘F’.

Email Manipulations
- We randomly assigned participants to receive one of three different emails.
- All emails invited students to meet with their instructor during office hours within the two weeks following the midterm break.
- Emails were identical with the exception of the following added sentences, which presented real data from the previous semester:

  - **Social Proof Condition**: “Last semester, more than 60 students took us up on this offer for help.”
  - **Outcome Focus Condition**: “Of the people who came to meet with us last semester, 33% of them improved their grade by at least one letter.”
  - **Control Condition**: No sentence added.

Procedure
- Immediately upon submitting midterm grades, instructors sent email invitations to students.
- All emails contained a YouCanBookMe link to the instructor’s office hours.
- Instructors recorded student meeting signups and attendance during the two weeks following the midterm break.

Results

<table>
<thead>
<tr>
<th>Meeting Attendance by Condition</th>
<th>Attended</th>
<th>Did Not Attend</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Proof</strong></td>
<td>24</td>
<td>25</td>
<td>49</td>
</tr>
<tr>
<td><strong>Outcome Focus</strong></td>
<td>11</td>
<td>35</td>
<td>46</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>14</td>
<td>30</td>
<td>44</td>
</tr>
<tr>
<td><strong>Total Count</strong></td>
<td>59</td>
<td>90</td>
<td>149</td>
</tr>
</tbody>
</table>

- Chi-square tests of independence revealed a relationship between meeting attendance and condition.
- Students who received the social proof email were more likely to attend a midterm meeting than were those in the control condition, \( \chi^2(1) = 4.24, p < .05 \).
- The outcome-focus condition did not differ from the control condition, \( \chi^2(1) = .376 \), n.s., or from the social proof condition \( \chi^2(1) = .208 \), n.s.

Discussion
- Students who were struggling at midterm were more likely to attend a meeting with their instructor if they were told that similar students attended meetings in past semesters.
- Telling students that meeting attendance was associated with higher final grades did not increase likelihood of attending.
- Findings support the notion that students’ academic decision-making is partly influenced by their beliefs about what similar others are doing.
- Future research should examine how the principle of social proof can be used to affect student decision making.

References
Is the pen mightier than the keyboard? Assessing whether distinct types of note-taking influence retention
Keifer Weiland, Chantelle Shapcott, Jessica C. Hill, and Jessica Olson
Behavioral Science Department, Utah Valley University, Orem, Utah

Background
- Most college faculty and students recognize that note-taking is critical for academic success (Hogen-Markstad, Delgado-Uria, Navarro-Guzman, Menocho-Jimenez, & Romano-Oliva, 2016). Because of the ubiquitous nature of notes, there is a large body of empirical work that investigates the quality, quantity, and nature of student notes (e.g., Baker & Lonka, 1995; Kolobov, 2004; Pelham & Biddle, 1994).
- Students report being goal-directed in their note-taking, using note-taking as a way to maintain their attention during lecture, to understand and organize the material presented in lecture, and to achieve good grades in the course (Van Meter, Yolka, & Presley, 1994).
- With advances in technology, many students have transitioned from a more traditional, longhand method of taking notes to typing on laptops or even using smartphones, despite the distinctives these devices provide (e.g., Sana, Wewin, & Csapota, 2013).
- Mueller and Oppenheimer (2014) demonstrated that students at Princeton University who take longhand lecture notes perform better when tested than laptop note-takers on questions that require deeper processing. Their results demonstrated that participants who took notes on a laptop performed significantly worse on comprehension-application questions than longhand note-takers, but equally as well on factual-recall questions indicating deeper processing in the longhand condition.
- We question whether computer users itself results in poorer recall. Thus, our work investigates a modified computer note-taking method that will require participants to use encoding similar to that of longhand note-taking while still using a computer as the medium for note-taking.

Method
Participants
We recruited university students (N=165) from the UVU Behavioral Science Participant Pool.

Materials
We fully replicated the Mueller and Oppenheimer (2014) study—all stimuli and materials were the same.

Procedure
Our procedure was identical to that of Mueller and Oppenheimer (2014), with one addition: we added a third condition in which computer note-takers only exposed to the index fingers of their left hand to type, thus changing their typing.

Hypotheses
1. We will replicate the results of Mueller and Oppenheimer (2014) as they relate to note-taking medium: specifically, we will see no differences between conditions for recall-factual performance, but there will be differences for conceptual-application performance.
2. By slowing typing in the restricted computer condition, we hypothesize that participants will be forced to use strategies similar to those used when taking notes longhand, thus restricted computer performance should be similar to that of longhand.
3. Based on reasoning above, word count and verbation overlap should be similar in the longhand and restricted computer conditions.

Results
- We replicated the analysis used by Mueller and Oppenheimer (2014, p 3). They used mixed model ANOVAs with the note-taking medium (e.g., longhand) as the fixed factor and the TED talk that was viewed as the random factor. They also employed z scores due to the fact that the assessments they employed were nonlinear consistent in difficulty level nor in point value. Mueller and Oppenheimer (2014, p.5) also conducted a content analysis on the notes produced by participants. They analyzed total word count across conditions and amount of verbation overlap, as measured by one-, two-, and three-word clusters of text.
- In regard to note-taking medium, Mueller and Oppenheimer (2014, p.3) reported that there was no difference in factual-recall performance across conditions. We replicated this finding, $F(2, 50)=2.38, p=.08$.
- Participants taking notes on a laptop performed significantly worse on conceptual-application questions than those who took notes longhand. We failed to replicate this finding. Our data did not show an overall difference in conceptual/applications performance across conditions. $F(2, 7)=2.49, p=.13$ (see Figure 1).
- There was a difference in performance on conceptual-application questions based on the TED talk to which the participants were exposed. We were unable to replicate this finding. $F(10, 154)=1.34, p=.05$ (see Figure 2). Please note that no participants were randomly assigned to the “Inequality” TED talk.
- In regard to content of the notes, Mueller and Oppenheimer (2014, p.3) reported that longhand notes produced significantly fewer words. We were unable to replicate this finding. There were no differences in the amount of words produced between conditions, $F(2, 7)=2.35, p=.21$. Again, this lack of overall difference seems largely due to adding the restricted computer condition.
- Laptop note-takers produced text with significantly more verbation overlap. We replicated this finding across one-word, two-word, and three-word overlap levels, $p<.05$. Post hoc testing indicated significant differences ($p<.05$), both the computer and restricted computer conditions had more verbation overlap than the longhand condition.

Discussion
We were unable to fully replicate the Mueller and Oppenheimer (2014) study. Although our results also demonstrated no differences across conditions for recall-factual performance, we did not see a benefit in conceptual-application performance for longhand note-takers. We also were unable to replicate a difference in total words produced across conditions. We were able to replicate results related to verbation overlap; longhand note-takers had significantly less verbation overlap in their notes than did both the computer and restricted computer conditions.

Of note, our hypotheses related to the restricted computer conditions were not supported. We expected that the slowing due to typing with only two fingers would force participants to use deeper encoding strategies, similar to those of longhand note-takers. Rather, restricted computer participants input more words than longhand note-takers with more verbation overlap than indicating more shallow processing of the information.

Future Directions
- Because we are an open-enrollment institution, we may need to implement a general note-taking improvement intervention before replicating Mueller and Oppenheimer (2014).
- Instead of randomly assigning students to only one type of note-taking, we will randomly assign students to use either their preferred method of note-taking and then their non-preferred method. They would then complete another session using the alternate form of note-taking.

References
- References are provided on the poster handout.
A Tale of Two Methods: An Assessment-Matched Comparison of PSI and Traditional Lecture

Craig Cummings
The University of Alabama
For further information, contact: craig.w.cummings@ua.edu

<table>
<thead>
<tr>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Materials</strong></td>
</tr>
<tr>
<td>Traditional Lecture (TL)</td>
</tr>
<tr>
<td>Personalized System of Instruction (PSI)</td>
</tr>
<tr>
<td>Assumption: Students in the PSI and TL groups were similar in terms of prior knowledge and demographic characteristics.</td>
</tr>
<tr>
<td>TL: Lecture, discussion, and problem-solving activities.</td>
</tr>
<tr>
<td>PSI: Individualized learning activities, including problem sets and interactive sessions.</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
</tr>
<tr>
<td><strong>Assessment Preparation</strong></td>
</tr>
<tr>
<td>A pretest and posttest were administered to assess baseline knowledge and understanding of the course material.</td>
</tr>
<tr>
<td><strong>Course Design</strong></td>
</tr>
<tr>
<td>TL: Traditional lecture format with scheduled assessments.</td>
</tr>
<tr>
<td>PSI: Adaptive learning environment with formative assessments and feedback.</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
</tr>
<tr>
<td>The data were analyzed using a matched-pairs t-test to compare the performance of students in the TL and PSI groups.</td>
</tr>
</tbody>
</table>

Conclusions

Overall, the data indicate that students in the PSI group showed significantly higher performance compared to those in the TL group. The PSI approach appears to promote deeper understanding and retention of course content, as evidenced by the higher scores on assessments. The findings support the hypothesis that personalized instruction can enhance learning outcomes. Further research is needed to explore the long-term effects of PSI on student achievement and satisfaction.
A Tale of Two Methods: Assessment-Matched Comparison of PSI and Traditional Lecture

Craig Cummings, Ph.D.
University of Alabama
Phone 205-348-9936 | Fax 205-348-8648
craig.w.cummings@ua.edu | http://psychology.ua.edu

ABSTRACT

I’ve used PSI in past courses and have been pleased with the student performance and evaluations. However, I began to question whether it was truly an effective teaching method and realized I was asking myself an empirical question. So, once I had the opportunity, I set out to perform a systematic comparison of the two teaching methodologies. Over the course of the Summer 2016 academic term, I conducted a systematic comparison of the traditional lecture method and the use of personalized system of instruction (PSI), or the Keller Method. This analysis compares student performance in two Introduction to Psychology courses during successive summer mini-semesters.

METHODS

- Assessment Preparation
  - A common question bank of 210 multiple choice (MC) and 15 written response questions was generated for both courses.
  - MC questions covered the entire chapter.
  - Written response questions pertained to a pre-selected 25-30 min. portion of each chapter lecture series.
    - The PSI mini-lectures covered the pre-selected 25-30 min. portion of the full chapter lecture series delivered in the TL course.

- Course Designs
  - To make a fair comparison, the course designs were mirrored as closely as possible using:
    - identical assessment items (MC and free response)
    - as well as scheduling assessments, and/or deadlines, at equally spaced intervals (average of 3 classes between each assessment/deadline) (see timeline below).

- Analysis
  - In the results section, I provide direct comparisons of
    - student performance on formative and summative assessments
    - Student course evaluations/feedback

COURSE MATERIALS

Traditional Lecture (TL) Course description and grading policy provided in syllabus.

<table>
<thead>
<tr>
<th>Grading Policy (200 total points):</th>
<th>N</th>
<th>point total</th>
<th>proportion of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter Exams (20 points each)</td>
<td>07</td>
<td>140</td>
<td>70%</td>
</tr>
<tr>
<td>Cumulative Final (50 points)</td>
<td>01</td>
<td>50</td>
<td>25%</td>
</tr>
<tr>
<td>Syllabus Quiz</td>
<td>01</td>
<td>10</td>
<td>5%</td>
</tr>
</tbody>
</table>

Course Structure: This course is a traditional, lecture based course. We will take a total of 7 required in-class exams and 1 cumulative final. In other words, there will be 1 exam for each chapter we will be covering.
Personalized System of Instruction (PSI) Course description and grading policy provided in syllabus.

**Grading Policy (200 total points):**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>point total</th>
<th>proportion of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Lecture Quizzes (10 points each)</td>
<td>06</td>
<td>60</td>
<td>30%</td>
</tr>
<tr>
<td>Chapter Quizzes (10 points each)</td>
<td>07</td>
<td>70</td>
<td>35%</td>
</tr>
<tr>
<td>Cumulative Final (60 points)</td>
<td>01</td>
<td>60</td>
<td>30%</td>
</tr>
<tr>
<td>Syllabus Quiz</td>
<td>01</td>
<td>10</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Course Structure:**
During the summer, we break from tradition and teach this course using a modified version of the Keller Method, which is also known as the Personalized System of Instruction or PSI. This method is a mastery-based system of instruction that allows students the opportunity for mastery of course material via repeated testing. There is not sufficient time in the mini-semester to do much else well.

**Lectures:**
On some days we will have “mini-lectures” to supplement material in the text (eight lectures total). On these days, we will spend the first 25-30 minutes in a regular lecture/discussion providing material that supplements your textbook. Following each lecture, you will take a short, 2- to 3-question short-answer essay quiz over the lecture material (in between the lecture and the lecture quiz, you will be given 10-15 minutes to review your notes). Each lecture quiz is worth 10 points. You may drop one of the lecture quizzes from your final point total. The remaining class time will be used for taking regular quizzes (see below).

**Chapter Quizzes:**
Class days on which there is no lecture will be dedicated totally to quizzing. We will be covering 7 of the textbook chapters. Each quiz will contain 10 questions worth 1 point each. You will have three opportunities to take each quiz, you must take each quiz until you either score 9/10 or above or until you have taken it three times. Each quiz includes different question sets covering the same topic/chapter.

---

Student grade tracking sheet provided in course syllabus

Sample ZipGrade® scantron used for in-class grading of chapter quizzes. This scantron can be graded using an iOS application (app) with an iPhone or iPad camera. The app allowed me to provide immediate feedback to students.
RESULTS

Two Way Analysis of Variance

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>1</td>
<td>2.120</td>
<td>2.120</td>
<td>60.927</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Chapter</td>
<td>7</td>
<td>1.388</td>
<td>0.198</td>
<td>5.698</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Class x Chapter</td>
<td>7</td>
<td>0.296</td>
<td>0.0423</td>
<td>1.217</td>
<td>0.292</td>
</tr>
<tr>
<td>Residual</td>
<td>416</td>
<td>14.478</td>
<td>0.0348</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>431</td>
<td>18.279</td>
<td>0.0424</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Power of performed test with alpha = 0.0500: for Class : 1.000
Power of performed test with alpha = 0.0500: for Chapter : 0.917
Power of performed test with alpha = 0.0500: for Class x Chapter : 0.111

Two Way Analysis of Variance

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>1</td>
<td>0.492</td>
<td>0.492</td>
<td>9.275</td>
<td>0.003*</td>
</tr>
<tr>
<td>Chapter</td>
<td>6</td>
<td>3.683</td>
<td>0.614</td>
<td>11.572</td>
<td>&lt;0.001*</td>
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<tr>
<td>Class x Chapter</td>
<td>6</td>
<td>0.458</td>
<td>0.0792</td>
<td>1.375</td>
<td>0.224</td>
</tr>
<tr>
<td>Residual</td>
<td>345</td>
<td>18.239</td>
<td>0.0530</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>23.194</td>
<td>0.0648</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Power of performed test with alpha = 0.0500: for Class : 0.835
Power of performed test with alpha = 0.0500: for Chapter : 1.000
Power of performed test with alpha = 0.0500: for Class x Chapter : 0.116

Descriptive Statistics

<table>
<thead>
<tr>
<th>Course</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>C.I. of Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSI</td>
<td>29</td>
<td>0.772</td>
<td>0.143</td>
<td>0.6005</td>
</tr>
<tr>
<td>TL</td>
<td>24</td>
<td>0.826</td>
<td>0.113</td>
<td>0.6430</td>
</tr>
</tbody>
</table>

Mann-Whitney Rank Sum Test

<table>
<thead>
<tr>
<th>Group</th>
<th>Median</th>
<th>25%</th>
<th>75%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSI</td>
<td>0.813</td>
<td>0.702</td>
<td>0.871</td>
</tr>
<tr>
<td>TL</td>
<td>0.861</td>
<td>0.775</td>
<td>0.920</td>
</tr>
</tbody>
</table>

Mann-Whitney U Statistic = 268.000
T = 568.000 n(smaller) = 24 n(larger) = 29 (p = 0.155)

Overall

Student Course Evaluation/Feedback

Did you feel that the course content was relevant to the course topic?

Did you feel that the course structure was appropriate for the material?

Did you feel that the assessments techniques were structured appropriately?

Did you feel that the course in line with your expectations?

Table 1 & 2: (above) Two-way ANOVA of the MC (top row) and written (middle row) question set percent correct as a function of Class (PSI, TL) and Chapter (2, 3, 6, 7, 9, 14, 15). Power of performed test for each factor and the 2-way interaction.

Figures 1 & 2: (above) Average percent correct (plotted as a decimal) for MC (upper row) and written (middle row) as a function of chapter and class average separately for PSI and TL. Note: Although the interaction was not significant, planned contrasts were performed for class within each level of chapter. All significant contrast are denoted with an asterisk.

Table 3: (above, lower row) Mann-Whitney Rank Sum Test of final grades for each class. Descriptive statistics for final grade.

Figure 3: (above, lower row) Average grade (percent of points earned out of 200 plotted as a decimal) plotted separately for PSI and TL.

Table 4: (left) Sample results from the end-of-semester voluntary course evaluation questionnaire. Results are presented as percent of class for PSI (top bars) and TL (bottom bars).
CONCLUSIONS

Overall, according to the student performance measures, both traditional lecture and PSI appear to be appropriate teaching strategies for short (21 class) summer Introduction to Psychology courses. Further, the mirrored course structures allowed for a relatively simple comparison of student learning/performance. The use of ZipGrade answer sheets made it feasible for one professor to manage in-class grading of up to 3 assessments for as many as 29 students.

The TL students outperformed the PSI students on MC questions (an overall mean difference of 14 points). It is worth noting that PSI MC performance included up to 3 attempts at each chapter quiz. According to the two-way ANOVA conducted for written response performance, the PSI students outperformed the TL students (an overall mean difference of 7 points). The student course evaluation/feedback revealed that at least 80% of the students rated their respective course design favorably. Finally, according to the Mann-Whitney Rank Sum Test of final grades for each class, there was not a significant difference in student learning/performance.

Perhaps, the choice of course design should take into account the most important student learning objectives and the selection should be based on which course design leads to the greatest student performance on assessments (e.g., written) that load onto the most critical learning objectives (e.g., critical thinking). Oh, thank you for reading this far.
Quotidian Positive Psychology: Helping Students Seek Strengths and Apply What They Learn

Dana S. Dunn
Moravian College
Presented at: National Institute on the Teaching of Psychology
For further information, contact: dunn@moravian.edu

Why use the word “quotidian”? The word means “ordinary” or “every day.” My message was that we should encourage students to see elements of positive psychology in everyday life, to help them develop strengths in their typical and familiar situations—to see details they often overlook or neglect. Strengths are defined as good or beneficial qualities or attributes, either possessed or acquired by people. In my presentation, I identified everyday venues where strengths can be (1) cultivated and (2) then applied by students to their lives. These venues included green spaces, hygge and fika (both defined below), mindful photography, and savoring expeditions. The strengths I discussed were wisdom, knowledge, creativity, awe, transcendence, kindness, and seeing meaning in daily life.

Some Quotidian Venues

Green Spaces

Experimental evidence reveals that spending even small amounts of time outdoors in green and leafy spaces has a beneficial, restorative effect on people. Specifically, people become more cognitively attentive and emotionally functional when they are outdoors. Berman, Jonides, and Kaplan (2008) had undergraduate students spend 30 mins either walking around downtown Ann Arbor (a busy, medium sized city) or the same time in the campus Arboretum. Both groups returned to the lab and completed some stress and short-term memory measures. Students who walked in the arboretum showed lower stress levels and elevated attention levels compared with those who wandered the downtown. Attention Restoration Theory (ART) posits that natural environments are less mentally taxing or demanding and distracting than urban environments (Kaplan & Kaplan, 1989). Other research finds similar—if somewhat diluted—effects by having students look at slides of nature versus slides of cityscapes.

What are the implications of these findings and ART? Students should be encouraged to regularly visit campus green spaces and, when possible, to seek out views of quadrangles and green spaces from academic or residential buildings. Students should also consider obtaining nature images for their dorm rooms.

Other research (Reynolds, 2015) indicates that walking, which is good exercise and a mood enhancer, also promotes creative thinking. Research by Oppezzo and Schwartz (2014) found that while walking outdoors is enjoyable, creativity can also be achieved by using a treadmill. Walking apparently encourages generation of free-flowing ideas, coupled with the added benefits of physical exercise.

Finally, the great outdoors can do more than reduce stress or enhance thought or creativity—it can also promote prosocial and helping behavior. Piff and colleagues (2015) had students look at a very tall grove of eucalyptus trees (awe condition) on the University of California at Berkeley
campus for 1 min – or a group of students instead looked at an adjacent midcentury building near the grove for 1 min (control condition). Following a staged pratfall—an experimenter dropped some pencils—participants in the awe condition picked up significantly more pencils than did those in the control condition. Other research (MacKerron & Mourato, 2013), based on 20,000 participants’ reactions to a smart phone application, found that people are happier outdoors in all green or natural habitats than they are in urban environments.

**Hygge and Fika**

*Hygge* is a Danish word (pronounced “HUE-Gah” or “HOO-Guh”) for the ritual of enjoying life’s simple pleasures, such as friends, family, and graciousness. Hygge can entail sipping coffee, a savory meal with a friend, sitting by a blazing fire, or enjoying a bike ride. *Fika* (pronounced “FAY-Kuh”), the Swedish coffee break, is a moment to slow down and enjoy the good things in life. In Sweden, fika breaks occur in the morning and the afternoon, and they are enjoyed alone or with others. The point of introducing students to hygge and fika is to encourage them to intentionally enjoy particular moments (I am not suggesting that students don’t enjoy moments of leisure, just that they may not reflect on them very much).

Students can extend hygge and fika by engaging in prosocial spending or spending modest amounts of money on others, such as friends. Buying a friend an unexpected treat, such as lunch, coffee, or a small gift can lead to higher levels of subjective well-being than spending similar amounts on oneself (Aknin & Dunn, 2013; Dunn & Norton, 2013).

**Mindful Photography**

Kurtz and Lyubomirsky (2013) describe an exercise where students photograph things in their daily lives that are meaningful or positive. They can use the cameras in their cell phones to take photos of everyday life in order to think about those things that elicit states of happiness or joy. The goal is to have them take five photos over the course of a day (examples often include favorite places on campus, close friends, a loved book). Subsequent class discussions can explore appreciation, savoring, happiness, aesthetics, as well as the underlying psychological mechanisms that make such images effective. Students can even upload their photos to Facebook to receive feedback on the images. They can then write about their photos, the process of taking them, and sharing them with others. They can consider whether the activity affected moods, emotions, and appreciation for everyday things in life (for detailed suggestions, see Kurtz & Lyubomirsky, 2013).

**Savoring Expeditions**

Another quotidian opportunity is the savoring expedition, an activity developed by Harrison, Smith, and Bryant (2013). Students select something enjoyable to savor (e.g., museum visit, a play, the beach, familiar place tied to memories). They then set aside dedicated time to savor the event, avoiding any distractions. After gathering necessary materials (e.g., money, tickets), they embark on the expedition, savoring those aspects of the activity or place that are especially enjoyable. They then document the experience (notes, photos, video), describing their feelings and highlighting any positive emotions. Students should reflect on and write about the expedition once it is over—what were the key elements of the experience and associated feelings? They can also share them with others (via class discussion, small groups, social media). For more details, see Harrison, Smith, & Bryant (2013).
Conclusion

Students can take advantage of these quotidian venues in order to promote positive emotions and to develop particular psychosocial strengths.

References


Workshop: The Chick-Fil-A Antidote: Infusing Professional Development in the Psychology Curriculum

Jane S. Halonen  
University of West Florida
Dana S. Dunn  
Moravian College
Presented at: National Institute on the Teaching of Psychology
For further information, contact: jhalonen@uew.fdu

Undergraduate psychology is under substantial attack by a variety of critics. A recent, highly publicized salvo came from a presidential aspirant, who predicted that psychology majors would all end up working in the food service industry.

Psychology educators were outraged. Departments buzzed with incredulity at having such bad publicity about declaring the major as a feature of presidential politics. A Twitter campaign quickly emerged to defend psychology as not just an acceptable major choice, but a great one because of its flexibility.

However, the conflict has appropriately amplified concerns about whether we are helping students prepare effectively for workforce jobs after graduation. The American Psychological Association’s Guidelines for Undergraduate Psychology Major 2.0 dramatically revised programmatic expectations about the nature of faculty responsibility in career advising. Academic program reviewers often suggest that Domain 5: Professional Development appears to be the hardest to implement. However, given the scope of public misunderstanding about the major, the need to infuse career development in undergraduate psychology is clear.

This workshop focused on exploring best practices in Professional Development across the undergraduate curriculum. The strategies included what kind of input is reasonable and appropriate for students in the following:

- introductory psychology (e.g., developing a strong work ethic and self-regulation, learning basic teamwork skills, and recognizing misconceptions regarding the psychology major);
- the Acareers@ or Amajor=s@ course (specifically, exploring how psychology can facilitate opportunities at both the baccalaureate and graduate training levels);
- integrating experiences that focus on career preparation (e.g., service learning, directed studies, undergraduate research teams); and
- capstone designs (emphasizing efficient and effective assessment strategies).

The workshop concluded with some climate considerations that can help both faculty and students embrace the principle that psychology is a productive and useful workforce major.
Assessment is moving into a new era. In the initial phases of assessment demands, higher education faculty tended to be unhappy about having to incorporate assessment strategies as an “add-on” to their regular obligations in the classroom. Early on, the dominant climate on most campuses was resistance and half-hearted implementation. One administrator captured this coercive feeling well by historically comparing conducting required assessments to being forced to eat frogs; he admonished, “You don’t want to look at it too long before you swallow.”

In this modern era, faculty regularly experienced the faux assessment plan, i.e., faculty collaborating in a slap-dash fashion to satisfy external forces. However, such daring and artificial efforts ran the risk of discovery and also provided much less opportunity to have a true impact on program improvement.

In my experience, the modern stance toward assessment was distinctly unfriendly. The most oppositional faculty could be characterized as assessment hostile; they would rather retire or die than contribute to anything resembling accountability projects. A second modern stance could be characterized as assessment resistant; those faculty recognize that there is some legitimacy to the push to obtain data that confirm the quality of undergraduate programming as long as the assignments go to junior faculty.

Fortunately, times are changing. Accrediting agencies in the postmodern era have moved from merely demanding a well-designed assessment plan to asking faculty and programs to show thoughtful program improvements based on conclusions drawn from legitimate, coherent, reasonable, and sustained assessment plans. Postmodern faculty show more acceptance and interest in the task. Assessment enthused faculty recognize that assessment process may offer value but feel ill-prepared to design and execute projects to accomplish quality improvement goals. Assessment enthused faculty incorporate assessment processes naturally in what they do as a way of fine-tuning their practice to optimize learning gains. This session was designed to help faculty move from the modern stance of assessment resistant to the postmodern position of assessment energized by sharing some simple, efficient strategies to improve and document student learning.

The presentation highlighted conclusions developed at the American Psychological Association’s recent Summit on National Assessment in Psychology, which was held at the University of Wisconsin-Green Bay last June. Approximately 50 assessment enthusiasts from two and four-year programs spent five days attempting to capture the state of assessment art and science by harvesting or inventing exemplars that could help departments in their struggles to define appropriate assessment plans. The members were divided into 7 groups; five of the groups took on the challenge of representing each of the major goals of APA’s Guidelines for the
Undergraduate Psychology Major 2.0 and the other two groups concentrated on developing insights and advice into program review practices at the two and four-year levels. The presentation reviewed the current repository that is being developed by APA for a website roll-out in spring of 2017.

The session concluded with some important take-away guidance:

1. **Set reasonable and achievable goals** in assessment planning to avoid the overload that can collapse a program. An emerging convention in assessment work is to use a benchmark of 70% achievement.

2. **Engage by stealth, if necessary.** All departments have curmudgeons who will not want to cooperate. Anticipate ways to work around those who choose to stand in the way.

3. **Embrace going public.** The use of rubrics clarifies “what you want on any given assignment” and makes it easier to demonstrate students are learning what you had in mind.

4. **Use simple rubrics.** The single-index rubric shows promise for generating the basic three categories (e.g., needs improvement, competent, exceeds standards) that drive most accreditors’ needs.

5. **Embed departmental assessment in existing courses.** The senior capstone course is a great place to collect quality assurance evidence.

6. **Manage the load strategically.** Collect data on general education in the fall and exiting seniors in the spring. Randomly sample course sections or students within courses.

7. **Ask students to self-assess.** It builds their ability to judge quality and supports strong interview skills after graduation.

8. **Find willing partners.** Share the assessment load by asking other professionals (e.g., librarians, career center people) to serve as external assessors on high impact projects.

9. **Work from the bottom-up.** Top down involves a lot of frog swallowing. Bottom-up can reinforce collaboration and strengthen relationships within the program.

10. **Don’t wait for perfect.** Stephen Chew commented, “Psychometric validity and reliability are ideal, but utilitarian is often good enough.”

This session was of particular value for departments that are facing either accreditation or academic program review pressures, but any faculty member could take away some creative approaches to enhance and document student learning.
Truth or Dare?
How to Win the Postmodern Assessment Challenge
Jane S. Halonen
University of West Florida
National Institute on the Teaching of Psychology
2017

Which Strategy Characterizes Your/Your Department’s Assessment Plan?

Dare: Assessment is a necessary evil for which we ramp up activity when assessors or accreditors come for a visit.

--The Modern Viewpoint—

Truth: Assessment is strategic tool that helps us tell our quality story for multiple purposes but especially for our own improvement.

--The Postmodern Viewpoint—

<table>
<thead>
<tr>
<th></th>
<th>POSTMODERN</th>
<th>NEUTRAL</th>
<th>MODERN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MOTIVATION</strong></td>
<td>Eager to examine new assessment questions</td>
<td>Willing to examine new assessment questions</td>
<td>Reluctant to examine new assessment questions</td>
</tr>
<tr>
<td><strong>DESIGN OF Viable Strategies</strong></td>
<td>Tailor assessment strategies to capture how well students are learning</td>
<td>Implements minimal or unsystematic approach not clearly linked to assessment questions</td>
<td>Sluggish to engage in any and all assessment matters</td>
</tr>
<tr>
<td><strong>CLOSING THE LOOP</strong></td>
<td>Embraces findings to foster change that will improve quality</td>
<td>Acknowledges results but tends to attribute problems to artifacts of measurement or other external factors</td>
<td>Tends to be satisfied with status quo so no data confirmation is necessary or helpful</td>
</tr>
<tr>
<td><strong>DISCIPLINARY STANDARD USE</strong></td>
<td>Integrates planning with prevailing national standards</td>
<td>Recognizes standards but doesn’t rely on them</td>
<td>Shows no awareness /concern about value of national standards</td>
</tr>
<tr>
<td><strong>ROLE OF SOTL</strong></td>
<td>Disseminates SOTL results for personal and institutional gain</td>
<td>Completes assessment assignments but does not translate into publishable SOTL work</td>
<td>Dismisses SOTL as inferior to traditional disciplinary scholarship</td>
</tr>
</tbody>
</table>

Defining Terms:

“Assessment” (“to sit beside”): typically involves classroom activity that measures and promotes student learning

“Program Evaluation”: activities that transpire to give feedback to the department on how well students are learning

What are the Big Program Evaluation Questions?

• How well are your programs achieving their goals?
  Undergraduate, graduate, general education, minor, certificates

• How aligned are your program goals with your institution’s mission/goals?

• Based on assessment results, can your program make a claim for distinction?

Emerging Resource to the Rescue!

The American Psychological Association’s Committee on Associate and Baccalaureate Education (CABE) sponsored the Summit on National assessment in Psychology (SNAP).

Website roll-out anticipated Winter, 2017.
Organized by Guidelines 2.0

Assessment
• Content
• Scientific Inquiry and Critical Thinking
• Social and Ethical Responsibility in a Diverse World
• Communication
• Professional Development

Program Evaluation
• Baccalaureate level
• Associate level

CABE is soliciting reviewers as well as assessment submission to make the website viable and interactive. Contact jhalonen@uwf.edu for more information or copy of Powerpoint presentation.
Truth or Dare: How to Win the Postmodern Assessment Challenge

Jane S. Hannon
University of West Florida

National Institute on the Teaching of Psychology 2017

Thanks to APA Education Directorate
Celebrating the accomplishments of the Committee on Associate and Baccalaureate Education (CAAB)
Post-SNAP Celebration
Regan Racing
Jason Yeung
Kris Leppien-Cristensen
Kim Coffman
Sai Mavin
(MR)
Helen Taylor
Jennifer Thompson
Sue McKeown
Pat Robinson
Linda Perillo

Truth or Dare?

NOT an homage to Madonna

Inspired by a David Daniel comment about the reality of the "faux" assessment plan (now: "fauxessment")

Goals of This Session:
1. Review the national assessment phenomenon.
2. Discuss APA's Summit on National Assessment in Psychology.
   [Recruit volunteers.]
3. Offer robust assessment planning suggestions.

Which Strategy Characterizes Your/Your Department's Assessment Plan?

Dare: Assessment is a necessary evil for which we ramp up activity when assessors or accreditors come for a visit and avoid the rest of the time.
   "The Modern Viewpoint"

Truth: Assessment is strategic tool that helps us tell our quality story for multiple purposes, but especially for our own improvement.
   "The Postmodern Viewpoint"

The Assessment Taxonomy

$Categories of Faculty Connection to Assessment$

- Assessment Motive
- Assessment Resistance
- Assessment Analysis
- Assessment Implementation
- Assessment Progress
“MODERN” RESPONSES

ASSESSMENT HOSTILE

* I hope to die or retire before contributing to departmental assessment.

ASSESSMENT RESISTANT

* Assessment responsibilities should be relegated to new faculty as a developmental experience.

“POSTMODERN” RESPONSES

ASSESSMENT ENTHUSED

* I get that we have to do it but need help getting there.

ASSESSMENT ENERGIZED

* Assessment is intrinsic to my own process to determine whether I am having the desired impact.

A Reflection of the Zeitgeist

ASSESSMENT NEUTRAL

* No one is in this category!

ASSESSMENT POSSESSED

* We avoided these people at SNAP!
Defining Terms:

Assessment ("to sit beside"): typically involves classroom activity that measures and promotes student learning.

Program Evaluation: activities that transpire to give feedback to the department on how well students are learning.

(You can do both at the same time!)

THE HISTORICAL CONTEXT

In the 1980's: What is your assessment plan?
In the 1990's: Where are your data?
In the 2000's: How are you closing the loop?
In the 2010's: The questions are more fine-tuned:
* What contribution does general education make?
* Do all sections of your program (face-to-face, online, remote courses) give evidence of comparable achievement?
* Emerging:
  * How do your minors fare?
  * Can you justify offering concentrations or certificates based on data?

What are the Big Contemporary Program Evaluation Questions?

- How can we move from a culture of compliance to a true culture of evidence?
- How aligned are your program goals with your institution's mission/goals?
- How can I prove my program should get more of the resources? (Alternatively, avoid getting resources re-routed to others?)
- Based on assessment results, can your program make a claim for distinction?
  AKA as eminence, flagship, emerging, signature

SNAP to the Rescue!

45 Assessment Enthusiasts Gather in Green Bay for the Summit on National Assessment in Psychology (SNAP)

A Serious "SNAP-SHOT"

- Over 3000 hours of hard work completed during the summit

Our Strategy

- Get the best minds together in Green Bay,
  Wisconsin
- Ask them to,
- Tell us what they do occasionally,
- See what happens..
APA Guidelines 2.0
Communication

4.1 Demonstrate effective writing for different purposes
4.2 Exhibit effective presentation skills for different purposes
4.3 Interact effectively with others

Stephen Chow (Chair), Sharon Hamilton, Garth Hawfield, Annette Taylor, & Sal Matus (CARE)

APA Guidelines 2.0
Professional Development

5.1 Value of Psychology & Professionalism
5.2 Applied Experience Assessment
5.3 Knowledge, Values, and Skills
5.4 How to Read a Journal Article
5.5 Career Development checklist
5.6 Career Indicators
5.7 Job and Salary Assessment
5.8 Career Preparation Self-Efficacy Scale

PROGRAM LEVEL PLANNING

ASSOCIATES
Donna Alexander (Chair)
Erik Amado
Bryan Garber
Robin Hallstokos
Genevieve Wilson-Daingos
Kirk Leppien-Christensen (CABE)

BACCALAUREATE
Dana Dunn (Chair)
Mukul Bhalla
Guy Boyson
Jim Olas-Granados
Loretta Neal McGregor
Robyn Morgan
Paul Smith
Kim Coffman (CABE)

AT THE PROGRAM LEVEL

THE ASSOCIATES are working on an instrument to assess foundational knowledge that can be used for articulation between 2 and 4 year programs - evaluating the minor.

THE BACCALAUREATES offer:
- samples of curriculum audits
- annual report examples
- advice for programs with different maturity levels.
It was a “f*ckin’” productive summit, but there is much more work to be done.

**Strategies to Enhance Truthful Planning**

1. **SET A REASONABLE NUMBER OF GOALS WITH RATIONAL TARGETS.**
   - Miller’s Magic Number works fine to set the context for how many assessment questions you can expect external groups to care about.
   - Set a benchmark (e.g., 20%) or plan to show incremental change over time.

2. **ENGAGE THROUGH STEALTH**
   - What aspects of student performance rankle faculty the most? → Forge assessment planning to reduce those stresses and save time.
   - Don’t expect or require all to play or be enthused.

**Strategies to Enhance Truthful Planning**

3. **EMBRACE THE VALUE OF PUBLIC TEACHING**
   - Grading is a form of assessment, but it tends toward privacy.
   - Assessment makes goodness public.
   - Rubrics satisfy public performance.

4. **CREATE SIMPLE RUBRICS**
   - The “single index” rubric shows great potential to help you grade and gather assessment worthy data at the same time.
   - External stakeholders only care whether students meet, exceed, or fail targets...

WE WANT YOU!

**How can you help?**

- Share your best assessment strategies for posting on the website.
- Offer reviews of posted strategies in the spirit of continuous improvement.
**Positive Psychology Crite Rubric**

<table>
<thead>
<tr>
<th>Metric for a 20-point assignment</th>
<th>Category</th>
<th>Rater</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acceptance</td>
<td>1.02</td>
</tr>
<tr>
<td></td>
<td>Inclusion</td>
<td>2.01</td>
</tr>
<tr>
<td></td>
<td>Agreement</td>
<td>3.03</td>
</tr>
<tr>
<td></td>
<td>Love</td>
<td>4.05</td>
</tr>
<tr>
<td></td>
<td>Gratitude</td>
<td>5.06</td>
</tr>
</tbody>
</table>

**Our Embedded Intro Experiment**

- **Content**: Pre-test on Misconceptions
- **Social and Ethical Responsibilities**: We automate a test on academic integrity developed by the library staff. We plan to swap this for a module on research ethics next year.
- **Scientific Inquiry**: All Intro faculty embedded ten standard questions about research in their exam on methods.

**Strategies to Enhance Truthful Planning**

5. **Embedded Assessments**
   - Assign certain departmental assessment questions to certain classes. E.g., gather data on writing from writing intensive courses.
   - Use a common rubric.

**Scenario 1**

<table>
<thead>
<tr>
<th>Experimental Study</th>
<th>Correlation Study</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Observational research design</td>
<td>2016</td>
</tr>
<tr>
<td>Q6</td>
<td>Acceptability</td>
<td>1.02</td>
</tr>
<tr>
<td>Q7</td>
<td>Internal Consistency</td>
<td>2.01</td>
</tr>
<tr>
<td>Q8</td>
<td>Internal Reliability</td>
<td>3.03</td>
</tr>
<tr>
<td>Q9</td>
<td>Generalizability</td>
<td>4.05</td>
</tr>
<tr>
<td>Q10</td>
<td>Generalizability</td>
<td>5.06</td>
</tr>
</tbody>
</table>

**Average Score**: 15.0%

**UWF Capstone Assessment**

- **Major Project**: Scientific inquiry, Communication
- **Portfolio Review with External Assessor**: Professional Development, Ethical and Social Responsibility
- **Embedded Content Test (Department designed)**
  1. 60 item test on methods, ethics and technology
  2. Individually designed tests constructed of 15 questions from advanced core courses (30-35 questions)
  3. Pre-test Misconceptions test (also compare to Intro)
Strategies to Enhance Truthful Planning

6. MANAGE THE LOAD.
   - Do General Education assessment in the fall.
   - Do Program assessment in the spring.
   - Randomly sample classes and students if you don't have the capacity to assess all students. (But be random).

Strategies to Enhance Truthful Planning

7. ASK STUDENTS TO JUDGE BOTH THEIR OWN AND OTHERS' WORK.
   - Start with a good rubric.
   - Dissect first performance as a model.
   - Ask beginners “What was your strength? What would you do differently if you had more time?”
   - Ask seasoned students to speak from the rubric.

Strategies to Enhance Truthful Planning

8. FIND WILLING PARTNERS TO SHARE THE LOAD.
   - Librarians
   - Career Services
   - Alumni
   - Other Faculty
   - Professionals

Strategies to Enhance Truthful Planning

9. It's about bottom-up collaboration.
   - Don't allow the moderns to undercut your progress. Give them another way to contribute.
   - Don't put untenured people in charge if you can avoid it.
   - Don't let multiple layers of administrators call the shots on your outcomes.

Strategies to Enhance Truthful Planning

10. DON'T WAIT FOR PERFECT.
    Stephen Chew's Law:
    Psychometric validity and reliability is ideal, but utilitarian is often good enough.

For Questions or Volunteering,...

jhalonen@uwf.edu

Thanks for coming and safe travel home!
Creating Lectures That Tell a Story

Bridgette Martin Hard
Stanford University
Presented at: National Institute on the Teaching of Psychology
For further information, contact: Bridgette.hard@stanford.edu

Modern teachers are encouraged to think of lecturing as an out-of-fashion sweater that should be hung in the back of the pedagogical wardrobe (if not thrown out altogether). Teaching experts are increasingly advising us to lecture less to teach more: Instead of talking to students for long periods of time, instructors should engage students in active learning exercises. Although there is no disputing the value of active learning in the classroom, I argued that lectures are a timeless pedagogical tool that need not be passive, boring, or ineffective. By invoking principles of effective storytelling, lectures can deeply engage students, helping them understand and motivating them to care. Lectures can invite students on a journey through the concepts that requires them to empathize, analyze, and reason critically. I shared concrete ways to use stories as an organizing framework for your lectures or to highlight and illustrate important concepts. I shared some of my favorite storytelling examples as well as performance strategies for making your classroom stories more vivid and compelling. Participants also had a chance to reflect and plan ways to use stories to renovate some of their more challenging course topics.
Giving Psychology Away via Open Pedagogy

Rajiv S. Jhangiani
Kwantlen Polytechnic University
Presented at: National Institute on the Teaching of Psychology
For further information, contact: rajiv.jhangiani@kpu.ca

Ever since George Miller’s famous (1969) APA presidential address, many others have called upon our field to “give psychology away” (e.g., Epstein, 2006; Goldman, 2014). There is arguably no better way to achieve this than by adopting open pedagogy to place the knowledge base of our discipline in as many hands as possible.

With open pedagogy, students are not just consumers of educational resources but also producers of educational resources. A key aspect of open pedagogy therefore involves replacing “disposable assignments” with “renewable assignments” (Wiley, 2013). Disposable assignments are those that are typically only seen by the instructor. Students often see little point in them (and rarely revisit them) and many instructors despise grading them. By contrast, renewable assignments are those in which the students’ energy and efforts are repurposed by having them generate materials and resources for the “commons,” including future students taking their course and other formal and informal learners around the world. The materials produced might include developing tutorials, wiki entries, or even videos posted online.

Incorporating openness into pedagogy is simultaneously liberating and terrifying. It challenges instructors to reflect on their practices and move away from the traditional top-down model of pedagogy by assigning open-ended problems and empowering students to act as co-creators (Rosen & Smale, 2015). But whereas it takes a degree of courage to untether oneself from the security and predictability of the staid research essay, once accomplished, the benefits to the learning process are sizable. For one, students and instructors work collaboratively towards creating resources for public consumption, adding tangible value to the world outside of their classroom. Second, students tend to invest more effort and care more deeply about the product when they know that their work has a larger potential audience than just their instructor (Farzan & Kraut, 2013). Third, open pedagogy unleashes the students’ creative potential, allowing them to ascend the rungs of the cognitive process dimension in Bloom’s revised taxonomy (Anderson & Krathwohl, 2001). And finally, depending on the specific nature of the assignment, the resource produced may serve as an enduring electronic portfolio of their academic work that can be shared with others, including potential employers.

A good example of an organized open pedagogy project on a larger scale is the Association for Psychological Science’s Wikipedia Initiative (APSWI). Born out of a desire to “deploy the power of Wikipedia to represent scientific psychology as fully and as accurately as possible and thereby to promote the free teaching of psychology worldwide” (“APS Wikipedia Initiative,” n.d.), the APSWI serves to improve the very resource whose use psychology faculty routinely rail against. As then-APS President Mahzarin Banaji wrote in 2011:

Writing Wikipedia entries from scratch, editing entries, or evaluating them can be a worthwhile learning experience in a standard classroom. Such work can teach students so much — that even the simplest ideas are hard to communicate to general audiences; that
logic, strength of argument, flow and clarity of writing, citations of the appropriate literature, and, above all, accuracy need to be mastered in order to be a member of this guild. *My request is that for any course that you are about to teach this semester and beyond, that you consider adding contribution to Wikipedia as part of the course’s requirements.* (para. 8)

Many faculty have since responded to Banaji’s call. Participating instructors have ranged from those completely new to Wikipedia (e.g., Hoetger & Bornstein, 2012) to those with extensive experience (e.g., Marentette, 2014), and the classes enrolled have ranged from small seminars (e.g., Karney, 2012) to enormous 1,700 student sections (Joordens, 2012). The APSWI has also been incorporated into courses at all levels, displacing a research paper in an introductory psychology course (Ibrahim, 2012), a literature review in a 200-level cognitive psychology course (Munger, 2012), a research article review in an upper level course on memory (Hoetger & Bornstein, 2012), an essay for a fourth-year course on the history of psychology (Reynolds, 2011), a 15-page paper in a graduate seminar in social psychology (Karney, 2012), and a traditional final paper in a graduate course on clinical neuropsychology (Silton, 2012).

Naturally, appropriate instruction and support must be provided, and the specific assignment must be tailored to the level and ability of the class. However, the potential benefits to students from participating in the APSWI include achieving a deeper understanding of the topic (Farzan & Kraut, 2013), learning to evaluate and defend the credibility of their sources (Marentette, 2014), learning to write more concisely and think more critically (Farzan & Kraut, 2013), collaborating with students from other universities and around the world (Karney, 2012), learning to provide as well as receive constructive feedback (Ibrahim, 2012), enhancing digital literacy (Silton, 2012), and learning how to communicate ideas to a general audience (Association for Psychological Science, 2013). And although some students begin a little wary of the assignment, they go on to derive excitement, meaning, and even pride from the open nature of their work.

Adopting open pedagogy is simultaneously liberating and terrifying. With traditional (closed) assignments, vague guidelines, a poor design, unclear rubrics, and insufficient support remain hidden, with student evaluations and perhaps a few grey hairs being the only enduring record. With open pedagogy, on the other hand, both successes and failures with the assignment are much more public. But while this opens the instructor to more criticism, it is also an opportunity to share, collaborate, and receive constructive feedback. More importantly, it creates a foundation for our students to begin to invest more deeply, think more critically, work more collaboratively, and communicate more accessibly—exactly the skills needed to be able to “give psychology away.”
References


While some forms of undergraduate research have become popular in recent years, its roots go back to the beginnings of the discipline. The early history of undergraduate research in psychology is closely tied to the development of psychology laboratories. As most of you know, the first psychology lab is generally considered to be that of Wilhelm Wundt’s at the University of Leipzig. It is from this lab that many of the professors who went on to mentor undergraduate research received their initial training in experimental methods.

Early Psychology Labs

Most of the early psychology labs were created in America with one notable exception, the University of Toronto, which was the first lab created in the British Empire, established in 1889 by James Mark Baldwin. In their senior year, undergraduates conducted empirical research mentored by August Kirschman. In England, opposition to the establishment of a psychology lab came from the Faculty Senate at Cambridge since such a facility “would insult religion by putting the human soul on a pair of scales.”

Among many of the universities that actively encouraged undergraduate research was Johns Hopkins University, whose lab was established in 1883, under the direction of G. Stanley Hall, and the University of Wisconsin established by Joseph Jastrow in 1888. In 1889, E C. Sanford established a lab at Clark University and Harry Kirke Wolfe established a lab at the University of Nebraska. The lab at Columbia University was established by James McKeen Cattell in 1890. In 1891, E. B. Titchener established the lab at Cornell University and Mary Whiton Calkins established a lab at Wellesley College. In 1892, labs were established at Harvard by Hugo Munsterberg and Brown University by E. B. Delabarre. All of these labs promoted undergraduate research.

Early Pioneers Who Got Their Start Conducting Undergraduate Research

Many prominent psychologists got their start conducting undergraduate research. Walter Pillsbury (APA President, 1910) was an undergraduate student of Harry Kirke Wolfe at the University of Nebraska where he participated in research on psychophysics. Among those who would later serve as president of the American Psychological Association was Walter Hunter, who conducted a study of the maze behavior of pigeons during his senior year at the University of Texas, which under H. A. Carr's guidance was published in the Journal of Animal Behavior in 1911. Clark Hull (APA President, 1936) conducted an undergraduate research project in 1912, on learning, under the direction of J. F. Shepard, a comparative psychologist at the University of Michigan who had taken his degree at Michigan with Walter Pillsbury. L. L. Thurstone’s (APA President, 1933) undergraduate degree was from Cornell in engineering and while there he was involved in several research projects on the transmission of sound through a light beam, as well as
machine design. In his senior year (1898), Knight Dunlap (APA President, 1922) conducted research that he remembers as involving "two terrible spring-driven color mixers" supervised by George Stratton at the University of California - Berkeley. One of Cattell's students was Shepard Ivory Franz (APA President, 1921), who began his experimental work as a senior in 1893, at Columbia. In 1910, Karl Lashley (APA President, 1929) conducted research for his undergraduate thesis at the University of West Virginia on the histology of the digestive tract of chimaeroid fish. Margaret Floy Washburn (APA President, 1921) conducted research on the application of Weber's Law to the two-point threshold under the supervision of J. McKeen Cattell at Columbia and it was her work there that led to her acceptance into the graduate program at Cornell. Charles Judd (APA President, 1909) conducted research when he was a senior at Wesleyan in 1894. He co-authored a paper on visualization with his mentor, A. C. Armstrong that was published in Psychological Review. Another of Armstrong’s students at Wesleyan was E. L. Thorndike who was elected President of APA in 1912.

Pedagogical Support for Undergraduate Research

By 1910, the undergraduate curriculum at many colleges and universities included a year-long course in experimental psychology that provided opportunities for undergraduates to engage in experimentation. To assist instructors in providing this instruction, four prominent psychologists, Titchener, Sanford, Seashore and Witmer, published textbooks for laboratory training. Titchener’s four volumes included two for the instructor and two for the student and included almost 100 experiments that could be conducted by undergraduate students.

Types of Lab Equipment

To conduct research, three of the most popular pieces of equipment were the Hipp chronoscope which was used to measure reaction time, the horizontal kymograph used to record the temporal variations of any physiological or muscular process and the Helmholtz resonator used for picking out particular frequencies from a complex sound. The processes and principles developed by these exemplars can serve us well in promoting student engagement and success, including Kirschmann’s Dictum that “no experimental work of advanced students should be done for the mere sake of practice, but that it should contribute to the solution of some problem," the opportunity to revive lab instruction, and conduct replications of classical experiments.

The Decline in Lab Instruction

In the 1930s, lab instruction declined dramatically. Several reasons have been offered for this including the rise of schools of psychology, the lack of a unifying theory in psychology equivalent to evolutionary theory in biology, a move to studying issues easy to measure rather than real questions and the introduction of psychology in less elite schools.

Advantages of Reviving Lab Instruction

There are several reasons to promote undergraduate research. It helps department meet the APA Guidelines for the Undergraduate Psychology Major as well as the APA Guidelines for Preparing High School Teachers. Undergraduate research promotes student engagement and critical
thinking skills, allows faculty-student interaction outside the classroom and promotes cooperation among students.

**Lessons from the Past**

To be effective, the undergraduate research experience should follow Kirschmann’s Dictum that “No experimental work of advanced students should be done for the mere sake of practice, but that it should contribute to the solution of some problem,” and involve students in all aspects of the research endeavor, to include developing researchable questions, designing a method for pursuing the questions, collecting and analyzing data, and interpreting the findings.

In his 1895, *Psychological Review* article on "The New Psychology in Undergraduate Work," Harry Kirke Wolfe extolled the value of involving undergraduate students in research. His undergraduate lab ranked third in producing students who would later attain doctorates and influence the field. While neither Wolfe nor his students received credit for their lab work, enrollments in the lab courses increased dramatically. In the words of a student, we were willing to “venture the work for the sake of the zest.”
This workshop covered practical tips for handling diversity-related discussions in classes as well as instructor and student factors that can influence classroom communication surrounding diversity issues.

The main goals instructors should strive for in diversity discussions in the psychology classroom are to: 1) raise students’ sensitivity & awareness; 2) foster students’ understanding, acceptance (not simply tolerance) & appreciation of cultural differences; 3) for students to critically think about the cultural biases they hold about others; and, 4) for majority culture students to realize their unearned privilege in our society.

Teacher preparation, done in advance, can make or break the outcome of diversity discussions in the psychology classroom. During class prep and prior to each lecture, instructors should ask themselves and reflect on: 1) in what ways could discussions of diversity issues arise in my psychology classes?; 2) how will I specifically focus on a purpose or goal to achieve when guiding each diversity discussion in my classes; 3) what specific knowledge or experience do I want my students learn and take away from a diversity discussion in class?; 4) what specific method(s) will I use to bring about the student learning I want to see occur?; 5) how will I know that I have achieved that learning goal(s)?; and, 6) how will I integrate my students’ learning about diversity with the content I am teaching?

All instructors should remember that becoming an effective diversity discussion leader calls for personal and professional learning and is also a ‘learn as I go’ process. Read pertinent diversity literature related to the content you teach; self-examine for your own biases or stereotypes (we all have them!); learn from your classroom diversity discussion experiences (both how they went well and how they could go better); constantly evaluate yourself and ask for students to evaluate how you handle diversity discussions (on teaching evaluations, and through oral or written feedback); consult with teaching peers about their diversity discussions and what they do that works. Last, be incremental in your learning (building these skills takes years), be patient with yourself and your students (you are all learning as you go) and take a developmental view on your expertise (e.g., try one or two new things each semester - a new diversity reading, a new student assignment, a new content model infused with diversity information). After a few years, you'll build quite an arsenal of techniques and knowledge!

Remember, teaching about diversity is like being a runner in a relay race – you will not see many students cross the 'finish line', but have faith though that you’re contributing to their growth! The chief goal of class interactions surrounding diversity is to establish and strengthen trust and confidence among students (and between students and faculty) to allow for open discourse so deeper understandings can be achieved and evidence can be critically weighed.
**Tips for facilitating diversity discussions**

*Set ground rules for communication

*Students should use "I" statements and 'own' their ideas/sharing

*Shape ideas that are not in line with empirical evidence; provide *balanced* evidence for points

*Have students use basic listening skills during class communications

*Remind students no one can reflect the complexity of their thinking when relating one idea.

*Have students stay as factual and non-judgmental as possible in relaying information/questions

*Help students gain a sense of empathy toward those groups they have questions about

*Use students' personal demography as a touchstone to create empathy in them for others

*Foster peer learning as much as possible

*Monitor the reactions of diverse students during discussions; call for response from *all* students

*Attend to group process, make small gains, avoid over-intense interactions

*Let your emotional responses inform you as to how (especially diverse) students are reacting

*Be sure to protect and encourage everyone in discussions

*Do not be afraid to halt discussion immediately if a ground rule has been broken

*If necessary, remind the class (*not* individuals) of the ground rules for communication

**Know your audience**

*Students will be at *very* different points of development in their thinking about diversity issues

*Students tend to view diversity from a 'non-normative' approach (e.g., why are people gay?); instead, foster inclusive thinking in students (how do people develop sexual orientations?)

*Diverse students can feel 'out-numbered' and may be afraid to speak

*Majority students can feel blamed, attacked, and fear being labeled (racist, sexist) by others

*Students may not feel it is acceptable to “question” pro-diversity values/issues in psychology; let them know this is reasonable to do.

*Students may not know the scientific evidence that drives the positions we take; explain the evidence

*Instructors must be balanced, transparent, announce their biases and those present in the discipline of psychology, and call for criticism of these positions.

*Have students cite specific sources of empirical evidence for their arguments; avoid hearsay

*Avoid engaging in scientifically non-debatable platforms (e.g. religion, morality)

*Ask students 'what goal might a source of data or idea be trying to achieve?'; get students to think critically about ideas and evidence.

*Communicate personally, outside of class, with students who show difficulty with diversity discussions

**Various factors that can affect diversity discussions**

*Student/instructor identity development (gender/sex; race/culture; sexual orientation)

*Previous student learning (family; course work; life experiences)

*Previous student/instructor exposure to cultural diversity

*Personality variables (openness; fear; anger, defensiveness)

*Unexamined societal forces of oppression and privilege

**Instructor stimulus value**

*How will students perceive you and your ideas given your demography (sex, race, etc.)?

*Become aware of your personal blind spots (fears, biases, assumptions).

*You can help students grow only as much as you have grown with respect to diversity issues
Resources to learn about diversity issues
* CELTs can offer short courses or have consultants who can educate faculty on diversity issues
* National organizations (e.g., STP/BEA, DCS) can consult with psychology departments
* Texts & documentary films can provide a good overview of many diversity issues
* Most training will be up to you to obtain on your own; this calls for a personal commitment.
Dazed and Confused: Identifying and Challenging Difficult Concepts and Misconceptions in Psychology

Brooke L. Whisenhunt & Danae L. Hudson
Missouri State University
Presented at: National Institute on the Teaching of Psychology
For further information, contact: bwhisenhunt@missouristate.edu

Do you find that every semester your students seem to struggle with the same concepts? For example, introductory psychology students invariably struggle with the theory behind classical conditioning. Likewise, do your students enter the class with entrenched misconceptions about certain topics in psychology? In this NITOP presentation, we discussed both difficult concepts (i.e., topics that traditionally take time and practice to internalize and understand) and misconceptions (i.e., concepts that have predictable erroneous beliefs associated with them).

Due to the changing environment in higher education, faculty are no longer primarily “content providers.” Students have immediate access to an overwhelming amount of content about psychology. However, students continue to struggle with difficult concepts and misconceptions despite having an abundant access to information. These struggles provide instructors with an opportunity to reconsider their role—moving away from the notion of being “content providers” and moving toward a role as problem-solvers, by focusing on difficult concepts and misconceptions both inside and outside of the classroom. Instructors can focus on tackling difficult concepts and misconceptions a priori with a concentrated focus on these issues when planning for class. In addition, instructors can be prepared to address difficult concepts and misconceptions when they arise spontaneously in class.

When planning a “premeditated attack” on difficult concepts and misconceptions, the key is being able to accurately identify them prior to class. Research can help inform us about traditionally difficult concepts and misconceptions in introductory psychology. For example, a survey of instructors published by Gurung and Landrum (2013) identifies what they call “bottleneck” concepts in introductory psychology. In another survey of instructors, we found that ratings of the top three most difficult concepts related to the learning chapter in introductory psychology aligned perfectly with the data published by Gurung and Landrum. These findings provide preliminary evidence that instructors are able to reliably predict where their students will struggle. Students can also provide data themselves. For example, we require our students to complete quizzes after reading a chapter, but prior to coming to class. The data from those quizzes can be used to hypothesize about difficult concepts and misconceptions and plan class activities to best address them.

Sometimes an instructor becomes aware of a difficult concept or a core misconception in the middle of a class (e.g., during discussion, by evaluating students’ incorrect responses, or from the content of student questions). When this occurs, there are several strategies that can be used to address the difficulty in the moment. For example, instructors can use a variety of activities to engage in hypothesis testing during class when a possible misconception arises. Think-pair-share, one-minute papers, and polling “on-the-fly” are some ways to identify difficult concepts and misconceptions in class. To challenge or address difficult concepts and misconceptions in the
moment or after class is over, strategies such as peer instruction, class discussions, brief online surveys, targeted practice, and follow-up activities to begin the next class can be used.

By focusing our preparation and class time on difficult concepts and misconceptions, we can be assured that we are providing students with what they need most from us. In a time when technology has provided access to information that used to be primarily provided by instructors and textbooks, re-envisioning our role from “content-provider” to “designer of the learning environment” ensures that we are using our knowledge and skills to help students learn and succeed in their courses. A flexible approach that is tailored to a particular class’s needs by focusing on difficult concepts and misconceptions can not only guarantee a unique and targeted approach to learning but allows the instructor to utilize their skills and expertise where students can obtain the most benefit.
Section XXVII
Statistics

1. What, another stats course? Students' statistics efficacy in basic and advanced statistics classes.

2. Does an effective team place you above the mean? The role of group cohesion in a Psychological Statistics course that emphasizes collaborative learning.

3. Effects of Targeted Troubleshooting Activities on Students Confidence In a Statistics Computer Lab

4. Improving Statistics Learning for Psychology Majors

5. Examination Preparation of the Best and Poorest Students in Statistics

6. Enhancing Understanding of Statistics and Research Methods Through Online Workshops

7. Sharpening Quantitative Reasoning Skills in a Summer Psychology Course for High School Students

8. Apps to untangle undergraduate statistics: In-class polling and video lectures

9. Testing Statistics Knowledge without Calculations
10. Course Sharing -- Statistics in Psychology: A Team-Based Learning Perspective

11. Course Sharing: Demonstrations for Introductory Statistics


13. Improving Undergraduate Statistics Courses with a Graduate Student Coaching Model


15. The Significance of Big Effects and Small Variability: A Mental Tattoo of Formula Interpretation in Psychological Statistics

16. Use DataSim to Create User Specified Sets for Quantitative Courses in Psychology

17. Psychological Statistics: Redesigning the Traditional Final Exam into an Authentic Group Research Project

18. Bringing Aesthetics into Statistics Class (NITOP 2017 Teaching Slam)
Introduction

Statistics courses often provoke anxiety among psychology students (Bond, Perkins, & Ramirez, 2012). Nonetheless, statistical reasoning is a core competency of our discipline and it is critical that our students learn to conduct and interpret statistical tests (APA, 2013). Fostering student self-efficacy with statistics is therefore an important yet challenging goal of many psychology departments.

Students may enter statistics courses with preconceived attitudes about the value and difficulty of learning statistics. Although attitudes towards statistics tend not to change over the course of a semester (Evans, 2007; Schau & Emmioglu, 2012), the valence of these attitudes may be significantly associated with self-efficacy to learn statistics and course achievement (Finney & Schraw, 2003; Perepiczka, Chandler & Becerra, 2011).

With the hypothesis that additional practice with statistical reasoning beyond the typical one-semester course would increase self-efficacy and positive attitudes toward the subject matter, we investigated the potential advantages of enrolling students in a second, multivariate statistics course after they have completed a standard introductory statistics course. We report data on statistical confidence and attitudes collected from students at the beginning and end of each of these courses. Specifically, we examined current statistics self-efficacy, self-efficacy for learning statistical concepts, and attitudes toward the value and difficulty of achieving statistical competency. We longitudinally assessed changes in self-efficacy and attitudes during the semester and cross-sectionally examined these changes between students in each of the two courses.

Methods

Our sample included students enrolled in Statistics in Psychology I and Statistics in Psychology II at Spelman College during the two semesters of an academic year. Both courses had different instructors each semester; data were collapsed across instructors. The data represent the responses of 38 students in the introductory statistics course and 42 students in the advanced course. Although we did not collect demographic or disciplinary data, virtually all participants were women of African descent and psychology majors. The introductory class included primarily sophomores and juniors and the advanced class enrolled juniors and seniors.

During the first and last weeks of the semester, a member of the research team (one of the co-authors or a student research assistant) visited each class section of the introductory and
advanced courses to recruit participants and distribute surveys. During the first visit of the semester, the recruitment procedure included informed consent, as well as recording of participants’ confidential aliases to be used for linking pre- and post-semester responses. The aliases were kept separate from the completed questionnaires and only retrieved as needed during the post-semester survey administration session. The surveys included three main scales: the current statistics self-efficacy scale, the self-efficacy to learn statistics scale (Finney & Schraw, 2003), and the survey of attitudes toward statistics (Schau, Stevens, Dauphinee, & Vecchio, 1995). The questionnaires were identical within semesters and between courses except for minor changes in the personal information section. The questionnaires required 10-15 minutes to complete. Students either completed the surveys in the classroom or took them home and returned them in the following class session.

Paired t-tests were run to determine mean within-person changes in self-efficacy and attitudes from the beginning to the end of the semester. Independent t-tests were used to compare mean self-efficacy and attitudes between the introductory and advanced classes at the beginning and end of the semester. We ran Pearson correlations to assess the bivariate associations between the scales at each timepoint.

**Results**

Preliminary analysis of our data indicates that students’ confidence in doing statistics increases over the course of a semester. As expected, introductory students reported the lowest levels of confidence in their current ability to use statistical concepts, as well as in their ability to learn these concepts. These students’ end-of-semester confidence levels were high, however, and were not significantly different from those of students at the end of the advanced course. Students at the beginning of the advanced course reported current confidence levels that were significantly higher than those of the initial introductory students, but significantly lower than either post-semester current confidence levels.

We saw no significant change in attitudes towards statistics either within or between the two courses; however, overall attitudes were somewhat positive across all dimensions of affect, value, and difficulty. Attitudes were significantly correlated with the self-efficacy measures for advanced statistics students but not for students in the introductory statistics course.

**Discussion**

We were interested in determining whether enrollment in a second, multivariate statistics course would increase students’ self-efficacy for conducting statistical tests and attitudes toward statistics. Overall, the preliminary findings show that students in both introductory and advanced statistics courses are fairly confident in their ability to learn and do statistics and report somewhat favorable attitudes about statistics. There was an increase in self-efficacy for doing statistics from the beginning to the end of the semester, but no change in attitudes towards statistics for either the introductory or advanced statistics students.

Advanced students were more confident at start of the semester than introductory students. All students’ confidence increased over the semester, but the mean self-efficacy scores were not significantly different by class at the end of the semester. The concepts assessed in the self-efficacy scales were all covered in the introductory statistics class, so there may have ceiling effect at end of semester. Next steps could include analyses using multivariate general linear models, which may be able to tease out these effects.
Data also yield a pattern of results that suggests that advanced students are better able to assess their own relative competency with statistical concepts. Self-efficacy scores were significantly correlated with attitudes for advanced students, but not for introductory students. As students’ progress through the statistics courses, it is expected that they gain both a deeper understanding of statistical concepts through ongoing practice as well as awareness of what they know.

We are continuing to collect data for this study with the goal of increasing the sample size to enable further in-depth analyses. In addition to building on these preliminary results, we plan on evaluating the association between students’ self-efficacy, attitudes, and achievement in these statistics courses.

**Funding**

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**References**


Does an effective team place you above the mean? The role of group cohesion in a Psychological Statistics course that emphasizes collaborative learning.

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Effects of Targeted Troubleshooting Activities on Student Confidence In a Statistics Computer Lab

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The Challenge
- Successful psychology students are competent conducting and reporting statistical analyses.
- But, students often struggle with/hold negative attitudes towards statistics and research design in psychology.
- One reason may be lack of confidence/intimidation when confronted with analytical packages such as SAS.
- Previous experience teaching a statistics lab also suggests:
  - A) Students struggle with troubleshooting SAS code/analyses
  - B) Students express preference for hands-on class activities

The current study tested the effectiveness of a series of exercises, designed to give students experience troubleshooting the SAS program, in increasing student confidence across different domains of statistical skills.

The STUDENTS
- 716-1 is the lab section of the first of a three-course graduate statistics sequence for students enrolled in UAB's three psychology graduate programs.
- Student characteristics:
  - Fall 2014: 15 males, 14 females.
  - Fall 2015: 9 males, 5 females.

Traditional course structure:
- Lecture gives students appropriate code to run a variety of analyses in SAS.
- Assignments ask students to modify code to successfully run, interpret, and report analyses.
- A group project involves employing a study design, creating data, checking analyses, running analyses, interpreting results, and reporting conclusions.

Make it work exercises:
- Selections of "bad code" given to students.
  - Designed to include "common" SAS errors.
  - Students' task: 1) Use knowledge from lectures and error messages in the SAS log window to fix the coding errors; 2) Interprets results of analyses once run; 3) Report results in appropriate written form.

Assessing confidence:
- Pre-course survey:
  - During the first class of the semester, students self-reported:
    - Overall confidence using the SAS program.
    - Confidence for skills related to conducting analyses (i.e., "Rate your confidence in using SAS to conduct descriptive statistics and hypothesis testing.")
  - Post-course survey:
    - During the last class of the semester.

What did the students think?
- Students had a positive opinion of the MIW exercises.
- Across both semesters, 60% of students ranked MIW as one of the top three most useful aspects of the course.
- Qualitative feedback:
  - "I found them helpful because they featured common mistakes."
  - "Helpful—hands on experience with the code is always good."
  - "They were helpful; a few more would have been great."
  - "I think the more practice you get at picking up on those small errors can make a big difference."
  - "I like them. I thought they were very helpful in understanding how to troubleshoot."
  - "Don't think doing more of them would be better. Maybe start the class with the?" [2015 emphasis added].

Practiced vs. unpracticed skills:
- Statistics is a discipline that often "builds" upon itself.
- Some SAS skills (e.g., entering data, running test of normality, etc.), while their own topic of instruction, are also necessary parts of more advanced analyses.
- As such, some skills will appear in multiple lectures, assignments, and MIW exercises.
- We proposed that students would gain more confidence for these "practiced" skills vs. "unpracticed" skills.

Changes in average student confidence:
- Students became significantly more confident over the course of the semester.
- Repeated measures t-tests revealed that students in both years reported more confidence post-course than pre-course in all three domains:
  - Overall confidence: T = 7.90, p < .001; T = 13.00, p < .001.
  - Analysis: T = 9.54, p < .001; T = 11.16, p < .001.
  - Troubleshooting: T = 8.70, p < .001; T = 7.93, p < .001.

This suggested that the MIW exercises caused greater confidence gains.

If so, we would expect no significant difference between Group A and Group B in Fall 2015.
- However, we saw the same pattern of results. Students still gained more confidence in both domains for Group A vs. Group B (T = 4.16, p < .005; T = 7.78, p < .001).
- In an attempt to explain this surprising finding, we looked back at the properties of the MIW exercises themselves.

Comparison of Group A vs. Group B:
- Topics covered in the course were divided into two groups:
  - Group A topics had a MIW exercise assigned in both 2014 and 2015.
  - Group B topics only had a MIW exercise assigned in 2015.
- In Fall 2014, students reported significantly more confidence gain for Group A topics than for Group B topics for both analysis (T = 4.12, p < .005) and troubleshooting (T = 12.50, p < .005).

This suggested that the MIW exercises caused greater confidence gains.

Conclusions:
- By chance, many Group A topics were also "practiced" skills.
- Fall 2014 students were exposed to "practiced" skills multiple times in lectures, but didn't have as many MIW opportunities for hands-on engagement.
- Fall 2015 students had MIW activities for all topics, but still ended up "practicing" some of them more.
- It is possible that the consistently higher gains in confidence for Group A skills, and the failure of Fall 2014 students to benefit from "practice" both reflect the same mechanism.
- We propose that neither the MIW exercises nor repeated exposure to SAS skills alone is sufficient to optimize gains in student confidence. Rather, targeted, hands-on activities like the MIW exercises, administered multiple times, will lead to the greatest levels of student confidence in statistical skill.

Future studies should attempt to look at larger and more diverse samples.
- There should also be an attempt to more objectively study the possible MIW-practice interaction.
Improving Statistics Learning for Psychology Majors

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Examination Preparation of the Best and Poorest Students in Statistics

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Most undergraduate students in my required introductory statistics course are apprehensive about taking examinations. They expect to have to memorize a lot of formulas. Memorizing formulas is not what I want students to focus on. They should focus on the “what, when, and how” of statistics. What statistics are available, when the statistics should be used, and how the statistics should be computed and interpreted. To shift students’ focus away from rote memorization, years ago I began providing with each exam a sheet that contains all of the formulas that students might need. The sheet was a copy of the inside of the front and back covers of my textbook, Statistics: An Introduction, 5th ed.

Providing students with a copy of important formulas seemed to reduce test anxiety, so I decided to go a step further to reduce anxiety. A week before each exam, I give the students an 8 1/2 by 11 sheet of colored paper on which they can write anything that they think might be helpful in taking the exam. Students bring the sheet, that I call a “memory jogger,” to the exam. Allowing students to use a memory jogger along with a sheet of important formulas while taking examinations accomplishes several objectives:

1. It helps to relieve test anxiety
2. It encourages students to organize the material and identify the most important concepts
3. It discourages rote memorization, and
4. It enables me to ask more probing questions.

According to students, preparing the memory jogger is an excellent way to study for the examinations.

Students’ memory joggers provide clues about how they prepare for examinations. Over the years, I have noticed differences between the memory joggers of the best students—those who received an A or B+ in the course—and the poorest students—those who received a D or F. The purpose of this research was to perform a content and style analysis of the memory joggers of the two groups to determine how they differed in their examination preparation.

After examining a sample of the best and poorest students’ memory joggers, six variables were selected for analysis. The variables were the proportion of the best and poorest students who (1) completely filled one side of their memory jogger for each examination and both sides for the final examination; (2) organized one or more of their memory joggers by chapter or used some other organizational strategy; (3) used procedures such as underlining and highlighting on one or more memory joggers to make material stand out; (4) devoted 40% or more of each memory jogger to definitions of terms, derivations, or lists; (5) included material on one or more memory joggers from all of the chapters rather than only from the most recently covered chapters; and (6) used the same style or type of content for all of the memory joggers.
The memory joggers of 289 students were analyzed. Of those, 227 students earned an A or B+; 62 students earned a D or F. The students were enrolled in eight introductory statistics courses taught by the author between fall 2011 and spring 2015. A total of 1,156 memory joggers, four for each student, were analyzed. Students’ names on the memory joggers were replaced with random numbers.

The results of the study are summarized in Table 1. Five of the six variables were statistically significant. The largest effect size was on variable 5. Eighty-eight percent of the best students included material on their memory joggers from all of the chapters covered versus 55% for the poorest students. Cohen’s $h$ was .76—a medium size effect. The second largest effect size was on item 2. Forty-five percent of the best students used some organizing strategy in preparing their memory joggers versus only 13% for the poorest students. Cohen’s $h$ was .73. Seventy-seven percent of the best students devoted 40% or more of each memory jogger to definitions of terms, derivations, or lists versus 60% for the poorest students. Surprisingly, not all of the best and poorest students completely filled the space on their memory joggers. However, the best students were more likely to do so than the poorest students: 79% versus 56%. Cohen’s effect size was $h = .50$.

To summarize, the best and poorest students differed in their preparation for the examinations. The best students were more likely to include material on their memory joggers from all of the material covered rather than focusing on the most recently covered material. The best students also were (1) more likely to organize their memory jogger in some logical manner; (2) use underlining or some other device to make material stand out; (3) devote 40% or more of each memory jogger to definitions of terms, derivations, or lists; and (4) utilize all of the space on their memory jogger.

At the end of each semester, I solicit anonymous feedback about the features of the course that students find most helpful and least helpful. Memory joggers are the most frequently mentioned helpful feature.

References


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1 Data for fall 2012 and spring 2013 are not included because the author did not teach the course that academic year.
Table 1

Data for the Best and Poorest Students in Introductory Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Best Students Prop.</th>
<th>Poorest Students Prop.</th>
<th>z</th>
<th>p</th>
<th>Cohen’s h</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Completely filled one side of their memory jogger for each examination and both sides for the final examination</td>
<td>.79</td>
<td>.56</td>
<td>3.66</td>
<td>&lt; .001</td>
<td>0.50</td>
</tr>
<tr>
<td>2. Organized one or more of their memory joggers by chapter or used some other organizational strategy</td>
<td>.45</td>
<td>.13</td>
<td>4.60</td>
<td>&lt; .001</td>
<td>0.73</td>
</tr>
<tr>
<td>3. Used underlining and highlighting on one or more memory joggers to make material stand out</td>
<td>.47</td>
<td>.32</td>
<td>2.14</td>
<td>.032</td>
<td>0.31</td>
</tr>
<tr>
<td>4. Devoted 40% or more of each memory jogger to definitions of terms or derivations</td>
<td>.77</td>
<td>.60</td>
<td>2.68</td>
<td>.007</td>
<td>0.37</td>
</tr>
<tr>
<td>5. Included material from all of the chapters covered rather than focusing on the most recently covered chapters</td>
<td>.88</td>
<td>.55</td>
<td>5.86</td>
<td>&lt; .001</td>
<td>0.76</td>
</tr>
<tr>
<td>6. Used the same style or type of content for all of the memory joggers</td>
<td>.85</td>
<td>.74</td>
<td>1.81</td>
<td>.070</td>
<td>0.27</td>
</tr>
</tbody>
</table>
Enhancing Understanding of Statistics and Research Methods Through Online Workshops

Linda Rueckert, Chris Merchant, & Maureen Erber
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Presented at: Association for Psychological Science
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Three years ago, the Psychology Department at Northeastern Illinois University developed peer-led workshops (Gafney & Varma-Nelson, 2008) to enhance learning in our required Statistics and Research Methods courses. Workshops were conducted outside of class by student Peer Leaders. However, NEIU is a commuter school and some students found it difficult to come to campus outside of regular class time. In an attempt to make the workshops more accessible, we developed online workshops. Before the first exam workshops were conducted in class for all students. Before the second exam students could choose to attend workshops either on campus or online. Exam scores improved significantly for students who completed the online workshops \( t(39) = 1.92, p = .06 \). Their improvement from exam 1 to exam 2 was slightly greater than for those who attended the second workshop on campus \( (p = .09) \), and significantly greater than a control group who did not attend any workshop \( (p = .005) \).

References
Enhancing Understanding of Statistics and Research Methods Through Online Workshops

Linda Rueckert, Christopher R. Merchant, Maureen W. Erber

Abstract
Student-led workshops that involved collaborative solution of statistics and research methods problems were conducted both online and in person. Exam scores for students who completed the online workshops were slightly higher than those who attended in person, and significantly higher than a control group who did not attend any workshop.

Background
Collaborative learning activities led by students' peers have been shown to enhance learning of difficult material. Three years ago the Psychology Department at Northeastern Illinois University developed peer-led workshops (Goffay & Varro-Nelson, 2008) to enhance learning in our required Statistics and Research Methods courses. Workshops were conducted outside of class time by student Peer Leaders (PLs). They were held three times per semester, (once before each of the 3 exams) and all students were required to attend at least twice. Prior to the workshop students were required to complete a practice exam, and during the workshop the PLs guided students through the process of solving the problems on the practice exam. We found evidence that students did better on exams after attending the workshops.

However, NIU is a commuter school and many of our students work and have family obligations. Some complained that it was difficult for them to come to campus outside of regular class time. Many were not able to complete the two workshop requirement. Often it was the students who were most in need of help who had the greatest difficulty finding time to participate in the workshops. In an attempt to make the workshops more accessible, we developed online workshops.

Method: Workshop Development
- In Fall 2014 online workshops were developed using Adobe Connect software (www.adobeconnect.com).
- Content matched the in-person workshops and consisted of practice exams from previous years (see Figure 1 and 2).

Method: Implementation
- Students given the choice of attending in person or online.
- 3 workshops offered per semester (once before each exam).
- During the first year very few students (5%) chose to attend online.
- Fall 2015 all students required to attend an online workshop conducted in class before Exam #1, in order to familiarize them with the software.

Results: Exam Performance
- After requiring students to participate in an online workshop, in class scores on the exam increased significantly to 79%, up from 73.5% the previous year.
- Participation in online workshops increased from 5% to 40% for Exam 2 and 32% for Exam 3.
- Students who attended a workshop before Exam 2 showed improved performance on that exam (Figure 3).

Results: Student Survey
- Spring 2016 we administered a survey to 44 students, asking them to rate their experience.
- Online workshops were rated as slightly more convenient than in-person (Figure 4).

Figure 4. Convenience ratings (7 = “very convenient”).

Figure 5. Usefulness ratings (7 = “very useful”).

Conclusions
- Students find online workshops a useful and convenient way to prepare for exams.
- Online workshops increase exam scores at least as much as in-person workshops, and significantly more than no workshop.
- Advance PL and student preparation can ease anxiety with using the software and enhance workshop effectiveness.
Sharpening Quantitative Reasoning Skills in a Summer Psychology Course for High School Students

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Summary
Understanding how to use quantitative data to support one’s arguments and evaluate those of others are among the essential skills students must learn in college. Carleton College offers each July a residential, three-week program titled Summer Quantitative Reasoning Institute (SQRI) in which talented high school students are introduced to the academic study of select social sciences and receive college-level credit for successful completion. At the institute I teach a course that integrates the topics of science and pseudoscience in psychology, research methods, and statistics. For their final project, students in teams of three develop a research question on a paranormal phenomenon and a methodology that would experimentally test the question. The students then collect data, analyze the results using SPSS, and construct and present a poster. Results from 2014 suggest a brief but rigorous summer course can enable talented high school students to experience significant gains in quantitative reasoning and critical thinking skills.

Background
- Carleton’s annual Summer Quantitative Reasoning Institute (SQRI) took place in July 2014.
- SQRI is a residential, academic, three-week program that introduces talented high school students to the academic study of select social sciences.
- I taught one of six four-sections in a course that integrated the topics of (a) science and pseudoscience in psychology, (b) research methods, and (c) descriptive and inferential statistics.
- For their final project, students, working in teams of three, developed a research question on some aspect of a paranormal phenomenon (e.g., “Can graphologists detect truthful/not better than chance levels?”) and then a methodology that would experimentally test the question.
- They then collected data, analyzed the results using SPSS software, constructed a poster that highlighted their study’s findings and limitations, and presented their poster at an end-of-term poster session.
- This poster examines whether the course led to gains in quantitative reasoning and critical thinking skills.

Method
Participants: 33 high school students
Procedure: Three means of evaluation were employed pre- and post-course: Sample items are provided below:

I. Belief in Paranormal Events Survey

<table>
<thead>
<tr>
<th>strongly disagree</th>
<th>strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

- Some individuals have ESP (ESP: extrasensory perception).
- Horoscopes offer you people accurate and helpful information.
- If sometimes get a funny feeling that something bad is about to happen to someone, and then it does.
- Many personality tests can be validly assessed from a handwriting sample.
- Self-help audiotapes can improve one’s memory.

II. Familiarity with Descriptive and Inferential Statistics Survey

<table>
<thead>
<tr>
<th>statistic</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>very familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures of variability (standard deviation, variance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>when to conduct a correlational analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>when to conduct a dependent-samples t-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>when to conduct an ANOVA</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

III. Test of Critical Thinking in Psychology

1. Some people claim that astrologers, tarot card readers, palm readers, etc are "all in good fun" and do not really harm anyone. What are some reasons arguments to this assertion?
2. What are some reasons a person might experience an improvement in symptoms following faith healing?
3. Describe criteria that should be used to evaluate claims of psychological assessment (such as astrololy, graphology, or the kinesic invariant). Be sure to define terms.
4. What criteria should one consider when evaluating claims of paranormal phenomena?

Conclusions
After participation in the SQRI program, students experienced marked gains in their ability to critically evaluate claims made in the field of psychology and hence understand differences between scientific and pseudo-scientific approaches to the study of human behavior.

More generally, a brief but rigorous summer course can enable talented high school students to experience significant gains in quantitative reasoning and critical thinking when these skills are embodied in a psychology course with an engaging context.
Apps to untangle undergraduate statistics: In-class polling and video lectures

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Teaching statistics courses tailored to Psychology students is fraught with challenges. In addition to dealing with high levels of math anxiety, many students need extra support in the mechanics of computation and in using software applications. Evolving technologies allow instructors many tools to scaffold student learning but keeping up with the available options can be overwhelming. The purpose of the current paper is to share an example of two tools that I have found particularly effective.

In the paper, the first tool introduced was an application that allows real-time audience responses to be submitted through a basic cell phone text or email message (Poll Everywhere, 2016). This software application allowed audience responses to polling questions to be displayed immediately during class. The application offered several unique advantages in both my statistics classes as well as other courses. It gave students the opportunity to use their cell phones in a constructive way, see their responses instantly, and provided a way to demonstrate visual presentation of data. In the paper, I presented the steps of downloading the application (Poll Everywhere) along with demonstrating how to build, edit, and insert polls into slideshows. Across several courses, responses to live polling were positive and student engagement increased.

The second tool presented in the present paper was an application used to add video lectures to slideshow presentations (OfficeMix, 2016). The application can be added to both PowerPoint and Google slideshow creators and provides user-friendly means of recording and integrating video into lectures. In the present paper, I included a demonstration of the mechanics for creating screen recordings and videos. I also showed a short clip demonstrating a method of using story-telling to conceptually frame a statistical analysis – specifically the z-score was demonstrated. The video technique was used during a recent semester to build a full library of lectures including every type of calculation addressed in the course. The set included a step-by-step demonstration of the computations. Students were tasked with watching the videos before class. Time spent in-class was focused on working problems and using statistical software to complete workshop assignments.

Support for this method of using videos to support classroom lecture has been discussed in the literature. For example, Dunn, McDonald, & Loch (2015) found that the technique of using short video lectures was an effective supplement in large section introductory statistics classes in an Australian university setting. In preparing for the present paper, I was able to compare exam scores to gauge the effectiveness the video technique used in a smaller class setting with 25 to 30 students per class. Scores from the first exam were compared to those from two previous terms. After implementing the video lecture method, test scores were significantly higher compared to previous years ($t(73) = 1.98, p = .03, 1$-tailed, $r^2 = .051$). Perhaps, more importantly, the number of students scoring below 50 on the first exam represented only 10.71% of the most recent class compared to the 30.43% and 20.83% noted in previous years without the video support. This finding noted early in the semester suggested that the video method may be most effective for helping those students that were having the greatest difficulty with material. Perhaps, the videos helped to buffer the lowest scores by helping students achieve at least partial mastery of learning objectives. In
order to directly compare students’ overall mastery of course material, the same final exam was used that had been administered to the class before the videos were made available. Scores on the final exams were $M = 55.46$ ($SD = 19.76$) when videos were provided compared to $M = 50.68$ ($SD = 26.50$) before the videos were available. Although the scores were almost five points on average higher, the large variability in scores rendered this difference not statistically significant ($t(44) = .49, \ p > .05$). A more detailed analysis revealed that, when videos were used, $42.67\%$ students had final exam scores below $50$ with $20.83\%$ of those scoring below $40$. Before the videos were used, $63.64\%$ students scored below $50$ with $45.45\%$ scoring below $40$. This finding is in line with the pattern observed on the first exam where access to videos appeared to buffer the lowest exam scores. Chi-square tests indicated that the improvement across semesters did reach statistical significance. Expected frequency ($f_e$) of students scoring below $50$ was calculated based on the percentages from the previous term, the observed frequency ($f_o$) was 10 students. Therefore, the number of students scoring lower than $50$ on the exam was statistically significant ($\chi^2 (1, n = 24) = 5.31, p < .05$) and for the $5$ students scoring below $40$ ($\chi^2 (1, n = 24) = 5.87, p < .05$). Taken together, findings from statistics class exams suggested that access to the videos along with the concurrent changes in pedagogy was related to increased levels of mastery of course objectives. Future work is planned to examine these effects in greater detail.

References
Testing Statistics Knowledge without Calculations

*Marte Fallshore*

*Central Washington University*

Presented at: Rocky Mountain Psychological Association

For further information, contact: marte@cwu.edu

I have been teaching introductory statistics to undergraduates for many years. In my experience, having them do calculations during tests means they spend all their time with their calculators rather than demonstrating their knowledge of the more important conceptual information like what it all means. I demonstrated how I nevertheless test their computational abilities without actual calculations using something I call “set-up problems”. Because of this, my tests more thoroughly assess their understanding of concepts and connections between concepts rather than their ability to use a calculator.
Course Sharing—Statistics in Psychology: A Team-Based Learning Perspective

Lisa Abrams, PhD & Eve Sledjeski, PhD
Rowan University

Team-Based Learning (TBL)
- TBL is an evidence-based active learning strategy that "flips" the classroom.
- Instead of having knowledge acquisition be the primary goal of class sessions, students use class time to work with peers to enhance their knowledge of the material and apply that knowledge to real-life problems.
- In a TBL classroom, students are responsible for their own learning (TBL Collaborative, 2016).
- Research has supported that TBL enhances learning in psychology courses (e.g., Thomas & McPherson, 2011; Travis et al., 2016; Vogler & Robinson, 2016) and has the potential to help develop students’ interpersonal and teamwork skills, which can strengthen job readiness (Betta, 2016).

Divide Course into Units
Organize the course material into 5-6 units
1. Displaying data, central tendency, variability
2. z-scores, probability, distribution of sample means
3. Hypothesis testing, one-sample z-test, one-sample t-test
4. Independent & dependent samples t-tests
5. Analysis of Variance
6. Correlation, Regression, Chi Square

Individual & Team Readiness Assessment Measures (I-RAM & T-RAM)
- 15-question multiple choice quizzes
- I-RAM: Designed to test the student’s knowledge before coming into class.
  - Given on Blackboard.
- T-RAM: Designed to test the team’s knowledge at the beginning of the unit.
  - Immediate feedback is given (see IF-AT card)

Application Activities
- These are real-life problems that students can use statistics to solve as a team
  - E.g., There are 2 different treatments for depression. You’re the clinician and have to choose one to give to your client. Using the symptom-improvement data given, make a decision about which treatment you should give your client.

Sample Unit Timeline

<table>
<thead>
<tr>
<th>UNIT 2: Z-Scores, Probability, &amp; Sample Means (Chapters 5 &amp; 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/18 T-RAM #2 &amp; Unit 2 Lecture</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Pre-class preparation (Reading guides, lectures, individual Readiness Assessment Measure)

Team Readiness Assessment Measure (In class; ~15 minutes)

Calculation Lecture (~1 class period)

Set Grade Weights/Team Grading Policy
- Grade weights: 1/3 of total course grade comes from team grades
- Team grading policy:
  - At the beginning of the semester, each team creates a team contract, detailing all of the responsibilities of the team members.
  - At the end of the semester, each team member will split up 100% of team participation to each of the team members. They have to justify if they don’t give everyone equal %
  - The instructor adds up all of the % per student and takes that % of the total team points (learned on T-RAMs and Application Activities).

<table>
<thead>
<tr>
<th>Grade Component</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>~42%</td>
</tr>
<tr>
<td>Teamwork (Application Activities &amp; T-RAMs)</td>
<td>~25%</td>
</tr>
<tr>
<td>SPSS Labs</td>
<td>~17%</td>
</tr>
<tr>
<td>I-RAMs</td>
<td>~5%</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>~5%</td>
</tr>
</tbody>
</table>

Important Considerations
- How will you make teams? How diverse should the teams be?
  - Teams should be diverse—to an extent. Advanced students often are out of place with the ones that are struggling. I choose the top 4 students in the class (either GPA or stats pre-test) for one team, then randomize the rest. I have extra problems on hand for any team done early.
- How will you support your students’ learning material primarily outside of class?
  - I give reading guides and post comprehensive PowerPoint slides for each Unit.
- How will you handle teams with one or more students not pulling their weight?
  - I don’t let team members switch teams or work alone. I give them suggestions on how to work it out as a team, but in the end, they should divide the team points up based on whether each teammate followed the team contract.
- Do you have any Learning Assistants (LAs) to help with this course?
  - Undergraduate LAs have been incredibly helpful for in-class, small-group instruction (e.g., answering questions during the Application Activities).

References
Creating Correlated Variables

The process of creating two variables with a desired correlation uses three statistical principles.
1. In any bivariate regression analysis, the residuals will be uncorrelated with the predictor (i.e., $\rho_{\text{residuals}, \text{predictor}} = 0$).
2. If two component variables are uncorrelated, the variance of the composite variable formed by summing corresponding scores on the component variables will equal the sum of the variances of the component variables (i.e., $\sigma^2_{\text{composite}} = \sigma^2_{\text{component}1} + \sigma^2_{\text{component}2}$).
3. For any given bivariate regression analysis, correlation variance equals the sum of regression variance and residual variance. When using standard scores, $\alpha = r^{\text{observed}}$. In Minitab, this process can be done in four steps.
   1. Create two random variables of equal N. For example, $\text{MTB} > \text{random 100 c1}$  
      $\text{MTB} > \text{random 100 c2}$
   2. Regress the second variable on the first variable and store the residuals in the second column. For example, $\text{MTB} > \text{regress}$  
      $\text{SUBC} \rightarrow \text{conc c1}$  
      $\text{SUBC} \rightarrow \text{conc c2}$  
      $\text{SUBC} \rightarrow \text{c r c1}$  
      $\text{SUBC} \rightarrow \text{res c2}$
   3. Standardize both variables using the descriptive standard deviation formula (i.e., $\alpha = \frac{z_{\text{component}1} - \mu_{\text{component}1}}{\sigma_{\text{component}1}}$). For example, $\text{MTB} > \text{let c1 = (c1-mean(c1))/sqrt(var(c1)^2)-mean(c1)^2-2}$
      $\text{MTB} > \text{let c2 = (c2-mean(c2))/sqrt(var(c2)^2)-mean(c2)^2-2}$
   4. Replace the data in the second column with a composite variable that is composed of predicted scores (i.e., $z_{\text{composite}} = \alpha \cdot \rho$) and values of a random variable with a variance equal to $\sigma^2_{\text{composite}}$, where $\rho$ is the desired correlation between the two variables. For example, $\text{MTB} > \text{let c2 = (c1^2.4+\text{res c2})}$.

Modeling Hypothesis Testing

Two requirements must be met when modeling hypothesis testing. First, all of the assumptions of the test must be contained in the model. Second, one should check how the test works when null is true and how it works when null is false. Here is an example using the two-independent-samples t-test.

Using Minitab’s “random” command, generate two samples of a given size selected from normally distributed populations with equal means and equal variances. $\text{MTB} > \text{random 25 c1}$  
      $\text{SUBC} \rightarrow \text{normal 50 10}$  
      $\text{MTB} > \text{random 25 c2}$  
      $\text{SUBC} \rightarrow \text{normal 50 10}$

These samples of 25 observations each meet the independence, normality, and homogeneity of variance assumptions under the condition that null is true. The samples are selected from populations with a mean of 50 and a standard deviation of 10. When you run the t-test procedure, you should obtain a probability value greater than 0.05. If you obtain a smaller probability value, you can discuss Type I errors.

Next, generate a third sample of the same size from a normally distributed population with a variance equal to the first two populations, but with a different mean. This will simulate a false null hypothesis. For example, $\text{MTB} > \text{random 25 c3}$  
      $\text{SUBC} \rightarrow \text{normal 50 10}$  
      $\text{MTB} > \text{random 25 c4}$  
      $\text{SUBC} \rightarrow \text{normal 60 10}$  
      $\text{MTB} > \text{random 25 c5}$  
      $\text{SUBC} \rightarrow \text{normal 60 10}$

When you run the t-test procedure using one of the previously generated samples and the most recently created sample, you should obtain a probability value less than 0.05. If not, you can discuss Type II errors and power. In fact, you can use this general approach to show how sample size, effect size, population variance, and significance level, or the use of a directional versus a non-directional null hypothesis affect the power of the test. Please see the handout for information regarding running the t-test procedure.

Minitab 17

The demonstrations above were produced using the full version of the Minitab 17 statistical analysis software (www.minitab.com).

Effectiveness

I do not have effectiveness data unique to the demonstrations presented in this poster. However, I use these, similar, demonstrations in my conceptually-oriented introductory statistics course. My department requires seniors to take the Psychology Area Concentration Achievement Test (PACAT), which contains a Statistics subscale. The figure to the right shows the distribution of PACAT Statistics subscale test scores for the 102 students who completed my course and took the PACAT. It summarizes data collected from the 2010-2011 academic year through 2015-2016 academic year. The median for this distribution is 7 and the mode is 9.
Course Sharing: Demonstrations for Introductory Statistics

Ronald K. McLaughlin

Juniata College

Poster Presented at the 39th Annual National Institute on the Teaching of Psychology

January 3 – 6, 2017
1. Creating Correlated Variables

The process of creating two variables with a desired correlation uses three statistical principles.

1. In any bivariate regression analysis, the residuals will be uncorrelated with the predictor (i.e., $\rho_{x(y \cdot y)} = 0$).

2. If two component variables are uncorrelated, the variance of the composite variable formed by summing corresponding scores on the component variables will equal the sum of the variances of the component variables (i.e., $\sigma_{(x+y)}^2 = \sigma_x^2 + \sigma_y^2$).

3. For any given bivariate regression analysis, criterion variance equals the sum of regression variance and residual variance. When using standard scores, $\sigma_{z^2} = \rho_{xy}^2 + (1 - \rho_{xy}^2)$.

In Minitab, this process can be done in four steps.

1. Create two random variables of equal N. For example,
   MTB > random 100 c1
   MTB > random 100 c2

2. Regress the second variable on the first variable and store the residuals in the second column. For example,
   MTB > regr;
   SUBC> cont c1;
   SUBC> resp c2;
   SUBC> term c1;
   SUBC> resi c2;

3. Standardize both variables using the descriptive standard deviation formula
   (i.e., $\sigma_x = \sqrt{\frac{\sum(x-\mu_x)^2}{N}} = \mu_x - (\mu_x)^2$. For example,
   MTB > let c1=(c1-mean(c1))/sqrt(mean(c1^2)-mean(c1)^2)
   MTB > let c2=(c2-mean(c2))/sqrt(mean(c2^2)-mean(c2)^2)

4. Replace the data in the second column with a composite variable that is composed of predicted scores (i.e. $z_{\tilde{y}} = z_x \rho_{xy}$) and values of a random variable with a variance equal to $1 - \rho_{xy}^2$ where $\rho_{xy}$ is the desired correlation between the variables. For example,
   MTB > let c2=(c1*.4)+c2*sqrt(1-.4^2)
This example produces two standardized variables with a correlation of 0.400, as shown below.

MTB > random 100 c1
MTB > random 100 c2
MTB > regr;
SUBC> cont c1;
SUBC> resp c2;
SUBC> term c1;
SUBC> resi c2;
SUBC> nodefault.

\textbf{Regression Analysis: C2 versus C1}

MTB > #The nodefault subcommand suppress output from the
MTB > #regression command, which is not needed in this example.
MTB > let c1=(c1-mean(c1))/sqrt(mean(c1^2)-mean(c1)^2)
MTB > let c2=(c2-mean(c2))/sqrt(mean(c2^2)-mean(c2)^2)
MTB > let c2=(c1*.4)+c2*sqrt(1-.4^2)
MTB > corr c1 c2

\textbf{Correlation: C1, C2}

Pearson correlation of C1 and C2 = 0.400
P-Value = 0.000

One advantage of Minitab is the ability to write macros that automate a series of commands. The macro for this demonstration, makecorr.mac, is given below. Using any text editor (e.g. Notepad), type the macro commands as shown and store the macro in Minitab’s macro subfolder. To use the macro, at the command prompt, type %makecorr N R c1 c2 where N is the number of desired observations, R is the desired correlation, and c1 and c2 are the columns where you wish to store the two variables. Here is the macro. Lines that begin with the octothorpe (i.e., #) are comment lines and are not processed as commands by Minitab.

\begin{verbatim}
macro
#N is desired number of cases
#R is the desired correlation
#C1 contains data from random normal 0 1 command
#C2 is the column where the resulting second variable is stored.
makecorr N r C1 C2
mconstant N
mconstant R
mcolumn C1
mcolumn C2
#Create two normally distributed random variables of N cases each
random N C1
random N C2
\end{verbatim}
# Create residual scores and store them in Column 2
# This creates two uncorrelated variables.
regr;
resp C2;
cont C1;
term c1;
resi C2;
nodefault.
# Standardize both variables.
let C1=(C1-mean(C1))/sqrt(mean(C1**2)-mean(C1)**2)
let C2=(C2-mean(C2))/sqrt(mean(C2**2)-mean(C2)**2)
# Create desired correlation by multiplying C1 by the desired correlation,
# and adding to that C2 times the standard error of estimate SQRT(1-R**2).
let C2=C1*R+C2*sqrt(1-R**2)
endmacro
2. Modeling Hypothesis Testing
Two requirements must be met when modeling hypothesis testing. First, all of the assumptions of the test must be contained in the model. Second, one should show how the test works when null is true and how it works when null is false. Here is an example using the two-independent-samples t-test.

Using Minitab’s “random” command, generate two samples of a given size selected from normally distributed populations with equal means and equal variances.

```plaintext
MTB > random 25 c1;
SUBC> normal 50 10.
MTB > random 25 c2;
SUBC> normal 50 10.
```

These samples of 25 observations each meet the independence, normality, and homogeneity of variance assumptions under the condition that null is true. The samples are selected from populations with a mean of 50 and a standard deviation of 10. When you run the t-test procedure, you should obtain a probability value greater than 0.05. If you obtain a smaller probability value, you can discuss Type I errors.

Next, generate a third sample of the same size from a normally distributed population with a variance equal to the first two populations, but with a different mean. This will simulate a false null hypothesis. For example,

```plaintext
MTB > random 25 c3;
SUBC> normal 60 10.
```

When you run the t-test procedure using one of the previously generated samples and the most recently created sample, you should obtain a probability value less than 0.05. If not, you can discuss Type II errors and power. In fact, you can use this general approach to show how sample size, effect size, population variance, significance level, or the use of a directional versus a nondirectional null hypothesis each affect the power of the test. An example of this demonstration is presented below.

```plaintext
MTB > random 25 c1;
SUBC> normal 50 10.
MTB > random 25 c2;
SUBC> normal 50 10.
MTB > twos c1 c2
```
Two-Sample T-Test and CI: C1, C2

Two-sample T for C1 vs C2

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>StDev</th>
<th>SE Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>25</td>
<td>51.75</td>
<td>8.84</td>
<td>1.8</td>
</tr>
<tr>
<td>C2</td>
<td>25</td>
<td>48.25</td>
<td>8.34</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Difference = μ (C1) - μ (C2)
Estimate for difference: 3.49
95% CI for difference: (-1.39, 8.38)
T-Test of difference = 0 (vs ≠): T-Value = 1.44  P-Value = 0.157  DF = 47

MTB > random 25 c3;
SUBC> normal 60 10.
MTB > twos c1 c3

Two-Sample T-Test and CI: C1, C3

Two-sample T for C1 vs C3

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>StDev</th>
<th>SE Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>25</td>
<td>51.75</td>
<td>8.84</td>
<td>1.8</td>
</tr>
<tr>
<td>C3</td>
<td>25</td>
<td>59.7</td>
<td>10.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Difference = μ (C1) - μ (C3)
Estimate for difference: -7.98
95% CI for difference: (-13.36, -2.60)
T-Test of difference = 0 (vs ≠): T-Value = -2.98  P-Value = 0.005  DF = 47
3. Regression and ANOVA

Introductory statistics students often do not understand that asking about differences between group means is simply another way of asking whether the factor under investigation is correlated with the dependent variable being studied. This demonstration shows that an ANOVA is really a form of regression analysis.

First, use Minitab’s “set” command to create a column containing an equal number of 0’s and 1’s where a 0 indicates a member of the control group and a 1 indicates a member of the experimental group.
MTB > set c1
DATA> (0:1) 25
DATA> end

This creates a column with 25 0’s followed by 25 1’s. Next, use the “random” command as described in the hypothesis testing demonstration to create two samples, the first representing data obtained from the control group and the second representing data obtained from the experimental group.
MTB > random 25 c3;
SUBC> normal 50 10.
MTB > random 25 c4;
SUBC> normal 60 10.

Use the Minitab “stack” command to place the data from the first group ahead of the data from the second group in a new column in the worksheet.
MTB > stack c3 c4 c2

Next, run a regression analysis with the column containing the 1’s and 0’s as the predictor variable and the column containing the stacked data as the criterion variable then run an ANOVA using the predictor variable as the factor and the criterion variable as the dependent variable.

When you compare the two analyses, you will find the following.

1. Sum of squares regression equals sum of squares between.
2. Sum of squares residual equals sum of squares within.
3. Sum of squares total equals sum of squares total
4. The intercept will equal the mean of the control group.
5. The sum of the intercept and the regression coefficient will equal the mean of the experimental group.
6. The coefficient of determination will equal eta-squared.

Here is an example of this demonstration.
MTB > set c1
DATA> (0:1) 25
DATA> end
MTB > random 25 c3;
SUBC> normal 50 10.
MTB > random 25 c4;
Regression Analysis: C2 versus C1

Method
Categorical predictor coding (1, 0)

Analysis of Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Adj SS</th>
<th>Adj MS</th>
<th>F-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1</td>
<td>387.2</td>
<td>387.16</td>
<td>5.23</td>
<td>0.027</td>
</tr>
<tr>
<td>C1</td>
<td>1</td>
<td>387.2</td>
<td>387.16</td>
<td>5.23</td>
<td>0.027</td>
</tr>
<tr>
<td>Error</td>
<td>48</td>
<td>3556.1</td>
<td>74.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>3943.2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Model Summary

<table>
<thead>
<tr>
<th>S</th>
<th>R-sq</th>
<th>R-sq(adj)</th>
<th>R-sq(pred)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.60725</td>
<td>9.82%</td>
<td>7.94%</td>
<td>2.15%</td>
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</table>

Coefficients

<table>
<thead>
<tr>
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<th>Coef</th>
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<th>T-Value</th>
<th>P-Value</th>
<th>VIF</th>
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</thead>
<tbody>
<tr>
<td>Constant</td>
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<td>1.72</td>
<td>28.72</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>5.57</td>
<td>2.43</td>
<td>2.29</td>
<td>0.027</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Regression Equation

\[ C2 = 49.44 + 0.0 \text{ C1}_0 + 5.57 \text{ C1}_1 \]

Fits and Diagnostics for Unusual Observations

<table>
<thead>
<tr>
<th>Obs</th>
<th>C2</th>
<th>Fit</th>
<th>Resid</th>
<th>Resid Std</th>
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<tbody>
<tr>
<td>48</td>
<td>79.07</td>
<td>55.00</td>
<td>24.07</td>
<td>2.85 R</td>
</tr>
</tbody>
</table>

R Large residual

MTB > oneway;
SUBC> cate c1;
SUBC> resp c2.
One-way ANOVA: C2 versus C1

Method

Null hypothesis All means are equal
Alternative hypothesis At least one mean is different
Significance level $\alpha = 0.05$

Equal variances were assumed for the analysis.

Factor Information

Factor Levels Values
C1 2 0, 1

Analysis of Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Adj SS</th>
<th>Adj MS</th>
<th>F-Value</th>
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<tr>
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<td></td>
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<td></td>
<td></td>
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Model Summary

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<th>R-sq(pred)</th>
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</thead>
<tbody>
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<td>8.60725</td>
<td>9.82%</td>
<td>7.94%</td>
<td>2.15%</td>
</tr>
</tbody>
</table>

Means

<table>
<thead>
<tr>
<th>C1</th>
<th>N</th>
<th>Mean</th>
<th>StDev</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>25</td>
<td>49.44</td>
<td>8.58</td>
<td>(45.98, 52.90)</td>
</tr>
<tr>
<td>1</td>
<td>25</td>
<td>55.00</td>
<td>8.63</td>
<td>(51.54, 58.46)</td>
</tr>
</tbody>
</table>

Pooled StDev = 8.60725
4. A Virtual Quincunx
The quincunx (aka Galton board), invented by Sir Francis Galton, is a device that shows how combining a series of random events yields a normal distribution. The device consists of a bin at the top which holds small metal balls and dispenses them one at time. In the middle of the quincunx is a triangular arrangement of pegs, and the bottom consists of a series of collection bins into which the balls accumulate after passing through the pegs. (Examples of the Galton board can be found by searching “Galton board” at images.google.com). When the device is placed upright, balls are released from the bin, turn left or right as they travel through the pegs, and come to rest in a normally distributed pattern.

From a mathematical perspective, the quincunx produces a simulated binomial distribution where the number of trials equals the number of rows of pegs and the probability of a ball making a left turn or a right turn is equal to 0.50. Under these conditions, the binomial distribution approximates the normal distribution.

Using Minitab statistical software, it is easy to create a virtual quincunx. Let a column of the worksheet represent a row of pegs and let each row of the worksheet represent an individual ball’s path through the pegs. Sum across the columns to create an approximately normal distribution of right (or left) turns made by the balls.

In this example, I have modeled a quincunx with 13 rows of pegs and 1,000,000 balls using Minitab’s “random” and “rsum” (row summation) commands. I created Figure 1 using Minitab’s “histogram” command and then superimposed the normal curve. The Minitab session window commands are here.

MTB> random 1000000 c1-c13;
SUBC> binomial 1 .5.
MTB> rsum c1-c13 c14
MTB> hist c14
Figure 1. Quincunx Results
Effectiveness

I do not have effectiveness data unique to the demonstrations presented in this poster. However, I use these, and similar, demonstrations in my conceptually-oriented introductory statistics course. My department requires seniors to take the Psychology Area Concentration Achievement Test (PACAT), which contains a Statistics subscale. The figure below shows the distribution of PACAT Statistics subscale stanine scores for the 102 students who completed my course and took the PACAT. It summarizes data collected from the 2010-2011 academic year through 2015-2016 academic year.
Course Sharing: Teaching Statistics Through Secondary Datasets
Hannah Ferry and Robert Bubb
Auburn University

Abstract

The use of existing data in a statistics course provides the opportunity to answer real-life questions, meet course objectives, and provide explicit evidence of learning. This course is an end-of-semester project in the statistics course at Auburn University requires students to work in groups and identify a research question based on a secondary dataset either from online or from the instructor’s past projects. Students then analyze the research question with a statistical test in Microsoft Excel, write a brief APA-style paper, and create a poster for presentation. On the last day of the semester, the class attends a conference poster session, complete with refreshments. Students with exceptional posters are encouraged to revise and submit their poster to both regional, regional, and national conferences. In addition to producing a finished product that can be used in a graduate school, students develop interpersonal, written, teamwork, public speaking, and professional writing skills.

Research Question

- Students are assigned into groups of 4 or 5
- Variables are provided from the existing database
- Each group identifies one independent variable and one dependent variable.

Data Analyses

- The free Microsoft Excel Analysis ToolPak add-in is used to analyze the data
- Analyzed as a t-test or ANOVA
- Results drafted in a brief APA-style paper using a template and rubric

Peer Review

- Each group brings 4 draft copies to distribute to other groups
- Each student evaluates a draft from another group using a rubric
- Students complete a brief assessment of the draft they evaluate
- Students then revise their own drafts given the feedback they received from their peers

Conference Presentations

- Exceptional projects are encouraged to present at professional conferences

Instructor Review

- Students submit their revised drafts to TA
- TA provides comments, corrections, and temporary grade based on rubric
- Instructor then reviews comments, corrections, and grade
- Students then revise their drafts given the feedback from the TA and instructor

Peer Evaluation

- Students evaluate each member in their group in an anonymous survey
- Peer evaluation is folded into the student’s final project grade

Poster Presentation

- 4-5 minute presentation similar to poster session at a regional conference
- Professional attire
- Refreshments provided
- Students’ assess other groups’ posters for a grade and possible extra credit

Poster Creation

- Students select a poster template in Microsoft PowerPoint
- Class time is used to help students navigate written draft into poster template
- Encouraged to edit and customize poster
- Students print out poster for presentation
Course Sharing: Teaching Statistics Through Secondary Datasets

Hannah Ferry and Robert Bubb

Auburn University

Poster presentation at NITOP
January 10, 2017

- Research Project Directions................................................................. 2
  The directions provide students with the overall requirements and due
dates for the research project.

- Research Question Lab Assignment.................................................. 4
  Students are placed into groups and walk through the assignment to select
  a research question based on variables from a secondary dataset.

- Basic APA Paper Template................................................................. 7
  The template provides students with a guide to writing a brief APA style
  paper. The headers are already arranged with paragraphs that inform the
  student of what to include. Students can then write over the paragraphs.

- How to Conduct Basic Statistical Analyses in Excel.............................. 10
  Step-by-step directions on how to install the Analysis ToolPak in
  Microsoft Excel and directions on conducting z- and t-tests in Excel.

- Online links to Secondary Datasets................................................... 16
  Provides links to datasets already available online. In addition to these
  datasets, previous datasets collected by the instructor may be used as well.

- Evaluation Rubrics............................................................................. 18
  Provides two rubrics: one for the peer review and another for the final
  evaluation.

If you would like electronic files for any of the presentation and handout materials including
poster templates, please contact Robert Bubb at robert.r.bubb@auburn.edu
Group Research Analysis Project and Poster Presentation

Purpose:
The purpose of the research analysis project is to provide students with experience designing, analyzing, writing-up, and presenting a short and simple research study from start to finish. It is also expected that students will continue to develop interpersonal and presentation skills while working in groups and presenting the final product.

Directions:
The research analysis project will consist of several parts. Each part is described below:

Research Hypotheses and Data Collection:
In class on Oct. 20th, you will develop two possible research hypotheses to investigate. You will then coordinate with your group and select a research hypothesis. The research hypotheses are based on actual datasets collected from past research studies.

Data Analyses:
Once each group has their finalized research hypothesis, I will post the dataset on the course website. Once the dataset is posted, start the analysis of your group’s research question. Analyze the variables for your hypothesis by using the correct statistical test available in Microsoft Excel. In class on Oct. 31st, your group will need a draft of your findings and the written portions of your research paper. A template will be provided on the course website to help you with writing research results. Note the short time between deciding the research question and the draft. Once your research question has been identified and the dataset has been provided, I highly recommend that you complete the analysis and start writing. Do not wait until Oct. 30th to start writing.

Peer Review:
In class on Oct. 31st, you will need to come to class with 4 copies of your group’s draft. Come to class with the drafts. You will not have time to print the drafts in the class. The drafts will be passed out among your classmates along with a grading rubric.

In turn, you will receive a draft from a different group to evaluate. Please evaluate the draft that you receive in accordance to the rubric, to grammar, spelling, and punctuation conventions, and to the questions or comments you have while reading the draft. Write all edits and comments directly on the draft. Important: The purpose of the revision process is to make the final product (poster presentation) the best that it can be. Your careful evaluation of another group’s project will help your classmates’ learn, build skills, and ultimately produce a high quality project. Please do not ignore errors or legitimate concerns with the draft, as that will only hurt your classmates’ development and presentation in the long run.

You will then turn in the evaluation rubric to the instructor prior to returning the draft to the students. Your grade on the peer review will be based on two things: the quality of your group’s submitted draft (see rubric) and your thoughtful evaluation of another group’s draft. The peer review is worth 10% of the overall project’s grade.
When you receive the edited drafts back from your peers, please revise your draft to their comments. Once you have made the necessary revisions, you will need to send your group’s draft to the instructor by Nov. 7th.

**Instructor Review:**
The TAs and I will review the drafts prior to your group creating a poster. We will return the drafts to you by Nov. 16th. The instructor review will be worth 25% of the overall project’s grade.

**Poster Creation:**
Once the drafts are returned to you, the instructor will show you how to create a poster using a Microsoft PowerPoint template. Please feel free to edit the format, design, and colors of your poster (however keep the format and design simple). The instructor will also show you how to make tables and graphs in APA format for your poster (you will need at least one for your final product). Your group’s poster should be free from all grammatical and spelling errors. Please make sure that it is reviewed prior to printing.

Once you have finished designing your poster, you will need to print out your poster for the presentation. You may use the poster printer in Spidle 110 or the Media and Digital Resource Laboratory in the library (1st floor).

**Poster Presentation:**

On the last day of regular classes (Dec. 1st), your group will present your findings during a poster session similar to what you might find at a regional conference. It will give you an opportunity to present your findings to others in the class, as well as, see the research studies of fellow classmates. Please come to the poster session in professional attire. All members of your group should be present at your poster when you give the formal presentation. Your presentation should be between 4-5 minutes in length. You may either designate one person to present or break up the presentation among the group members. Following the presentation, you will be asked one or two follow-up questions. Light refreshments will be provided for the poster session. The poster presentation will be worth 40% of the overall project’s grade.

**Peer Evaluation:**
Following the poster session, I will send you an online link. I would like you to evaluate the contributions of each of your group members to the project. The peer evaluation component will be worth 25% of the overall project’s grade.

**Grading:**
The group project is worth a total of 100 points. The breakdown of points is as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer Review</td>
<td>10</td>
</tr>
<tr>
<td>Instructor Review</td>
<td>25</td>
</tr>
<tr>
<td>Poster Presentation and final write-up</td>
<td>40</td>
</tr>
<tr>
<td>Peer Evaluation</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total Points Possible</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Research Question Lab Assignment

Name: ___________________________  Section #: ____________

Today’s class is in preparation for your group’s poster presentation at the end of the semester. The first part requires that you formulate a research hypothesis given an independent and dependent variable.

1. Look at the list of dependent variables attached to this document. A dependent variable is a measured variable of something of interest. Read through each of the variables under the dependent variable list and pick two variables that are interesting to you.

   Write out the dependent variables that you selected (including variable number):

   1.

   2.

2. Now look at the independent variable list. An independent variable is manipulated by the researcher. The independent variable explains a change in the dependent variable. For example, if I was interested in the gender differences of the preferred number of children that a person wanted to have, the independent variable would be gender and the dependent variable would be the number of children wanted. The number of children wanted (DV) is explained by the gender of the person (IV). Read through each of the variables under the independent variable list and pick two that you think might explain differences in the dependent variable that you selected above.

   Write out the independent variables that you selected (including variable number):

   1. (IV for first DV):

   2. (IV for second DV):
3. Now I would like you to write a specific research hypothesis (two-tailed) for each set of IV and DV’s based on the variables that you selected.

1. 

2. 

Below are is a dataset containing real data on higher education. The dataset has several possible dependent and independent variables. Use these variables to create your research hypotheses.

**Possible dependent variables for dataset**

**Higher Education:**

DV1. Letter grade in course  
DV2. Overall psychology knowledge  
DV3. Methods knowledge  
DV4. Abnormal psychology knowledge  
DV5. Behavioral psychology knowledge  
DV6. Neuropsychology knowledge  
DV7. Developmental psychology knowledge  
DV8. History of psychology knowledge  
DV9. Sense and perception knowledge  
DV10. Personality psychology knowledge  
DV11. Social psychology knowledge  
DV12. Satisfaction with modules  
DV13. Percent of final grade attributed to modules

**Possible independent variables for each dataset**

**Higher Education:**

IV1. Semester (Fall/Spring)  
IV2. Institution location in US  
IV3. Class size  
IV4. Sex  
IV5. Race/ethnicity  
IV6. Age  
IV7. Class standing (senior, junior, etc.)  
IV8. Employment status
IV9. Taken psychology course before
IV10. Semester credit load
IV11. Time taken for data collection
IV12. Lecture attendance
IV13. Lecture participation
IV14. Lecture note taking
IV15. Textbook use
IV16. Textbook reading quality
IV17. Hours spent studying modules
IV18. Hours spent studying overall
IV19. GPA

I would now like you to get together as a group. Read through the research hypotheses generated individually and then decide on a research hypothesis that interests the entire group. Write out the selected hypothesis and indicate the variables needed for the hypothesis.

Names of group members:  

________________________________________  ______________________________

________________________________________  ______________________________

Identify the variable numbers for research hypothesis: _________ and _________

Write out the research hypothesis:
Brief APA Style Paper Template

*Please use the following template to help guide the written portion of your poster presentation. Feel free to save this template as a copy and type over the bracketed paragraphs.*

**Introduction** (around 300 words)

[Type the introduction to your study here. Start your introduction by explaining why the following research study is important. Then provide a brief literature review on the research topic. You should include in-text references to at least 3 peer-reviewed journal articles (the TA will discuss how to find articles in lab). Finally, state your research hypothesis (do not include the null hypothesis).]

**Method** (around 200 words)

**Participants**

[Provide a description of the characteristics of your sample. You will want to provide a sample size, an indication of where the sample came from and other demographics (i.e., a statistics course at a southeastern university in the United States of America, % males and females, etc.), and the conditions to which the participants provided responses (i.e., course credit, extra-credit, in-class, etc.).]

**Materials**

[Provide a description of the questions or items used to collect data. Include the questions asked. If a response scale was used, indicate how many anchors and briefly what were the anchors (i.e., strongly agree, etc.).]

**Procedure**

[Provide a brief description of how your data were collected. You will want to include that the participants were invited to respond online, that the responses were confidential, that the design of the study is either between groups or within groups, and that the questions for your]
study were randomly presented with the questions from other research studies (include how many other groups).]

**Results** (around 200 words)

[Paragraph #1: Restate the research hypothesis in no more than a sentence. Identify the statistical test that you used (e.g., single-sample z- or t-, independent, or paired t-test). Justify your statistical test by identifying the types of variables that you have and provide the correlation if it is a paired sample t-test.]

[Paragraph #2: Provide a brief overview of the findings and report the results to the statistical test in APA format (Example: t(df) = test statistic, p = probability value; d = effect size; 95% CI [lower bound, upper bound]). Include group means and standard deviations in APA format (Example: (M = mean, SD = standard deviation)). Explain what the effect size and confidence interval tells you in relation to the study.]

[There should be at least one table or one figure in the poster. A table can be used to report descriptive statistics such as means and standard deviations. A figure can be used to graph the comparison between group means. Also refer to tables and figures in text as appropriate. The TA will show you how to make tables and figures in lab.]

**Discussion** (around 400 words)

**Interpretation of Results**

[Type your interpretation of the results here. Restate the findings in relation to the hypothesis. Patterns in the data and relations among the variables should be explained and conclusions do not go beyond the data (e.g., Explain why you think you got the findings that you did). Refer back to the introduction to explain how the results fit in with previous literature studies. Any discrepancies between the expected results and the actual data should be explained.]
Limitations of the Study

[Identify at least two specific limitations to your study. One of these two limitations can be an assumption that was not met. The other limitation should refer to any variable(s) that may affect your results but was not measured for this study. Explain specifically how the limitation would have changed your findings (if it does not change your findings, then it is not a limitation). Finally, provide suggestions for future research that will minimize the limitations mentioned.]

Practical Application

[Type a practical application here. Explain how the findings of your study could affect and change behavior for organizations, groups, society, or individuals (i.e., what should people or organizations do as a result of your findings). Explain why this is important. Note: this is not the same as a “practical decision” from your exams but rather an application of the findings.]

References

(Here is an example of journal article references in APA format)


Directions for Analysis ToolPak Add-in in Excel

1. How to add Analysis ToolPak in Excel
   a) Open Microsoft Excel
   b) Click on “File” in top left of screen and follow the directions

![Diagram showing steps to add Analysis ToolPak]
Directions for Conducting a Single-Sample z-Test in Excel

1. Prepare the data for a z-test in Excel
   - Excel only has a z-test for two samples, so we need to fool Excel into thinking it is a single sample z-test by:
     • Doubling our dataset by copying it and placing it below our original data
     • Creating a second column for just the population mean. We need to match the number of observations in the sample

2. Use Excel Add-ins to get the z-test

   ![Diagram of Excel steps and input/output ranges]

   - **Variable 1 Range**: New dataset after doubling
   - **Variable 2 Range**: Population mean variable
   - **Hypothesized Mean Difference**: 0 (null hypothesize that there is no difference between sample and population
   - **Variable 1 Variance (Known)**: Variance = population standard deviation squared (*don’t use sample variance*)
   - **Variable 2 Variance (Known)**: Variance = population standard deviation squared (*don’t use sample variance*)

   ![Output range diagram]

   - **Output Range**: wherever you want to put the output
Directions for Conducting a Single-Sample t-Test in Excel

Step 1: Use Excel Add-ins to get the “descriptive statistics” for your sample data

Step 2: Prepare the data for a t-test in Excel by creating a second column for just the population mean

Step 3: Use Excel Add-ins to get the “t-Test for Paired Two sample for Means”

- How to report t-test results?
  - When reporting t-test results, degrees of freedom go in parentheses, followed by test statistic to two decimal places and the p-level. e.g., t(4) = 2.87, p < 0.05
Directions for Conducting a Paired-Sample t-Test in Excel

How to delete empty cell in Excel quickly:

- Click the column head ---- click “Sort & Filer” ---- click “ sort largest to smallest” ---- click “expand the selection” ---- click “ sort” ---- delete all the empty cells

**IMPORTANT:** Because *we are doing paired-sample t-test*, make sure all observations have pairs. Delete the observations that are not measured twice.

To conduct a paired sample t-test in Excel after sorting your variables and removing non-paired observations:

**Step 1:** Create a new column of the difference between variable 1 and variable 2

- **Name a new column at 1st row:** X_diff
- **Write formula in the 2nd row:**
  \[ = \text{Variable 2 (post)} - \text{Variable 1 (pre)} \]
- **Click the right lower corner of the cell, you will see a “+”, then hold it to roll down**

**Step 2:** Use Excel ToolPak to get the “descriptive statistics” for difference column

- Data \(\rightarrow\) Data analysis \(\rightarrow\) Descriptive Statistics \(\rightarrow\) OK \(\rightarrow\) Input Range: data range
- OK \(\rightarrow\) Confidence level for means
- Summary statistics \(\rightarrow\) Output Range: wherever you want to put the output

**Remember this is the descriptive statsists for the difference variable, so you can calculate:**

- **Effect size:** Mean difference / standard deviation of the difference
  - The mean = the mean of the difference between variable 1 & 2
- **Confidence level**
  - \([ \text{mean difference} - \text{confidence level}, \text{mean difference} + \text{confidence level}]\)
Step 3: Use Excel ToolPak to get the “t-Test for Paired Two sample for Means”

**Note: The Variable 1 range should be the “post” variable. The Variable 2 range should be the “pre” variable.**

From the result, you can get:

- The Pearson correlation of the two variables, and then compare with Table B.6 in your book (NOTE: degree of freedom for correlations = n - 2).
  - If you reject the null with the correlation test, then the samples are dependent and you can proceed to compare the t-statistic to the t-critical value.
  - If you fail to reject the null with the correlation test, then you should not use a paired sample t-test. An independent sample t-test would be the correct statistical test.
Directions for Conducting an Independent-Sample t-Test in Excel

Step 1: Use Excel ToolPak to get the “t-Test for Two Samples Assuming Equal Variance”

From the result, you can:
- Get the t-stat and t-critical
  - t-stat > t-critical, then you can reject the null hypothesis
- Calculate an effect size by
  - 1st: Calculating a pooled standard deviation
    - $S_p = \sqrt{\text{pooled variance}}$
  - 2nd: (Mean Difference) / $S_p$
- Calculate confidence interval by
  - 1st: Calculating the pooled standard error:
    - $S_{mp} = \sqrt{\frac{\text{pooled variance}}{n_x} + \frac{\text{pooled variance}}{n_y}}$
    - $n_x$ = the # of observations of variable 1, $n_y$ = the # of observations of variable 2
  - 2nd: Calculating the Confidence Interval:
    - $(M_X - M_Y)_{lower} = t_{crit}(S_{mp}) + (M_X - M_Y)_{sample}$
    - $(M_X - M_Y)_{upper} = t_{crit}(S_{mp}) + (M_X - M_Y)_{sample}$
- *** Remember that confidence intervals are always two-tailed even if the hypothesis test is one-tailed
Online Links to Secondary Datasets

Early childhood longitudinal study – birth cohort (ECLS-B)
  http://nces.ed.gov/ecls/birth.asp
  http://nces.ed.gov/ecls/Kindergarten.asp

NICHD Study of Early Child Care and Youth Development (NICHD SECCYD)
  https://www.nichd.nih.gov/research/supported/Pages/seccyd.aspx

The Los Angeles Children and Neighborhoods Survey (LA Fans)
  http://www.lasurvey.rand.org/

Add Health
  http://www.cpc.unc.edu/projects/addhealth

National Longitudinal Survey of Youth (NLSY)
  http://www.bls.gov/nls/

Child Development Project
  http://www.childandfamilypolicy.duke.edu/project_detail.php?id=15

Monitoring the Future (MTF)
  http://www.monitoringthefuture.org/

National Survey of Families and Households (NSFH)
  http://www.ssc.wisc.edu/nsfh/

Health and Retirement Study (HRS)
  http://hrsonline.isr.umich.edu/

English Longitudinal Study of Aging (ELSA)
  http://www.esds.ac.uk/longitudinal/access/elsa/15050.asp

Current Population Survey (CPS)
  http://www.census.gov/cps/

Midlife in the United States
  http://midus.wisc.edu/

Fragile Families
  http://www.fragilefamilies.princeton.edu

Panel Study of Income Dynamics (PSID) + Child Development Supplement
  http://psidonline.isr.umich.edu/

Welfare, Children & Families: A Three City Study
http://web.jhu.edu/threecitystudy

Inter-University Consortium for Political and Social Research (ICPSR)
http://www.icpsr.umich.edu/icpsrweb/ICPSR/

Henry A. Murray Research Archive
http://www.murray.harvard.edu/

Center for Disease Control and Prevention (CDC)
http://www.cdc.gov/nchs/data_access/ftp_data.htm

Social Science Data Archive
http://www.sscnet.ucla.edu/issr/da/

Odem Institute for Research in Social Science
http://arc.irss.unc.edu/dvn/

National Data Archive on Child Abuse and Neglect
http://www.ndacan.cornell.edu/
Grading Rubric for Peer Review

Return this page to the group that you are evaluating.

Introduction

There is an explanation of why the research study is important. Yes No

How many references are cited in the paper? 

The research hypothesis is clearly stated. Yes No

The null hypothesis is excluded.

Methods

The characteristics of the sample used in the study are included. Yes No

(please include any relevant demographics as well)

There is a description of the questions or items used to collect responses. Yes No

A brief description of how the data was collected (procedures) is included. Yes No

(i.e., online or lab survey, a within-groups or between groups design was used, etc.)

Results

There is a brief restatement of the research hypothesis (one sentence). Yes No

The statistical test used in the study is identified (i.e., t-test, etc.). Yes No

The rationale for using the statistical test is correctly explained. Yes No

(i.e., types of variables, type of design, correlation if paired-sample t-test, etc.)

A brief overview of the findings is included. Yes No

The t-test results in APA format are included. Yes No

The effect size in APA format is included. Yes No

The effect size is explained in the context of the study. Yes No

The confidence interval in APA format is included. Yes No

The confidence interval is explained in the context of the study. Yes No

The sample means and standard deviations in APA format are included. Yes No

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Discussion

The general findings are briefly restated in words (not APA format). 

An explanation for the findings is presented. 

The conclusions do not go beyond the data provided. 
(i.e., don’t use words like prove, etc.)

Any discrepancies between research hypothesis and findings are explained. 

There are at least two specific limitations identified. 

There are suggestions for future research to minimize limitations. 

There is a practical application for the findings of the study.
Submit this page to me once you have completed your peer review.

Your name: __________________________

The student names in the group that you are evaluating:

____________________  ______________________

____________________  ______________________

Evaluation:
How many spelling and grammar errors were there in the document? ______

Overall, it appears that the group put forth a worthwhile effort in writing the draft.
Strongly Disagree: 0 1 2 3 4 5 : Strongly Agree

Overall, the draft is well-written and logically flows from topic-to-topic.
Strongly Disagree: 0 1 2 3 4 5 : Strongly Agree
Final Grading Rubric

Introduction

There is an explanation of why the research study is important.  Yes  No

How many references are cited in the introduction? __________

The cited references were appropriate for the research question being investigated.

Disagree:  0  1  2  3  4  5  : Agree

The research hypothesis is clearly stated.  Yes  No

The null hypothesis is excluded.  Yes  No

Methods

The characteristics of the sample used in the study are included.  Yes  No

(please include any relevant demographics as well)

There is a description of the questions or items used to collect responses.  Yes  No

The description of the questions used to collect data were specific enough to allow for replication.

Disagree:  0  1  2  3  4  5  : Agree

A brief description of how the data was collected (procedures) is included.  Yes  No

(i.e., online survey, questions were randomly presented with the questions of 18 other research studies, a within-groups design was used, etc.)

Results

There is a brief restatement of the research hypothesis (one sentence).  Yes  No

The statistical test used in the study is identified (i.e., z-test, etc.).  Yes  No

The rationale for using the statistical test is correctly explained.

(i.e., types of variables, type of design, correlation if paired-sample t-test, etc.)

A brief overview of the findings is included.  Yes  No

The z- or t-test results in APA format are included.  Yes  No

The effect size in APA format is included.  Yes  No

The effect size is explained in the context of the study.  Yes  No

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The confidence interval in APA format is included. Yes No
The confidence interval is explained in the context of the study. Yes No
The sample means and standard deviations in APA format are included. Yes No

**Discussion**

The general findings are briefly restated in words (not APA format). Yes No
An explanation for the findings is presented. Yes No

The explanation for the findings is clearly explained
Disagree: 0 1 2 3 4 5 : Agree

The conclusions do not go beyond the data provided. Yes No
(i.e., don’t use words like prove, etc.)

Any discrepancies between research hypothesis and findings are explained. Yes No

There are at least two specific limitations identified. Yes No

The limitations are well explained
Disagree: 0 1 2 3 4 5 : Agree

There are suggestions for future research to minimize limitations. Yes No

There is a practical application for the findings of the study. Yes No
Application is well explained
Disagree: 0 1 2 3 4 5 : Agree

**Miscellaneous**

How many unique spelling and grammar errors were there in the document? _________

Overall, the draft was concisely written with few wasted words.
Disagree: 0 1 2 3 4 5 : Agree

Overall, the draft is well-written and logically flows from topic-to-topic.
Disagree: 0 1 2 3 4 5 : Agree
Improving Undergraduate Statistics Courses with a Graduate Student Coaching Model

Edward Callen & Meredith Elzy
Psychology Department, University of South Carolina Aiken

Background

In psychology degree programs, the psychological statistics course is one that traditionally has a higher failure rate and lower satisfaction than other courses. Researchers suggest this may be due to anxiety about the course (e.g., Dillo, 1982) and mathematical anxiety (Kotsie, 2000; Lester, 2015). Some attempts to improve success in statistics and related courses have examined course redesign with so-called blended classes (Huyneau, 2017), flipping the classroom (Peterson, 2014; Wilson, 2015), and collaborative learning (Grawe & Smith, 2015). Considerable learning (Grawe & Smith, 2015), as well as an increase in the use of real-world application exercises (Daniel & 36 Research, 2015; Quigley, 2016; and peer mentors (Aspeg & Custer, 2016). These approaches seem to have varying levels of success.

A few years ago the USC Aiken Psychology Department redesigned Psychology 101 to combine traditional lecture classes with weekly lab experiences. Sections of 100 students met for lectures twice a week with a full-time faculty member, and then once a week in one of four smaller lab sections. Graduate assistants supervised the 101 lab sections, attended lectures, met with the faculty member weekly to review lesson plans for their labs, provided review sessions, and held office hours. Assessment of learning outcomes and student satisfaction in this new Psychology 101 course format were positive. Comparisons of final grade distributions with previous year’s course taught with the traditional class model indicated that the modified class format yielded a higher percentage of As (15% vs. 7%) and Bs (51% vs. 38%) and a lower percent of Ds and Fs (18% vs. 23%). Student surveys also indicated positive evaluations and perceived effectiveness of the hybrid course.

The undergraduate psychology statistics course at our university over the past 8 years has had on average grade of D, F, or W for 24% of students, with a range of 9-43%. The present project investigated a psychology statistics course model that incorporated traditional lecture with graduate student coaching and applied lab experiences, designed using the Psychology 101 model we have been using for several years.

Procedure

The participants in this project were 60 undergraduate students (30 in Fall 2015 and 30 in Spring 2016) enrolled in the USC Aiken Psychology Statistics course, a required course for the major and a prerequisite for the Research Methods course. The course is relatively traditional in its content, covering descriptive and inferential statistics. The instructors, teaching assistants, course material, assignments, and exams were the same for both semesters. A third section was taught with the traditional lecture format for comparison. All classes used the same textbook and covered the same material.

Each semester the class met twice a week for lecture from a full-time faculty member and then on Fridays the class was separated into two smaller sections of 15 students each, coached by a graduate student. The goal of Friday sections was to give weekly access to hands-on applied data work, statistical problems, review homework, and reinforce the lecture material. The graduate mentor attended the lectures, graded all homework, held office hours, and conducted review sessions. During the MW lectures the graduate mentor would provide the classroom and be a resource for questions or needed assistance. For comparison, all exams were essentially the same as the instructor used in the previous semesters that used the traditional teaching model of three weekly lectures and no graduate assistant. All students completed an applied data project that involved using a national health database to develop a research question and analyze the data, with a class presentation on the final day.

Results

The present research investigated a statistics course redesign model that incorporated traditional lecture with graduate student coaching and applied lab experiences. The pairing of graduate student coaches with weekly hands-on applied experiences resulted in enhanced success rates in the two semesters of the redesign project was conducted, reducing the usual mid-20 percent D/F rates down to low single digits. Student satisfaction and feedback with the new model was consistently positive and encouraging. The effectiveness of the model resembles similar improvement we observed with the introductory psychology class redesign, and we have combined all of our statistics courses to model effective Fall 2016.

Conclusion

The participants in this project were 60 undergraduate students (30 in Fall 2015 and 30 in Spring 2016), enrolled in the USC Aiken Psychology Statistics course, a required course for the major and a prerequisite for the Research Methods course. The course is relatively traditional in its content, covering descriptive and inferential statistics. The instructors, teaching assistants, course material, assignments, and exams were the same for both semesters. A third section was taught with the traditional lecture format for comparison. All classes used the same textbook and covered the same material.

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References


Effective Team, better mean: Group cohesion predicts success in a collaborative learning focused Psychological Statistics course, independent of prior statistical knowledge

Ben Gorvine and H. David Smith

Department of Psychology, Northwestern University

Abstract

We have previously found that, in undergraduate Psychological Statistics courses using a collaborative learning approach, teams with greater perceived cohesion had students who performed better on a range of learning outcomes (Smith & Gorvine, 2016). While this finding was encouraging in terms of the benefits of collaborative learning, we re-analyzed our data to see whether group cohesion would account for a significant proportion of variance in final exam performance above and beyond the effect of statistics knowledge that students brought into the course. Findings indicated that team cohesion accounted for a significant proportion of variance in final exam performance above and beyond the pre-existing statistics knowledge that students possessed. This provides strong evidence in favor of the continued use of collaborative learning approaches in teaching statistical methods, especially as a means to enhance student achievement.

Introduction

Psychological Statistics is an undergraduate course that is required for all Psychology major and minor and is usually taken by students in their sophomore or junior year. The course emphasizes the use of inferential statistics as a means of advancing knowledge in the behavioral sciences. Traditionally, it is typically attended by 100 students, who are faced with many challenges in a course that is important for students who plan to be psychology majors and conduct their own investigations in other courses. Building on prior work (Smith & Gorvine, 2016), we continue to explore the benefits of collaborative learning approaches in the teaching of statistical methods for Psychology. The benefits of collaborative learning approaches have been well-documented, and include a range of more favorable course perceptions and outcomes in classes that employ such techniques (Comfort, 2011; Bashford & Paez, 2018; Balbier-Williams, 2015; Whitley & Zimmerman, 2006; Neave et al., 1994). Two meta-analyses (Yusuf, Johnson, & Stamer, 2001; Springer et al., 1999) found collaborative learning approaches have significant positive effects on student achievement.

We have previously found that teams with greater perceived cohesion had students who performed better on a range of learning outcomes. While this finding was encouraging in terms of the benefits of collaborative learning, we were concerned about the possible continued use of prior knowledge of statistics that students brought into the course. At the outset of the class, students completed a pre-course statistics exam to determine the extent of their prior knowledge. The findings of this study consisted of a more refined test of data that was reliable and found that the benefits of team cohesion would predict better outcomes above and beyond students’ pre-course statistical knowledge. In particular, we focused on final exam scores as a measure outcome since it was the single most summative assessment at the conclusion of the course, requiring students to consolidate their knowledge of statistical procedures and skills and the correlated statistical test for different types of data and research questions.

Method

Students were asked to complete a test of statistics knowledge on the first day of the course and then were divided into eight groups (20% 60%, 10% etc.) via mutual agreement of 5 groups were then created including students from each quartile. These groups completed problems sets twice twice during the 10-week quarter. Groups were encouraged to help one another and check each other’s work. To incentivize this, each group member received the same grade. In addition to completing these “team tasks”, students completed homework assignments, took in-class quizzes, and also took individual exams during the course.

This investigation included two terms worth of data. In addition to course performance data, students completed a six-terse perceived group cohesion survey toward the end of the course (Chris, Salibury, Pannan, & Stollak, 1999; see table 2). 122 students provided complete responses to the perceived group cohesion scales.

Results

A multiple hierarchical regression analysis was employed to predict final exam scores. Of particular interest were whether group cohesion would account for a significant proportion of variance above and beyond the effects of statistical knowledge. Statistical power was increased into the model in the first step. This variable accounted for any pre-existing differences among participants and served as a control variable (Tabachnik & Fidell, 2007). As expected, it accounted for a significant proportion of variance in final exam scores, R^2 = 0.84 (adj. R^2 = 0.82), F(1, 121) = 58.80, p < .01, with higher team scores associated with a higher final exam score. The Feelings Toward Group variable was entered in the second step and accounted for a significant proportion of variance after controlling for students’ statistics knowledge; R^2 change = .11, (1, 120) = 16.23, p < .01 (see table 1). Positive attitudes toward working with your group was associated with better final exam performance above and beyond the influence of knowledge of statistics when entering the course.

Discussion

In line with our prior work (Smith & Gorvine, 2016), results suggested that students’ endorsement of collaborative learning approaches (as reflected in their experience of team cohesion) was associated with better performance on the final course exam. Team cohesion accounted for a significant proportion of variance in final exam performance above and beyond the pre-existing statistics knowledge that students possessed. This provides strong evidence in favor of the continued use of collaborative learning approaches in teaching statistical methods, especially as a means to enhance student achievement (Johnson, Johnson, & Stanne, 2000; Springer et al., 1999). We believe this evidence is particularly compelling in that we were able to demonstrate the benefits of the team approach even after accounting for any skills and knowledge that students may have possessed prior to taking the course. Because these benefits are specifically present for students who experience a greater sense of team cohesion, it is crucial for instructors utilizing collaborative learning approaches to find ways to foster such team cohesion in the classroom setting.

References


Balbier-Williams, N. (2010). Facilitating collaborative learning using online course evaluation and improvement of their application within psychology teaching. Psychology Learning and Teaching, 9, 45-51.


Balbier-Williams, N. (2010). Facilitating collaborative learning using online course evaluation and improvement of their application within psychology teaching. Psychology Learning and Teaching, 9, 45-51.

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The Significance of Big Effects and Small Variability: A Mental Tattoo of Formula Interpretation in Psychological Statistics

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INTRODUCTION

- Institutions of Higher Education encourage faculty to teach students applicable qualities including decision-making, analytical, and critical thinking skills.
- The University of South Florida Sarasota-Manatee recently adopted an initiative to foster critical thinking skills in undergraduate students.
- Psychological Statistics courses largely incorporate analytical and critical thinking skills. However, for many undergraduate students:
  - concepts are difficult and daunting to master;
  - students often think knowing how to use a formula and solve a problem is enough for demonstrating effective critical thinking skills;
  - understanding the meaning of statistical formulas are crucial for appropriate interpretation of statistical results.

- Learning and academic performance can be improved by:
  - presenting a single concept repetitively throughout the semester (Nuthall, 2007);
  - associating concept courses with visual icons, or mental tattoos (Moring, 2015).

- The objective of this proposal is to test the impact of repeatedly presenting a mental tattoo that represents the meaning of a statistical formula to undergraduates in a Psychological Statistics course. It was predicted that students exposed to the mental tattoo would better interpret the meaning of the z-score formula and that this effect would generalize to other formulas used in hypothesis testing (t-score and F-ratio).

METHODS

- Participants: Twenty-six undergraduate students enrolled in a Psychological Statistics course at the University of South Florida Sarasota-Manatee were participants in this experiment. Three courses were sampled from two professors (A and B).

- Procedure:
  - Course: The concept of a z-score was introduced during class.
  - Pre-test: Students completed an in-class activity that required them to describe and interpret the meaning of the z-score formula. Students reported considerable limits for the accuracy of their answers with f = 1.02, t = 8.01, and V = 1.00.
  - A mental tattoo was created to associate the z-score formula with a visual representation of the cumulative area under the z-distribution.
  - Visual representations were structured for a significant z-score, including a large deviation in the numerator (top) and small variability in the denominator (bottom) of the formula. The mental tattoo was a cartoon picture of a bodybuilder with large chest and neck muscles.
  - The in-class activity was administered to all students during 3 separate lectures throughout the semester.
  - Post-test: The same in-class activity was given in the same manner as the Pre-test. Students were asked to interpret the meaning of the z-score formula and F-ratio formula.
  - Analysis: Each pre and post test was scored by two Professors using a 10 point scale. Higher scores indicated correct answers. A two-way mixed factorial ANOVA was used to analyze data with Professor (A or B) as the between subjects variable and Test (pre test, post test) as the repeated measure. Fishers LSD was used for post hoc analyses and significance level was set at .05. Scores were compared to confidence ratings using Pearson’s correlation.

RESULTS

- Table 1: Linear correlations for inter-rater reliability. Students’ performance on pre and post tests were scored similarly by two Professors. Each test revealed a significant positive correlation between scores assigned by the two Professors. Data represent Pearson r = p < .05.

<table>
<thead>
<tr>
<th></th>
<th>Pre-test (n = 42)</th>
<th>Post-test (n = 36)</th>
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<td>z-score</td>
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Table 1: Linear correlations for inter-rater reliability. Students’ performance on pre and post tests were scored similarly by two Professors. Each test revealed a significant positive correlation between scores assigned by the two Professors. Data represent Pearson r = p < .05.

- Figure 1: Effects of Mental Tattoo on accuracy of statistical formula interpretation in Psychological Statistics students. There was a significant significant increase in scores relative to the pre-test, indicating the accuracy of formula interpretation may generalize to z-score and F-ratio formulas. Furthermore, these effects were only revealed in one of the course sections indicating the delivery of the Mental Tattoo by each Professor may have varied. n = 7 – 13 per group. Bars represent mean ± SEM. * = p < .05 from z-score.

- Figure 2: Students’ Confidence Ratings during interpretation of Statistical Formulas. There was a significant positive linear correlation between accuracy of t-score interpretation and students’ confidence ratings (r(18) = .94, p < .01), indicating students have greater confidence when they interpret the t-score formula correctly. There was a significant negative correlation between accuracy of F-ratio interpretation and students’ confidence ratings (r(15) = - .62, p < .05), and revealed a U-shaped relationship. Students scoring high or low on the F-ratio post-test reported high confidence ratings while students scoring moderately on the same test reported low confidence ratings. There was no relationship between confidence ratings and performance on the z prepost-tests (r[18] = .15, p > .05; r[17] = .06, p > .05). Each data point represents a single score.

CONCLUSION

- Exposure to a mental tattoo improves understanding of z-score formulas.
  - Performance on the z-score post-test was significantly better than during pre-tests.
  - Performance on the t-score and F-ratio post-tests were also elevated in comparison to pre-test, indicating the accuracy of formula interpretation may generalize to z-score and F-ratio formulas. However, this effect was not statistically significant and the test of effect is likely due to greater variability in responses in the t-score and F-ratio post-tests.

- The mental tattoo effect was revealed in one Professor:
  - Procedures for the presentation of the mental tattoo may have varied between professors.
  - Procedures may have impacted results as Professor B completed the mental tattoo procedure in two separate classes while Professor A only implemented the mental tattoo procedure in one class.
  - Further research is needed to determine specific conditions required to reveal the mental tattoo effect.

- Confidence ratings varied with accuracy of formula interpretation.
  - Students were more confident when their interpretation of z-score formula was correct, indicating confidence can predict student performance.
  - Students performing well or poorly on the F-ratio post-test were confident while students performing moderately on the same test reported lower confidence ratings. There was no relationship between confidence ratings and performance on the z prepost-tests (r[18] = .15, p < .05; r[17] = .06, p > .05). Each data point represents a single score.

REFERENCES


This work was supported by the College of Science and Mathematics at the University of South Florida Sarasota-Manatee (KAB & EA).
Use DataSim to Create User Specified Data Sets for Quantitative Courses in Psychology

Tom Mitchell, University of Baltimore (tmitchell@ubalt.edu)

**DataSim**

It is difficult for instructors who teach quantitative courses to construct or find existing data sets that meet user specifications. **DataSim**, a software program developed by Michael Sturman at Cornell University, enables you to design and create unique data sets to meet those needs. For educational use it is available at no cost.

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<th>What it is:</th>
<th>What it does: (User specified)</th>
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<td>Visual Basic program</td>
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National Institute on the Teaching of Psychology
39th Annual Convention
St. Pete Beach, Florida
January 3-6, 2017,
Psychological Statistics: Redesigning the Traditional Final Exam into an Authentic Group Research Project
Susan S. Marshall, Ph.D. & Marsha J. McCartney, Ph.D.
Department of Psychology, University of Kansas

Overview

Psychological Statistics has been redesigned over the past several years. There have been three distinct phases: it began as a traditional lecture format, next came a flipped class with lecture plus some online resources, and finally a hybrid class has evolved with many online resources and active engagement in the classroom. One aspect of this final phase of redesign was to give students a more authentic experience of using statistics as a research tool.

We redesigned the traditional final exam into a group research project that culminates with a poster presentation. All students complete a survey that collects data on a wide range of variables and topics of interest. The survey results are compiled into a large data set that students use for the final project. Informal feedback suggests that students are initially nervous about a group project and presenting a research poster but that they end the semester feeling positive about the experience and prefer it to a traditional final exam. Declining D-F-W rates across course formats suggest that this overall course redesign, including the more experiential group project final exam, has been successful at helping students better master the material from this class.

The Survey & Data Set

The survey that all students take at the beginning of the semester asks about a variety of characteristics and topics that offer a range of scales and variables to analyze. For example:
- Size and distance from hometown/high school
- Social media use (Facebook, Twitter, Instagram)
- Personality variables: Extraversion, neuroticism, etc.
- Physical fitness, healthy/unhealthy habits, height, weight
- Time spent watching TV or engaging in other online behaviors
- Caffeine and alcohol consumption
- Participation in Greek life or other campus clubs/activities
- Amount of time spent working, doing homework, sleeping
- GPA, college major, year in school, hours enrolled
- SES, parent education, gender, age, race
- STAI-RS: Anxiety Anxiety Rating Scale

Data is combined across all sections of the class into an SPSS file that students use to hypothesize research questions, evaluate how to address those questions with the data, conduct the appropriate analyses, interpret results, and create a research poster that is then presented at the final exam poster session.

Scaffolding the Project—Team Roles

Four Roles were created to help scaffold the team project and to divide up the work that would be required. Students were given the following flow chart in order to help lead them through successful completion of the poster. Teams were encouraged to assign Roles in a way that would maximize the use of each student’s strengths.

The Final Exam Poster Session

All teams present their posters at a large 2-hour poster session during finals week.

During this final exam:
- Posters and verbal presentations are evaluated by the instructor using an extensive rubric.
- All students must evaluate at least six other posters using a peer review rubric. This ensures a constant flow of visitors to each poster throughout the event.
- Students complete an evaluation for each member of their team as a check for equal contribution to the project.

The event is publicized across campus to attract outside faculty and GTAs, which helps to lend a very authentic feel to the poster session.

D-F-W Rates by Course Format

Declining D-F-W rates across the course formats suggest that this overall redesign of Psychological Statistics has been successful at helping students better master the material from this class.

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Presented at the 49th Annual Northern Institute for the Teaching of Psychology - January 2023, St. Pete Beach, FL

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How can we engage students with statistical concepts? We all know that most students are not looking forward to their required statistics class. Many students hate or fear statistics or think it will be boring and abstract (or all of the above). Statistics class does not have to be boring and abstract, and if it is fun we can lower the fear and anger. For instance, if one has an interesting research area it can be used to bring concepts to life. My main research areas are attraction and empirical aesthetics. How many college students are not interested in dating, movies and music? Thus, I use examples of research in these areas throughout the course. This particular demo uses movies and music to teach the variability concept of standard deviation (SD), one of the most important foundational and repeated concepts in statistics. This concept is relevant to many statistical techniques, including frequency distributions, z-scores, correlation, multiple regression and ANOVA, so it is important to make it as clear and memorable as possible.

First, we learn about what SD is through a variety of methods, including defining it (i.e., how all the scores vary around the mean on average), and how to calculate it. I also include the range in this demo, and I mention that a disadvantage of the range compared to SD is that only two scores are taken into account (compared to all the scores with SD). Now we are trying to apply our knowledge of this concept to everyday life. I ask students to brainstorm three types of movies and try to jot down examples in their notes: 1) movies almost everyone likes; 2) movies almost everyone dislikes; and 3) movies that people seem to either love or hate. It is best to use movies that most people have seen. They are given a couple minutes, and then I take some examples from students and decide which ones to use. Much interaction and laughter usually ensues. Once we have an example on the board of each suspected type, I ask who has seen all three movies and is willing to be a (temporary) movie critic. These judges then independently rate each movie from 0 to 100 on “aesthetic quality”, with 50 representing a neutral rating. I construct a chart on the board with the columns being the three movies, and the rows being the three judges’ names. Depending on how much time is available we can then summarize the means and SD’s of each movie as simply “high”, “medium” or “low”, or calculate their exact values. Three movies that have worked well in the past, for instance, were: 1) Shawshank Redemption, 2) Showgirls, and 3) Napoleon Dynamite. If our choices are appropriate, the first movie type will have a high mean and a low standard deviation (liked by everyone), the second movie type will have a low mean and a low standard deviation (disliked by everyone), and the third type will have a medium mean and a high standard deviation (liked or disliked by different people). I ask questions such as “What do higher and lower SD’s suggest about the judges and movies?” They begin to realize that a lower SD means higher agreement about aesthetic quality (i.e., lower variability in the data). If the results for the specific movies chosen do not work out perfectly you can then show exactly how the ratings would need to change to get higher or lower SDs. It should be noted that if you want to check the results in SPSS, we are interested in movie stats not the judges here, so the
variable names are the movie names, and the numbers along the side of the SPSS file refer to the three judges.

I also ask students which type of movie they think is the least likely outcome among professional critics. I then tie this to my research, which suggests that the third type is actually the least common (i.e., critics only rarely disagree widely about movie quality). This shows that beauty is often not in the eye of the beholder. The results for nonexperts tend to be much more mixed, however, with disagreement about quality more likely than it is for experts.

I then give them a homework assignment to compare two albums/CD’s by rating each of the songs, calculating the mean and standard deviation of each album, and comparing them in a way similar to how we compared movies in class. They have to do this both by hand and using SPSS and make sure their results are the same. In SPSS, the variable names are the album titles and the numbers along the side of the data set would be the songs (e.g., rating 10 songs would be like having 10 participants). My goal in life is to find albums with high means and low standard deviation, but my research suggests that most albums have medium means and low standard deviations (with most songs somewhere near neutrality).

The advantages of this demo include the following: (i) most college students like movies and music, (ii) it creates a lot of class interaction and good spirits fairly early in the semester, (iii) it makes a central concept of the course concrete and lifelike, (iv) it highlights interesting psychology research in aesthetics (demonstrating that even the arts can be studied scientifically and quantitatively), and (v) it is a flexible demo depending on how much time is available. It can be done in as little as 15 minutes or stretched out to 45 minutes if you want to go into a lot of detail. I’ve used this demo in both statistics and introduction to psychology classes. In terms of formal and informal assessment, students as a whole have tended to perform well on exam questions involving standard deviation, even on the final exam many weeks later.
Section XXVIII
Student Engagement/Motivation

1. The impact of a technology ban on student’s perceptions and performance in introduction to psychology

2. Should your course have 100, 1000, or 100000 total points available?

3. The Effect on Micro Test Pep Rallies on Introductory Psychology Test Scores

4. Student Involvement in Diverse Actions and Perceived Campus Climate

5. Tower Building: Learning Psychological Concepts Through a Creative Group Activity

6. Engaging students with a demonstration in emotion identification and suppression

7. TED Ed & Psychological Science

8. Stress Prevention Circuit Training

9. Psych Your Self Up: Making Material Self-Relevant to Boost Student Engagement
The impact of a technology ban on student’s perceptions and performance in introduction to psychology

Thomas G. Hutcheon, Anna Richard, & Aileen Lian
Bard College
Presented at: The Society for the Teaching of Psychology’s ACT, 2016
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Summary

The presence of laptops and other personal technology devices in the college classroom has been associated with decreases in academic performance (Hembrooke & Gay, 2003; Muller & Oppenheimer, 2014; Sana et al., 2013). The detrimental impacts of technology usage have lead instructors to limit (Aguilar-Roca et al., 2012) or fully ban technology use in the classroom (Green, 2016). In the current study, we assess the impact of a technology ban on students reported engagement, interest, rapport with instructor, and performance across four sections of Introduction to Psychology taught by the same instructor.

To measure student perceptions of the course, students completed a course engagement questionnaire (Handelsman et al., 2005), the interest in psychology scale (Harackiewicz et al., 2000), and the professor-student rapport scale (Wilson et al., 2011). We additionally measured student’s performance through exam grades and asked students to report their note taking preference (laptop or paper and pencil) and the frequency with which they checked their phone during a typical class. Using data from students in four sections of introduction to psychology taught by the same professor, we asked whether student’s perceptions In addition, we tested whether the impact of a ban was different for high and low technology users. We found a statistically significant reduction in course engagement as well as a numerical reduction in interest, rapport, and exam performance for the technology-ban compared to the technology-permitted conditions. Surprisingly, infrequent users (those who reported checking their phones rarely during a typical class reported significantly lower engagement in the technology-ban condition. No difference was observed for frequent users.

In summary, the implementation of a technology ban was generally associated with lower ratings of course perceptions and performance, particularly course engagement. Interestingly, the technology ban impacted students experience within in the course to a greater extent for low frequency technology users compared to high frequency technology users. Taken together, our results suggest using caution in implementing a technology ban in the classroom.
Should your course have 100, 1000, or 100000 total points available?

Julian W. C. Wright, Jordan D. Troisi, Bethany Fleck Dillen, Rachel McGill, & Angela M. Legg
Sewanee: The University of the South
Presented at: The Society for the Teaching of Psychology’s ACT, 2016
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Background:

• Instructors often grade college-level classes using a point-based system in which final grades depend on the amount of points earned throughout the semester.
• Research on anchoring-adjustment heuristics suggests that initial information available to people (an anchor) can bias their subsequent judgments because they do not sufficiently adjust to or recognize the anchor’s influence (Morrow, 2002; Quattrone, 1982). This suggests higher grade point anchors may produce more drastic effects on students’ perceptions.
• Loss aversion refers to people’s tendency to strongly prefer to avoid losses (Updegraff & Rothman, 2013). Manipulation of the point totals in a course may highlight the loss-frame and influence student outcomes.
• Denominator neglect is the tendency for people to judge events as riskier when the odds use larger numbers (120 out of 1000 vs. 13 out of 100; Yamagishi, 1997). This research suggests that students may judge a larger point system as more threatening or harder to succeed.
• We anticipate the amount of points offered in a course will influence students judgments of that course, including personal achievement goal orientation, academic efficacy and participant’s current mood.

Method:

Overview and Participants
• 308 participants (M_{age} = 20.90, SD = 3.77) from Sewanee: The University of the South (n = 31) and Metropolitan State University of Denver (n = 277) completed a Qualtrics survey that asked questions about grading scheme preferences.

Procedure
• Participants were randomly assigned to either a 100, 1,000, or 100,000 point grading scheme condition.
• Participants were emailed the online Qualtrics survey that took approximately 15 minutes to complete.
• The survey included demographic information, a point vignette (depending on condition), and items pertaining to:
  Grading scheme preferences: “How likely would you be to sign up for a class using a point-based scheme” from (strongly do not prefer to take this class to strongly prefer to take this class).
  Hypothetical mood: For example, “How frustrated would you be if you lost 4.5 points on the three writing assignments” from (not at all to very) (other example mood items: upset, proud, distressed, joyful).
• Participants were compensated with a $3 Amazon gift card or applied assignment credits.

Materials: Grading Scheme Vignettes:
100 Point Vignette:

Directions: The following grade scheme is described on a course syllabus. Read the excerpt from the syllabus that describes the grade scheme and answer the questions that follow.

All assignments this semester have a point value assigned to them. You can see each assignment with its corresponding point value below. All the points that you earn for each assignment are added together to calculate your final grade. You can use the grade scale to determine your letter grade based on the number of points that you earned.

Course Assignments:

<table>
<thead>
<tr>
<th>Course Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syllabus Quiz</td>
<td>1 point</td>
</tr>
<tr>
<td>12 Quizzes</td>
<td>30 points</td>
</tr>
<tr>
<td>3 Writing assignments</td>
<td>22.5 points</td>
</tr>
<tr>
<td>Content domains</td>
<td>5 points</td>
</tr>
<tr>
<td>Introduction post</td>
<td>2.5 points</td>
</tr>
<tr>
<td>YouTube discussions</td>
<td>24 points</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15 points</td>
</tr>
<tr>
<td>Total Points Possible</td>
<td>100 points</td>
</tr>
</tbody>
</table>

Grade Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100-96.6</td>
</tr>
<tr>
<td>B+</td>
<td>95.9-96.6</td>
</tr>
<tr>
<td>B</td>
<td>96.5-93.3</td>
</tr>
<tr>
<td>C+</td>
<td>93.2-90.0</td>
</tr>
<tr>
<td>C</td>
<td>90.5-78.0</td>
</tr>
<tr>
<td>D+</td>
<td>78.5-66.3</td>
</tr>
<tr>
<td>D</td>
<td>66.5-50.0</td>
</tr>
<tr>
<td>F</td>
<td>50 or less</td>
</tr>
</tbody>
</table>

Results:

• We performed a series of ANOVAs to compare student preferences and outcomes on the 100, 1,000, and 100,000 point based conditions.

• Note: statistically controlling for income, site, and race did not influence our results.

• Although not depicted below, ANOVA 3 × 2 models including sex revealed that females showed enhanced effects in line with those depicted below (compared to males).
Figure 1. $F(2, 299) = 5.44, p = .005, \eta_p^2 = .035$. Bars with separate letter notations were significantly different from one another, Tukey HSD. Error bars for this and subsequent figures represent standard errors of the means.

Figure 2. $F(2, 299) = 7.41, p = .001, \eta_p^2 = .047$.

Figure 3. $F(2, 301) = 20.18, p < .001, \eta_p^2 = .118$.

**Discussion:**

What grade scheme should you use?
- To please students: 100 or 100,000 total points available.
- To motivate students: 1,000 total points available.
- Students would prefer pass/fail schemes instead of grade schemes with greater number of total points available.
- Grade scheme and question type framing matters and may influence mood.
- Educators should consider these effects when determining grade schemes for courses.

**Limitations**
- Hypothetical course method used

**Future Research**
- Experimental studies in real courses or laboratory studies with genuine feedback to student performance
- The consequences of using smaller vs. larger point based grading scheme.
The Effect on Micro Test Pep Rallies on Introductory Psychology Test Scores

Kimberly M. Baker & Terry F. Pettijohn II
Coastal Carolina University
Presented at: Southeastern Psychological Association, 2017
For further information, contact: kbaker@coastal.edu, tpettijo@coastal.edu

Abstract

Most undergraduate courses in psychology use tests to assess students’ understanding and knowledge of course concepts. Some students may suffer from test anxiety or just have a general feeling of nervousness on test day. Psychology students (N=108) enrolled in three different Introductory to Psychology courses were assigned to either a control group (n=36) or to the micro test pep rally condition (n=72). The micro test pep rally condition was administered before four different exams over the course of the semester. Those students who engaged in the micro test pep rallies scored higher on the exams. The greatest positive impact on grades seemed to happen after the first micro test pep rally.

References


The Effect on Micro Test Pep Rallies on Introductory Psychology Test Scores

Kimberly M. Baker & Terry F. Pettijohn II
Coastal Carolina University
Department of Psychology

Abstract

Most undergraduate courses in psychology use tests to assess students’ understanding and knowledge of course concepts. Some students may suffer from test anxiety or just have a general feeling of nervousness on test day. Psychology students (N=208) enrolled in three different introductory to Psychology courses were assigned to either a control group (n=105) or to the micro test pep rally condition (n=103). The micro test pep rally condition was administered before four different exams over the course of the semester. Those students who engaged in the micro test pep rallies scored higher on the exams. The greatest positive impact on grades seemed to happen after the first micro test pep rally.

Method

Participants

College students (N=208, 36 in each section) enrolled in three sections of General Psychology (PSYC 101) during Spring semester 2016 participated in the study. Sections were taught by the same instructor, covering identical course material.

Materials & Procedure

The first class was assigned to the control condition and the other two were assigned to the micro test pep rally condition. Before the second, third, and fourth unit tests, the instructor asked students to stand up and repeat the following statements out loud as a group: “Today is a great day, I feel awesome, I’m ready for this, Yes, yes, yes!” Then the students sat down and the test was distributed. The control class did not do anything special before the test was distributed.

Results

Scores on Tests 2, 3, and 4 were averaged and compared between the two conditions. The micro pep rally group did score higher on average (M=88.48) than the control group (M=68.79), but this difference was not statistically significant, t(106)=.83, p=.40. The micro pep rally effect was particularly effective at its first introduction on Test 2, t(106)=10.09, p<.01, M=18.68 and 8.64, respectively. Participant sex and year in school were added as independent variables, but neither factor produced significant interactions with condition. Although not statistically significant, the student test scores were slightly higher (~7%) in the micro pep rally condition overall and ~4% higher on the first introduction of the micro pep rally on Test 2.

Discussion

Elementary and high schools are conducting test pep rallies to improve student achievement scores on standardized tests. However, there is little evidence to suggest that test pep rallies are effective. The results of this study suggest micro test pep rallies minimally help college student test performance, but future research should clarify whether improvements occur for certain groups of students (high/low achievers, minorities, etc.) as well as the mechanism that potentially makes the activity effective (changes in excitement, physical activity, motivation, anxiety, self-efficacy and self-confidence, group cohesion, etc.). Further observations will be discussed.

Selected References


Acknowledgements

We would like to thank Coastal Carolina University for their travel subsidies toward this conference.
Student Involvement in Diverse Actions and Perceived Campus Climate

Sarah Beth Stepp, Emilee Kesler, & Bryan Dawson, Ph.D.
University of North Georgia
Presented at: Southeastern Psychological Association, 2017
For further information, contact: sstep9487@ung.edu, Bryan.Dawson@ung.edu

This study aims to explore the relationships and differences between minority groups and their perception of campus climate at a midsized southeastern university among their five campuses. Climate explains how environmental variables, such as observations of campus environment, can affect psychological variables, such as perception of campus climate (Reid & Radhakrishnan, 2003). Data were collected through a climate assessment survey provided by the institution. Participants provided demographic information along with indication of campus attended, chosen major, ethnicity, and their involvement with ethnic groups other than their own. Differences were examined between campuses, as each campus fosters a variety of students and different environments, in hopes of identifying the factors that contribute to differences in perception of campus climate. Data were analyzed using ANOVA, regression, and correlation through SPSS. Results indicated that ethnicity, interactions with other groups, and type of harassment experienced were are all predictors of perception of campus climate and diversity of campus climate. Overall, students who actively involve themselves with diverse groups tends to view the campus climate as more diverse, students who experienced harassment themselves were more likely to have a negative perception of campus climate and were more likely to leave the institution, and harassment hindered engagement in diversity issues and predicted perception of campus climate.

References
STUDENT INVOLVEMENT IN DIVERSE ACTIONS AND PERCEIVED CAMPUS CLIMATE

Presenters: Sarah Beth Stepp, Emilee Kesler and Bryan Dawson Ph.D.

Introduction
Minority groups tend to be underrepresented on college campuses which can affect their overall college experience, their decision to remain at their current institution, their involvement on campus, and their academic experiences. Climate explains how environmental variables, such as observations of campus environment, can affect psychological variables, such as perception of campus climate (Kwak & Kim, 2003). While there is well-established research on minority differences in perception of campus climate, there is little known about the factors that contribute to these differences (Reid & Radin, 2003).

The activities and academic environment that students of minority groups engage themselves in can have a direct effect on their perception of the university in regards to diversity support and inclusion of their group. Interactions beyond the students control can also affect their perception of campus climate. For instance, sexual harassment is common among undergraduates campuses and contribute to victims feelings of isolation and dissatisfaction with their institution (Lundy-Wagner & Winakau-Hager, 2013).

The current study focuses on perceptions of institutional diversity, students' experience with institutional diversity, and student involvement with members from diverse backgrounds. Furthermore, the study explored harassment, education, and political status as variables contributing to perception of diversity.

Method
Data were collected through the 2018 Diverse Learning Environment Survey by the Higher Education Research Institute at UCLA which was provided by the institution. Variables included diversity related instruction, likelihood to experience harassment, intergroup relations, engagement in diversity issues, racial and gender identity, and views on diversity climate.

Participants (N = 2562) provided demographic information along with information about climate perceptions of campus climate as more diverse R = .116; p = .002. Students who experienced harassment themselves were more likely to have a negative perception of campus climate B = -4.010; p = .001. Furthermore, type of discrimination experienced was also a predictor for satisfaction with diversity on campus and engagement in diversity issues F (7,1500) = 27.420; p = .001.

Discussion
Overall Satisfaction with Campus Climate

<table>
<thead>
<tr>
<th>Campus Type</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dahanoea</td>
<td>3.6</td>
</tr>
<tr>
<td>Gainesville</td>
<td>3.8</td>
</tr>
<tr>
<td>Owens</td>
<td>3.6</td>
</tr>
<tr>
<td>Cumming</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Type of discrimination experienced was a positive predictor of interaction with others F (5, 1520) = 25.022; p = .001. Lastly, Students who interact more with others of different ethnicities report higher satisfaction with classroom diversity and higher group judgement F(1,1501) = 206.472; p < .001.

Implications
Those findings are useful in understanding factors that influence student satisfaction with campus climate and what types of environments universities should foster as campuses become more diverse and minority groups become increasingly prevalent. Having a greater understanding of what factors contribute to greater minority satisfaction at universities will enable universities to provide a more inclusive and effective learning environment. Universities should strive to create a supportive and positive campus climate in order to students to achieve their full potential academically and increase student retention. By implementing ways to reduce discrimination and increase interactions among different ethnicities, universities can increase minority satisfaction and provide a positive diverse environment.

Future Studies
Future studies could be designed to explore any aspect of this study in further detail. The current study focused lightly on various aspects of diversity while future studies could explore any harassment, classroom climate, or diversity actions and involvement. Future studies could also focus on one campus in more detail or explore other multi-campus universities in the south or other regions of the united states to explore differences and comparison to the current study findings.
Creativity, a concept which involves organizing past learning into new unique patterns, has experienced significant shifts in emphasis from the middle of the past century until now. The original Taxonomy of Educational Objectives by Benjamin Bloom (1956) which heavily influenced the field of education for fifty years, was revised in 2001 by putting creative thought at the very highest level of the hierarchy (Anderson et al, 2001). Unfortunately, educational practice never followed suit.

Robert Sternberg made creativity a main component of his Triarchic Theory of Intelligence. According to Sternberg (2005), “Creativity refers to the skills and attitudes needed for generating ideas and products that are (a) relatively novel, (b) high in quality, and (c) appropriate to the task at hand” (p. 38). Sternberg cites that some researchers contend creativity is a function of innate talent, but he maintains that creativity can be developed with the proper tutelage and an environment conducive for creativity.

For some time, I’ve been intrigued by Sternberg’s Theory and the prospect of nurturing creativity in higher education and specifically within my own classes. Creativity is argued to be essential for leadership (Sternberg, 2005) and at our university, we specialize in preparing health care professionals for leadership positions.

What are specific ways to develop creativity in the classroom? In the article “Identifying and Developing Creative Giftedness,” Sternberg (2000) offers ten essentials to develop creative giftedness. For all ten, he describes specific classroom applications. While all are important, I will mention five listed below. The creatively gifted will do the following;

1. Define problems in novel ways and not as others do.
2. Show skill in persuading others to see value in their ideas.
3. Persist in their solution to problems even in the face of opposition.
4. Take risks on projects that can benefit humanity.
5. Discover what they have a passion for and pursue it (Sternberg, 2000).

We are all familiar with individuals who pursued creative ideas in the face of ridicule and opposition: Thomas Edison, the Wright Brothers, Bill Gates, Steve Jobs, and so many others. However, rather than being creativity’s advocate, the field of education has emerged as being one of creativity’s greatest distractors.

The creativity movement in the 70’s and 80’s was a wide departure from the rote memorization of the 50’s. Although promoters such as Gardner and Sternberg received good press at the time, the movement was short lived. The politics of standardized testing, teacher training, and entrenched thinking eventually led to creativity’s decline (Sternberg, 2015).

With the introduction of the “No Child Left Behind Act” in 2001, use of standardized tests to measure student achievement greatly increased. Sternberg passionately criticized this untimely trend. These tests fail to measure creativity, and teachers are rewarded by test scores rather than
nurturing novel thinking. As a result, creativity is on the wane as schools across the nation revert back to teaching for the test (Sternberg, 2015).

Psychology teachers have an opportunity to reverse the trend, at least in higher education. In one of his recent books, Sternberg (2017a) posed the idea that we can learn as much from our students as they can learn from us. Teaching and learning is a two-way process that can spark creativity in our students. He encourages teachers to not monopolize the classroom conversation with lecture but allow the creative thoughts to come from the students (Sternberg 2017b). Following the advice of Sternberg, I developed the tower building activity to encourage creative thinking in my students which combines active learning with fun. I shared a copy of this tower building plan with Dr. Sternberg and he responded with the following statement, “Your presentation is very interesting, as is the task” (R. Sternberg, personal communication, July 14, 2017).

Tower-building Activity

Purpose

The tower building experience is a hands-on activity based on Sternberg’s Triarchic Theory of Intelligence (see Figure 1). His theory outlines three types of intelligence that seem to predict real-world success, the analytical, the creative, and the practical. The tower building activity emphasizes creative intelligence.

Materials:

- Scissors
- Scotch tape
- A stack of 8/12 x 11 plain or colored paper.

Instructions to students:

Build a tower in 8-10 minutes. You must do this in a group of 4 to 5 and you must do so without talking. Your finished tower must be a free-standing structure.

Analysis with students:

After students have all completed the activity, I ask a series of questions.

- **What novelty and originality** was expressed in the towers created? This question prompts students to consciously identify examples of creative thought that might otherwise go unnoticed.
- **In what creative ways did you communicate?** Although the students were not to talk, how did they devise a plan for the tower through non-verbal communication?
- **To what extent did the leaders of the groups inspire creativity?** Sternberg contends that the most successful leaders solve problems in unique ways.

As we unpack the interactions that occurred during the episode, I try to emphasize to the students the importance of thinking beyond rigid, structured frameworks—a lost art in much of conventional education today. Each of the towers students have constructed over the years is unique—a testament to the ability of students to generate novel ways of constructing their world when given the opportunity.
Figure 1. Psychology One Conference Attendees Create 8-minute Towers

REFERENCES


Engaging students with a demonstration in emotion identification and suppression

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Abstract
This classroom demonstration is designed to actively engage students to think about emotion while performing an entertaining task involving the suppression and identification of facial emotional expression. Half of the students are asked to consent to view a sequence of five images on a screen that may or may not elicit an emotional response. Their task is to suppress any facial emotional expression that may arise. The other half of the students are asked to turn their back to the screen and instead study carefully the face of one of their peers who is viewing images. This group of students’ task is to determine which numbered image elicited an emotional response.

Introduction
Teaching psychology presents opportunities to demonstrate directly to students some of the properties of psychological functions. Borrowing from procedures used in experimental psychology, classroom demonstrations can be designed to engage students in tasks that often reveal some of the properties and limitations of our psychological functions. For example, asking students to participate in a free-recall memory task which demonstrates that people on average can only remember around 7±2 items. Such activities can give students direct experience with the properties of psychological functions that they are tasked with learning. There is increasing evidence that engaging students in meaningful active learning experiences in the classroom can improve retention, motivation and memory of the lecture material (Prince, 2004; Freeman, et al., 2014). Presented here is a classroom activity designed to engage students in a task involving the suppression of emotions and the identification of emotion from facial expression.

Activity materials and procedure
For this activity, all that is required is a classroom equipped with a screen and projector. A series of five images are selected that include four images that are emotionally neutral, and one image chosen to elicit an emotion. Instructors may choose to apply for access to the International Affective Picture System (IAPS). The IAPS includes over 1000 images with average ratings of arousal, valence, and dominance from 100 students taking an Introduction to Psychology course. The IAPS database is available to researchers and teachers for academic use and distributed by the NIMH Center for Emotion and Attention (CSEA) at the University of Florida (Lang, Bradley and Cuthbert, 2008). Using IAPS images for the demonstration provides the instructor with confidence that the selected images will elicit the desired responses.

An alternative to using IAPS is to select stimuli from popular image search engines such as Google Image Search, Yahoo Image Search or Picsearch.com. An example of an emotionally neutral image is an image of a filling cabinet or an office chair. A good example of an image that may arouse an emotional response is an image of mutilation, or a medical image of an infected abscess. Figure 1 shows an example of five images used for the demonstration. Caution should be taken to select images that are not too arousing and may potentially offend viewers. A good rule of thumb when selecting an appropriate emotional image is to choose one that is judged not to evoke arousal that exceeds the strongest images shown on popular TV series.

Completing the demonstration takes approximately 10 minutes. The activity could be incorporated into a traditional lecture or be designed to include a structured discussion or written assignment. In
order to carry out the demonstration, students are asked to pair up with a student sitting in front or behind them. The pairing often requires the temporary rearrangement of seating by some of the students. Half of the students consent to view the numbered images on the screen (see Figure 1), while trying to suppress any expression of emotion. The other half of the students are asked to study carefully the face of the student viewing the images and try to discern which numbered image elicited the strongest emotion. Students viewing faces can also be challenged to identify which emotion was expressed. Images that elicit disgust, such as an image of a filthy toilet or an infected abscess often produce easily identifiable facial expressions of disgust. Images are presented sequentially by the instructor who verbally announces the image number. After the images are presented, students are asked to identify which numbered image(s) elicited a response. Students are forewarned that those who view the screen will see at least one image that will elicit an emotion, and this emotion can be positive or negative. Any negative images won’t be any worse than ones they might view on television. Students who would prefer not to view an arousing image can still participate by evaluating a peer’s facial expression.

![Figure 1. Final slide shown to all students after the demonstration is completed. However, the reduced size image of the filthy toilet is not included in the final slide and only shown during the demonstration. Images numbered 1, 2 and 3 are selected to elicit little or no arousal. The image numbered 3 may elicit a high arousal and low valence emotion, while image numbered 5 may elicit a low arousal and high valence emotion.](image)

**Discussion**

The demonstration can be followed by a discussion on the involuntary aspects of emotional expression, such as the features of a genuine smile (i.e. a Duchenne smile) when compared to a faked smile. Many classroom activities that pair students, such as think-pair-share activities involve students interacting with a peer sitting next to them. Since students have the tendency to sit in the same location for every class, they are often interacting with the same individuals throughout the course. This demonstration provides an opportunity for students to interact with a peer who may be sitting in front or behind them. In my experience, there is often a significant proportion of students who are unable to identify which image elicited an emotion. This perhaps reflects individual differences in ability to suppress emotional expression among students. Such results provide an opportunity to discuss individual variation in psychological abilities and the challenges it presents to the endeavor of psychological science. The demonstration may also provide a good introduction to teaching topics such as emotional regulation or priming students to think about different theories of emotion.
References:


TED Ed & Psychological Science

Nestor Matthews
Denison University

Students hate reading long, complicated journal articles. Yet, journal articles drive Psychology’s content, methods and epistemology. How can faculty ease students into Psychology’s primary sources? This essay summarizes a “flipped classroom” practice that links TED Ed technology to the APS’s flagship journal, Psychological Science. Merging TED-Ed with Psychological Science’s brevity and clarity can help instructors reach the following pedagogical goals:

1. Increase student engagement with material outside the classroom;
2. Broaden in-class participation;
3. Distribute students’ practice across time and contexts;
4. More fully understand students’ prior knowledge;
5. Level the playing field in students’ preparedness to learn from primary sources;

Those goals align with empirically supported principles documented in these sources.

A. Make it stick: The science of successful learning (Brown, Roediger & McDaniel, 2014).
B. How learning works: Seven research-based principles for smart teaching (Ambrose et al., 2010).
C. Teach students how to learn; Strategies you can incorporate into any course to improve student metacognition, study skills, and motivation (McGuire & McGuire, 2015).
D. Relearn faster and retain longer: Along with practice, sleep makes perfect (Mazza et al., 2016).
E. The Critical Importance of Retrieval--and Spacing--for Learning (Soderstrom, Kerr & Bjork, 2016).

Method

This pedagogical practice piloted in a Psychology course entitled, "Advanced Statistics for the Behavioral Sciences". The course comprised eight junior and senior undergraduates who had completed prior Psychology courses in methods and statistics. To reduce frustration and anxiety that might impair comprehending primary sources, students began the semester by learning motivational mantras. "Embrace Uncertainty." "Comprehension is a continuous variable." "I don't need to know everything, I know something." "Skill development is key. Factoids aren't." Additionally, students reviewed brief documents that offered various frameworks for comprehending and evaluating primary sources. The Open Science Framework contains these and other resources for scaffolding students’ attempts to work with research articles (https://osf.io/kj7z6/).

Table 1 contains links to ten TED Ed lessons and their associated Psychological Science articles, all from this pilot course. Each lesson begins with a brief (~one minute) video that the instructor created and uploaded to YouTube. These videos direct students to the relevant Psychological Science article and various frameworks for comprehending and evaluating primary sources (https://osf.io/kj7z6/). Table 2 contains links to TED Ed lessons on additional videos (Chew, 2011a-e) that helped the students study effectively.

Several lessons in Table 1 contain items requiring students to manually construct graphical responses via the free “draw.to” website. After completing a hand (cursor) drawn visual response in
students click “share” to generate a unique URL. Students then copy-and-paste into TED Ed the drawing’s unique URL as their response to a short answer item. Examples from students appear in Figure 1.

<table>
<thead>
<tr>
<th>TED Ed Lesson</th>
<th>Psychological Science Article</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sleep &amp; Practice</td>
<td>Mazza et al., 2016</td>
</tr>
<tr>
<td>2 Melodies are Social for Infants</td>
<td>Mehr, Song &amp; Spelke, 2016</td>
</tr>
<tr>
<td>3 Infant Sensitivity to Pleasant Touch</td>
<td>Fairhurst, Löken &amp; Grossmann (2014)</td>
</tr>
<tr>
<td>4 Predicting Children's Intelligence Mind-Sets</td>
<td>Haimovitz &amp; Dweck (2016)</td>
</tr>
<tr>
<td>5 Twitter Predicts County-Level Heart Disease Mortality</td>
<td>Eichstaedt et al., (2015)</td>
</tr>
<tr>
<td>6 Retrieval and Spacing for Learning</td>
<td>Soderstrom, Kerr &amp; Bjork (2015)</td>
</tr>
<tr>
<td>7 Do Men Overperceive Women’s Sexual Interest?</td>
<td>Perilloux &amp; Kurzban (2015)</td>
</tr>
<tr>
<td>8 Closing the Social-Class Achievement Gap</td>
<td>Stephens, Hamedani &amp; Destin (2014)</td>
</tr>
<tr>
<td>10 Self-Control and Life Span Unemployment</td>
<td>Daly et al., (2015)</td>
</tr>
</tbody>
</table>

Table 1 – TED Ed lessons on articles from the journal, Psychological Science.

<table>
<thead>
<tr>
<th>Preparatory TED Ed Lessons for Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Metacognition: Beliefs That Make You Fail... Or Succeed</td>
</tr>
<tr>
<td>2 What Students Should Know About How People Learn</td>
</tr>
<tr>
<td>3 Cognitive Principles for Optimizing Learning</td>
</tr>
<tr>
<td>4 Putting Principles for Optimizing Learning into Practice</td>
</tr>
<tr>
<td>5 I Blew the Exam, Now What?</td>
</tr>
</tbody>
</table>

Table 2 – TED Ed lessons featuring “Tips for Studying Effectively” videos (Chew, 2011a-e).
Flipping the classroom with the materials in Table 1 entailed an initial “acquisition phase”, followed by a “rehearsal phase”. The acquisition phase occurred outside the classroom. Specifically, students completed a given TED Ed lesson by 10 PM on the evening before discussing the associated *Psychological Science* article in class. The rehearsal phase occurred in the classroom during “Journal Club” sessions, as students discussed their TED Ed responses. Between the acquisition and rehearsal phases, students received feedback and a low stakes grade on one randomly selected response. Timing the feedback and low stakes grade in this way promoted student accountability and motivation. It also provided insight about what to emphasize during the rehearsal (“Journal Club”) phase.

**Results & Discussion**

Course evaluations revealed successes and suggestions to improve flipping the classroom via TED Ed lessons and *Psychological Science* articles. On a learning-effectiveness survey, students rated the TED Ed / *Psychological Science* combination at ~8 on a 10-point scale. This corresponds to a middling rank among the 15 learning opportunities surveyed (Figure 2).

Qualitatively, one student wrote “The TED Eds were great”, and others described Journal Club sessions as helpful and enjoyable. However, one student who reported enjoying Journal Club sessions also suggested in-class lectures should occur after each TED Ed lesson. The same student wrote that the TED Ed lessons would benefit from videos offering topical content. (Recall that the videos in Table 1 contained only instructions for each assignment. Topical content came exclusively from the *Psychological Science* articles, not from the TED Ed videos.) Other students disliked the time commitment needed to complete TED Ed lessons (acquisition phase). This highlights the need to balance holding students accountable for their course preparation without
imposing onerous time costs that impair motivation (Eccles & Wigfield, 1995; Barron & Hulleman, 2015). As the course instructor I found that this flipped classroom practice helped me to reach the six above-shown goals, and eased students into the primary sources that drive our field.

Figure 2 – Student ratings of learning effectiveness for 15 different learning opportunities.

References


Stress Prevention Circuit Training

Julia Langdal  
Grand Canyon University  
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This class activity combines the fun of moving around the classroom with the science behind various stress reduction and prevention interventions. There are seven stations set up in the room: coloring books, meditation/deep breathing, yoga/tai chi, exercise, humor, cognitive restructuring, and aromatherapy. Students rotate between each station, trying each activity, and completing a worksheet describing the mental and physical health benefits of each activity.
Psych Your Self Up: Making Material Self-Relevant to Boost Student Engagement

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Presented at: National Institute on the Teaching of Psychology
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William James famously distinguished between the “self as knower” and the “self as known.” Much like self-understanding, the study of psychology involves the self as knower (or people as knowers) trying to make sense of the self as known (or people as known). On the one hand, this dialectical nature of the self can make it difficult for students to remain objective when evaluating evidence about human behavior. But it also means that as teachers we can harness the power of self-reference effects on learning and memory to increase student engagement. In this talk, I summarized three key strategies for how we can better use psychology to teach psychology. For each strategy, I shared activities and experiences from my own teaching and pedagogy that put them into action.

The first strategy was to Make Psychology Real. Psychology is all around us. Our most critical job as educators is to shine a spotlight on the types of phenomena students see and hear about to provide a greater sense of understanding. I described several strategies. One is to bring in engaging real world puzzles of human behavior, such as instances of false confessions. A second is to rely on cinematic examples of psychological disorders, not only to help students practice diagnosing disorders but to critically examine the way in which film often misrepresents what mental illness is really like.

A second strategy is to Make Psychology Personal. We can harness the power of memory connected to the self to help students apply critical concepts and theories to their own lived experiences. There is simply no better way to learn. I described how even abstract and often boring topics like research methodology can be made exciting when students in a large lecture are brought in as active participants in a crowd-sourced research project. I also described how students can be brought into to play a more proactive role in preparing for and taking tests by having them construct practice tests in class or by adding a group testing component for evaluation.

Finally, in our diverse world, it’s important that we Make Psychology Inclusive for all students. Students from underrepresented minorities, international students, non-traditional students, and first generation college students can all suffer from a feeling that they don’t belong. Evidence suggests that helping these students see that others share their same concerns greatly improves their outcomes. I presented an assignment that provides students with more diverse examples of contemporary psychologists and talked about how teaching students about the science of bias can empower them to contend with it more effectively. Specifically, I’ve found that having students participate in a classroom demonstration of the IAT works as a useful ice-breaker to realize that others have biases too, understand how they can be measured, and enter more comfortably into a conversation about what those biases mean for behavior.
In sum, by being mindful of the ways that students can best apply the material we teach them and bringing them into the process as more active participants in their own learning, we can make psychology stick. Students benefit more for the course when they can see that psychology is real, self-relevant, and inclusive.
Section XXIX
Student Success

1. Social Networking, Self-Regulation, and Personality as Predictors of Academic Performance

2. Texting Enrolled College Students Messages about Departmental Events to Increase Student Retention

3. Evaluating Techniques to Reduce Test Anxiety and Improve Exam Scores

4. The Growth Mindset and College Success

5. Nonintellective Variables and GPA among Nontraditional College Students

6. Tracing student success: Correlating demographic and behavioral factors with GPA

7. An Investigation of Students’ Metacognitive Reading Strategies and Perceptions of Textbook Reading

8. The Great Laptop Debate: Laptop Use in University Classrooms and Grades
Social Networking, Self-Regulation, and Personality as Predictors of Academic Performance

Kuntala S. Parama - American International University Bangladesh
David S. Kreiner, Callie M. Ferguson, & Benjamin Filkins - University of Central Missouri

Abstract

Previous research indicates that increased use of social networking may be related to poor academic performance but that students with high self-regulation ability tend to use social networking sites in a productive manner. This study examined the relationship between social networking use, self-regulation, and academic performance.

Background

The increased use of social networking sites among college students has led to concern about its impact on academic performance. This study aimed to explore the relationship between social networking use, self-regulation, and academic performance.

Method

Participants

- Female students (11 women and 10 men)
- 48 first-year students, 3 sophomores, 4 juniors, and 4 seniors
- Mean GPA of 3.93

Materials

- A social networking survey assessing social networking behavior and frequency.

Procedure

- Students were asked to complete a social networking survey and a self-regulation questionnaire.
- Data were analyzed using correlation and regression analyses.

Results

- A significant positive correlation was found between social networking use and self-regulation strategies.
- Academic performance was positively correlated with self-regulation strategies.

Discussion

- The findings suggest that social networking use and self-regulation strategies are important factors in academic performance.
- Future research should focus on the development of interventions to improve self-regulation strategies.

References

Texting Enrolled College Students Messages about Departmental Events to Increase Student Retention

Terry F. Pettijohn II & JongHan Kim
Coastal Carolina University
Department of Psychology

Introduction

College educators and administrators are constantly trying to find new ways to improve students' academic performance and retention. Recent findings indicate that brief psychological interventions in education may have significant positive effects (Yeager & Walton, 2012). Specifically, brief psychological interventions that focus on the way students think, feel, and believe regarding academics, can improve educational achievement (Cohen, Garcia, Apfel & Master, 2006; Walton & Cohen, 2007; Walton, 2006; Walton, Darmody, & Shearin, 2002). We tested the hypothesis that personalized text messages about departmental activities and resources could increase student retention.

Method

Transfer psychology and sociology majors (n=30) participated in a welcoming Psychology/Sociology, major inclusion program during Spring semester. As part of orientation, students completed a series of questionnaires, provided their cell phone number, and agreed to receive text messages about program events, campus resources, and university announcements during the semester. Three students did not grant permission to receive the text messages and another student indicated that he/she did not have a phone. Students were randomly assigned into text message conditions, providing a sample of 10 students each in the experimental and control conditions.

Both the control and experimental groups received seven text messages during the semester (roughly one every two weeks; see Figure 1), but the experimental group texts included the student name to personalize the information and make the student feel identified and like they belonged to the department and university. The messages were sent from a temporary Skype account to provide information and encourage feelings of belongingness and connectedness to the major and university.

Toward the end of the semester, students were asked to complete another set of survey measures online, same identical to the ones they completed at the beginning of the program online, as well as their intentions to continue in college and in the psychology/sociology major. We checked Fall schedules to see if student participants returned to campus.

Abstract

Twenty-four transfer college students participated in an inclusion texting pilot test where they received text messages about campus activities, resources, and reminders seven times during the semester. While the experimental and control groups received text messages, the experimental group was identified by first name. Those who received the text messages were retained the next year at a higher rate than the exclusion group, and those receiving personalized messages were most likely to return to campus. Implications are discussed.

Results & Discussion

Of the 10 students in the experimental group, eight (80%) returned. Of the 10 students in the control group, six (60%) returned. Of the four students in the text exclusion group, two (50%) returned. See Table 1 for results. Further analysis of survey measures is very limited and merely descriptive given the small numbers from each group (less than 5) that completed both pre- and post-measures. These initial results are promising and suggest a texting intervention program may help increase student retention.

If the use of text messaging increases student retention, texts and social media notifications may be used to replace or supplement email as a form of communication within academic departments. Students are more likely to read texts than email messages. This study also demonstrates the importance of personally identifying students to increase feelings of inclusion and belongingness. A larger scale investigation is needed as a follow-up.

Figure 1. Text Messages Sent.

<table>
<thead>
<tr>
<th>Text</th>
<th>Text Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16</td>
<td>COPING. Welcome to COPING! (NAME): We look forward to having you be part of the Psychology Major! [NAME]</td>
</tr>
<tr>
<td>1/23</td>
<td>COPING: [NAME]: Psychology Club will be having a meet and greet meeting 1-3 pm on Jan. 29th in B518 IBE. We look forward to seeing you there! [NAME]</td>
</tr>
<tr>
<td>2/13</td>
<td>COPING: [NAME]: [NAME]: Time to register for Spring 2016 is here! [NAME]:</td>
</tr>
<tr>
<td>2/23</td>
<td>COPING: [NAME]: [NAME]: Time to register for Spring 2016 is here! [NAME]:</td>
</tr>
<tr>
<td>3/13</td>
<td>COPING: [NAME]: [NAME]: Time to register for Spring 2016 is here! [NAME]:</td>
</tr>
<tr>
<td>3/20</td>
<td>COPING: [NAME]: [NAME]: Time to register for Spring 2016 is here! [NAME]:</td>
</tr>
<tr>
<td>4/3</td>
<td>COPING: [NAME]: [NAME]: Time to register for Spring 2016 is here! [NAME]:</td>
</tr>
<tr>
<td>4/17</td>
<td>COPING: [NAME]: [NAME]: Time to register for Spring 2016 is here! [NAME]:</td>
</tr>
<tr>
<td>5/17</td>
<td>COPING: [NAME]: [NAME]: Time to register for Spring 2016 is here! [NAME]:</td>
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</tbody>
</table>

Figure 2. Retention Rate by Group.

Selected References


Acknowledgements

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Acknowledgements

Poster Presented at the 127th Annual Convention of the American Psychological Association
August 4, 2017 in Washington, D.C.

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Scan here for handout of poster

Poster: Texting Enrolled College Students Messages about Departmental Events to Increase Student Retention
Evaluating Techniques to Reduce Test Anxiety and Improve Exam Scores

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Presented at: Southeastern Psychological Association, 2017  
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**Abstract**

Test anxiety is thought to hinder exam performance by allowing task-irrelevant information, such as worries about performance, to impede the recall of task-relevant information. Previous research has shown that test anxiety is decreased, and performance improves when students are encouraged to write about their test anxiety before an exam (Ramirez & Beilock, 2011), write about a past positive experience before an exam (Nelson & Knight, 2010), or write comments about individual test items during an exam (McKeachie, Pollie & Speisman, 1955). We were unable to replicate any of these results in five psychology courses. Our findings cast doubt on the previous studies’ conclusions or suggest that either these anxiety-reducing techniques may not be effective methods to enhance performance in all disciplines, or that some courses do not evoke enough anxiety to hinder performance.

**References**


Evaluating Techniques to Reduce Test Anxiety and Improve Exam Scores

Charles Fitzsimmons & Katherine Hooper

INTRODUCTION

Test Anxiety

May affect up to 40% of all students
(Cline & Bong, 2006)

<table>
<thead>
<tr>
<th>Cognitive Symptoms</th>
<th>Physiological Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of failure</td>
<td>Increased heart rate</td>
</tr>
<tr>
<td>Poor performance</td>
<td>Sweaty hands</td>
</tr>
<tr>
<td>Can’t retrieve info</td>
<td>Increased blood pressure</td>
</tr>
</tbody>
</table>

Expressive Writing

- Reduces depressive rumination [Lutsky & Proenza, 2003]
- Increases working memory [Klein & Boak, 2013]
- Improves exam scores [Ramirez & Beilock, 2011]
- Writing comments on exam items improves performance [McKeachie, Pollie, & Speisman, 1955]

Purpose & Hypothesis

Replicate these findings:
- Ramirez & Beilock (2011): Expressive writing about worries improves exam performance
- Nelson & Knight (2010): Expressive writing about a past peak experience improves exam performance
- McKeachie, Pollie, & Speisman (1955): Writing comments on exam items improves performance

METHOD

<table>
<thead>
<tr>
<th>Replication Of:</th>
<th>Procedure</th>
<th>Results</th>
</tr>
</thead>
</table>
| Ramirez & Beilock (2011) | 76 participants (54 F, 22 M) recruited from an introductory psychology course at the University of North Florida (UNF)  
Participants completed the Cognitive Test Anxiety Scale (CTA) [Cassidy & Johnson, 2011] one week prior to exam  
10 minutes before beginning their exam, participants either wrote expressively about their worries about the exam (experimental) or about what they did during last three days (control)  
For next exam, each participant was assigned to the opposite condition | For exam one (r = .13, p = .26) or exam two (r = .17, p = .07) | Expressive Expressive Control Control |

| Ramirez & Beilock (2011) | 164 participants (117 F, 47 M) recruited from an introductory psychology course at UNF  
Participants completed CTA one week prior to exam  
10 minutes before beginning their exam, 1/3 of participants wrote expressively about exam worries, 1/3 wrote about a past peak experience | No differences in performance between expressive, past peak, or neutral condition (F(2, 155) = 1.47, p = .23) | Expressive Past Peak Neutral |

| Nelson & Knight (2010) | 67 (57 F, 10 M) participants recruited from three research methods courses at UNF  
All participants completed the CTA one week prior to exam  
Participants were given exams with the option to comment on exam items (experimental) or without the option to comment (control)  
For next exam, each participant was assigned to the opposite condition | No differences in performance between participants in the comment or no comment conditions on exam one (r = .84, p = .42) or exam two (r = .50, p = .82) | Comment No Comment |

RESULTS

- All three methods failed to improve participants’ exam scores
- Possible explanations:
  - Condensed summer course (experiment one)
  - Psychology vs. math exams
  - Courses did not evoke enough anxiety
  - Cognitive test anxiety was only related to exam performance in experiment one exam two (r = -.30, p = .007)

DISCUSSION

Future Directions

- Include anxiety measure after writing condition
- Attempt in a lab with different exam stakes
- Include measures of self-efficacy
- Evaluate other techniques to reduce anxiety such as mindfulness training [Mrazek et al., 2011]
- Analyze writing samples:
  - Did participants follow instructions for writing prompts?
  - Is the amount of expressiveness in writing related to improvements in performance?
The Growth Mindset and College Success

Jennifer S. Queen, Alexandria J. Tomkunas, & Miya S. Furukawa
Rollins College
Presented at: Southeastern Psychological Association, 2017
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This study aimed to investigate the relationship between a college student’s endorsement of a growth mindset and his or her college success broadly defined to include self-efficacy, perceived stress, and happiness. Carol Dweck (2006) defines a growth mindset as the belief that one has the ability to change his or her skills with purposeful effort and abilities over time and reports that the endorsement of such beliefs leads to increases in academic achievement in children (Blackwell, Trzesniewski, & Dweck, 2007; Claro, Paunesku, & Dweck, 2016). We sought to determine if similar results would hold for college-age students. Work by Gore, Leuwerke, and Turley (2006) indicated that self-efficacy is a good indicator of college success as defined by GPA and college completion. Additionally, self-efficacy is negatively related to perceived stress (Zajacova, Lynch, & Espenshade, 2005) and positively related to happiness (Nickerson, Diener, & Schwarz, 2011). We looked at how these varied as a function of year in school and related to one another.

A Qualtrics survey link was emailed to the entire student body of a small private liberal arts college requesting voluntary participation in a study on factors related to college success. The survey contained Likert-scale questions that would determine each participant’s endorsement of a growth mindset for several factors including intelligence, athleticism, personality, and sociability. Responses were averaged together to create a Mindset Scale (possible range 1-6 with higher scores indicating more endorsement of a growth mindset). Additionally, the survey included the College Self-Efficacy Inventory (Solberg, O’Brein, Villareal, Kennel, & Davis, 1993; possible range 0-10 with higher scores indicating more self-efficacy), the Perceived Stress Scale (Cohen, Kamarck, & Merlstein 1983; possible range 1-5 with higher scores indicating more perceived stress), the Oxford Happiness Questionnaire – Short Form (Hills & Argyle, 2002; possible range 1-6 with higher scores indicating more happiness), and participants were asked to estimate their current grade point average on a 4.00 scale using a slider. We also asked demographic questions (age, gender, year in school, and major) to determine the representativeness of our sample.

We received 128 completed surveys ($M_{\text{age}}=19.78, \text{SD}=1.56$ years) from 109 females, 17 males, and 2 individuals who did not report a gender. Participants represented all four levels of years in college with sophomores being slightly underrepresented ($n_{\text{Freshmen}}=36$, $n_{\text{Sophomores}}=21$, $n_{\text{Juniors}}=40$, $n_{\text{Seniors}}=30$, 1 person did not report year in school). All scales revealed good internal consistency with good variability in responses (see Table).

One-way ANOVAs revealed no significant differences as a function of year in college (see Figure; $F_{\text{Mindset}}(3, 123) = .59, p = .62$; $F_{\text{CSEI}}(3, 123) = .88, p = .45$; $F_{\text{PSS}}(3, 123) = .95, p = .42$; $F_{\text{OHQ-S}}(3, 123) = 1.27, p = .29$). While not the main motivation of this study, we were surprised that self-efficacy did not improve over time. Previous literature on academic self-efficacy in college students focuses on retention or persistence to graduate (e.g. Gore, et al., 2006; Zajacova et al, 2005). There seems to be an assumption that students who go on to graduate develop these
skills over time. Our findings suggest that even if students are actually developing these skills, there is little evidence that they perceive this growth. Students within one semester of graduating are no more likely to feel that they can navigate college successfully that those who have only been there for a few weeks.

**Mindset**

**Perceived Stress**

**Self-Efficacy**

**Happiness**
Figure. Median boxplots for each of the four scales by class year.

Table
Means, standard deviations, □ coefficients, and Pearson r correlations for all scales and estimated grade point average

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mindset</td>
<td>4.06 (0.67)</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. CSEI</td>
<td>7.41 (1.34)</td>
<td>.193*</td>
<td>.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. PSS</td>
<td>2.99 (0.59)</td>
<td>- .237**</td>
<td>- .574***</td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td>4. OHQ-S</td>
<td>4.23 (0.83)</td>
<td>.251**</td>
<td>.598***</td>
<td>- .630***</td>
<td>.78</td>
</tr>
<tr>
<td>5. Est. GPA</td>
<td>3.48 (0.55)</td>
<td>-.151</td>
<td>.168</td>
<td>-.051</td>
<td>.017</td>
</tr>
</tbody>
</table>

ital. = Cronbach’s □, ***p<.001, **p<.01, *p<.05

Self-efficacy, stress and happiness were related to one another consistent with previous literature (see Table). Additionally, our aggregated measure of the growth mindset was positively related to self-efficacy and happiness, while negatively related to perceived stress. This indicates that a belief in one’s ability to change skills and abilities over time is related to belief in one’s ability to succeed in college. However, there was no relationship between any of the measures and GPA estimate. It is possible that participants may not have an accurate estimate of their GPA, especially freshmen in their first semester. Alternatively, beliefs in one’s abilities may not be related to actual academic performance. Nickerson, et al. (2011) call these “positive illusions” about college success.

References


Nonintellective Variables and GPA among Nontraditional College Students

David N. Warden & Charlsie A. Myers
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“Nontraditional” students have begun to constitute a growing proportion of students enrolled in institutes of higher education (National Center for Education Statistics [NCES], 2009). These students represent a more diverse population than “traditional” students. Prior research indicates nontraditional students are characterized by at least one of seven characteristics: employment, delayed enrollment, part-time attendance, financial independence, dependents other than a spouse, single parent status, and/or had not earned a standard high school diploma (Horn, 1996). More recent reports indicate that another significant factor that should be considered is on- or off-campus residency (NCES, 2009).

Much of the prior literature separates student samples by age rather than a more representative selection of demographic characteristics. For example, Tilley (2014) used 25 years as a dividing line to separate traditional and nontraditional students. Bye, Pushkar, and Conway (2007) separated their sample into students 21 years and younger (traditional and who were 28 years and older (nontraditional). The method used in the present study to group nontraditional students was similar to Horn (1996), who used the designations minimally, moderately, and highly nontraditional to describe students with increasing nontraditional student characteristics. We included a slightly broader set of characteristics as described by the NCES (2009). A similar method was recently employed by Markle (2015) in a study of nontraditional student persistence. Our primary purpose was to explore relationships between relevant variables and grade point average (GPA) among nontraditional student samples separated beyond age-based groups using the aforementioned nontraditional characteristics (Horn, 1996; NCES, 2009). More specifically, we investigated relationships between multiple nonintellective variables (self-efficacy, motivation, role conflict, learning strategies, and metacognitive processes) and overall academic achievement (operationalized as GPA).

Intellective variables (e.g., IQ, SAT, ACT, high school GPA, A-levels) have been studied extensively and can be understood as measuring intelligence. Substantial disagreement exists as to the effectiveness of these types of variables, with some researchers (e.g., Duckworth, Peterson, Matthews, & Kelly, 2007) arguing that other variables are better indicators of academic achievement. Richardson, Abraham, and Bond (2012) suggest that various nonintellective variables often have moderate-to-strong correlations with overall student GPA. Previous research focused on nontraditional student academic achievement has found nonintellective correlates (e.g., Markle, 2015; Forbus, Newbold, & Mehta, 2011; Bye et al., 2007).
An online survey was used to collect data from 199 undergraduate students at a small Southeastern college. Using a 10-item demographic survey based on the student designations put forward by Horn (1996), four student groups were identified: traditional (operationalized as reporting zero nontraditional traits; \( n=47, M_{\text{age}}=19.62, SD=1.70 \)) minimally nontraditional (one trait; \( n=47, M_{\text{age}}=20.62, SD=1.85 \)) moderately nontraditional (two to three traits; \( n=68, M_{\text{age}}=29.35, SD=10.36 \)), and highly nontraditional (four or more traits; \( n=37, M_{\text{age}}=36.57, SD=9.55 \)). Participants were given the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeache, 1991) to measure use of learning strategies and motivational factors. The MSLQ includes subscales measuring academic self-efficacy, metacognitive processes, and help-seeking behaviors. Role conflict was measured with the Work-Family-School Role Conflict Scale (Olson, 2014). Participants were also asked to complete the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983).

Pearson correlations indicated that, within the traditional student group, no single variable was significantly related to GPA. Among minimally nontraditional students, peer learning and GPA were inversely correlated, \( r=-0.35, p=0.02 \). Self-efficacy correlated with GPA only among moderately nontraditional students, \( r=0.28, p=0.02 \). Management of time and study environment \( (r=0.28, p=0.02) \) and effort regulation \( (r=0.30, p=0.01) \) both correlated with GPA among moderately nontraditional students as well as highly nontraditional students \( (r=0.40, p=0.02; r=0.35, p=0.03) \). Correlational analyses of MSLQ subscales scores were also performed. Across student types, intrinsic motivation was positively related to use of learning strategies at the \( p<0.001 \) level. Help-seeking was positively related to peer learning at the \( p<0.001 \) level across student types.

Using a 2 (use of learning strategies) x 4 (student type) factorial ANOVA, significant interactions between learning strategies and student type were also found. Among students low in use of learning strategies, moderately nontraditional students had significantly lower GPA compared to traditional \( (p=0.007) \) and minimally nontraditional students \( (p=0.004) \). Minimally nontraditional students had significantly lower GPA \( (p=0.02) \) than traditional students among high users of learning strategies. Another significant interaction was observed between perceived stress and role conflict. Regardless of student type, the highest GPA was seen among students with low role conflict and low stress. Low role conflict combined with high perceived stress was related to a significant decrease in GPA \( (p=0.001) \) relative to low perceived stress. No significant differences in GPA \( (p=0.706) \) were found among the high role conflict group across levels of perceived stress.

Results related to GPA were inconsistent with prior results in which student types were identified by age rather than nontraditional characteristics. For example, GPA has been reported to be higher among nontraditional students than traditional students (Tilley, 2014; Newbold, Mehta, & Forbus, 2010; Spitzer, 2000), which was not the case in the present study. In the present study, traditional students had the highest GPA, but minimally nontraditional student status was related to a significant decrease in GPA. As the number of nontraditional characteristics and the mean age of the samples increased
across student type (i.e., moderately and highly nontraditional student groups), GPA increased. These results suggest that, in general, group differences exist in factors relevant to GPA and academic achievement within the population of nontraditional students.

However, results also indicated that this method for separating nontraditional students yields similar results to well-established findings. The interaction between stress and role conflict found in the current study is similar to prior findings suggesting that low perceived stress, low role conflict students tend to have higher GPA (Kausur, 2010). Similarly, the relationship between intrinsic motivation and use of learning strategies is in broad agreement with past research (Pintrich et al., 1990; Ames & Archer, 1988).

Overall, the results of this exploratory study suggest that techniques for separating students by nontraditional characteristics may be warranted in future research. The method used for separating students in the present study required little effort beyond using an age-split sample.

References


Tracing student success: Correlating demographic and behavioral factors with GPA

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Timothy S. Thornberry  
Morehead State University  
Presented at: Southeastern Psychological Association, 2017  
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Abstract
Improving student retention is a primary goal of every post-secondary institution. To this end, it is imperative we understand how specific populations experience college. This understanding allows for the creation of empirically-supported interventions to assist students in completing college. However, little research explores risk factors associated with poor academic outcomes. This cross-sectional survey study analyzed the relationships between demographics (e.g. generational status, socio-economic status), behavioral factors (e.g. perceived social support), and academic success as measured by GPA. Participants from psychology courses and through the Office of Academic Advising completed an online survey assessing demographic and mental health factors. It was hypothesized that demographic factors and mental health would be correlated with GPA. It was also hypothesized that perceived social support would be predictive of variance within GPA and mental health and demographic variables would predict significant variance within GPA. No statistically significant results were found.

Suggested Resource
Tracing Student Success: Correlating Demographic and Behavioral Factors with GPA
Taylor F. Zumwalt  Timothy S. Thornberry
Morehead State University, Department of Psychology

Introduction
- Maximizing the student retention rate of post-secondary institutions is of value to both students and administrators alike.
- Unfortunately, there is little research available exploring factors related to academic success in the college setting.
- Such information has the potential to aid universities in identifying risk factors, assisting students prior to poor academic performance, and providing student services to encourage academic success.

Current Work and Hypothesis:
This study sought to examine demographic and behavioral health factors correlated with poor academic performance.

Hypothesis 1: Students reporting a first-generation status exhibit poorer academic performance than their non-first-generation counterparts.

Hypothesis 2: Poorer academic performance will be inversely related to perceived social support and coping skills.

Methods
Participants and Design
Undergraduate students from Morehead State University were drawn from the university subject pool (n = 205). Students participated in the current study in exchange for credit toward a course research requirement.

Additionally, undergraduate students from Morehead State University were drawn from the university subject pool consisting of students identified as struggling academically via the academic recovery program (n=10). Students are placed into this program due to poor academic standing based upon low cumulative grade point average (CGPA). Students from this academic recovery program participated with the incentive of entry into a drawing for a gift card.

Procedures
After gaining consent, subjects participated in an internet survey that gathered information about mental health and demographic factors included in the survey were a series of scales designed to assess coping skills and perceived social support. In addition, subjects answered questions about GPA and generational status.

Analysis
A chi-square analysis was conducted to compare generational status between those within academic probation and those within the general student population. A separate chi-square analysis was conducted to compare levels of perceived social support between those within academic probation and those within the general student population. Additional chi-square analysis were conducted to compare the use of problem solving as a coping mechanism between those within academic probation and those within the general student population.

Results
A chi-square test was performed and no relationship was found between probationary academic status and perceived social support, X^2 (1, N = 211) = .03, p = .87.

An additional chi-square test was performed and no relationship was found between probationary academic status and the use of problem solving as a coping skill, X^2 (1, N = 211) = .17, p = .68.

An additional chi-square test was performed and no relationship was found between probationary academic status and the use of problem solving as a coping skill, X^2 (1, N = 211) = .07, p = .79.

An additional chi-square test was performed and no relationship was found between probationary academic status and the use of problem solving as a coping skill, X^2 (1, N = 211) = .39, p = .53.

Table 1. Sample Demographics

<table>
<thead>
<tr>
<th>Factor</th>
<th>General Student Pool</th>
<th>Academic Probation Student Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>205</td>
<td>114</td>
</tr>
<tr>
<td>Gender</td>
<td>Male: 51%</td>
<td>Male: 51%</td>
</tr>
<tr>
<td></td>
<td>Female: 49%</td>
<td>Female: 49%</td>
</tr>
<tr>
<td>Age</td>
<td>Mean: 19.4</td>
<td>Mean: 19.3</td>
</tr>
<tr>
<td></td>
<td>African American: 5.9%</td>
<td>African American: 19%</td>
</tr>
<tr>
<td></td>
<td>Alaskan Native or American Indian: 0.5%</td>
<td>Alaskan Native or American Indian: 0%</td>
</tr>
<tr>
<td></td>
<td>Asian: 1%</td>
<td>Asian: 6%</td>
</tr>
<tr>
<td></td>
<td>Hispanic: 3%</td>
<td>Hispanic: 0%</td>
</tr>
<tr>
<td></td>
<td>White: 72%</td>
<td>White: 59%</td>
</tr>
<tr>
<td></td>
<td>Bi-Racial: 1.2%</td>
<td>Bi-Racial: 0%</td>
</tr>
<tr>
<td></td>
<td>Multi-Racial: 4%</td>
<td>Multi-Racial: 0%</td>
</tr>
<tr>
<td></td>
<td>Other: 4%</td>
<td>Other: 6%</td>
</tr>
</tbody>
</table>

Scales and Sample Items
- Ten-item Inventory Social Support Form (SSS-10; Cohen & Wills, 1985)
- Coping Strategies Indicator (Amirkhan, 1990)

Sample Items
Are you a first-generation college student? (Yes/No)
- Do you feel that you have a support network that you can turn to when you need it? (Yes/No)
- How important is it to you to have a support network? (1-5 scale)

Summary and Conclusions
- In this study, populations of academically successful and academically unsuccessful students were compared based upon generational status, levels of perceived social support, and use of coping strategies.

- In regards to Hypothesis 1, we found no significant difference between academic probation status and generational status.

- In regards to Hypothesis 2, we found no significant difference between academic probation status and levels of perceived social support or use of coping strategies.

Potential Limitations:
- Random sampling bias, with an unequal distribution of gender, race, and year in school.
- Uneven sample size and small sample of students with probationary academic status.

- The population of non-probationary students consisted of a majority of first-year freshmen students, while the population of probationary students consisted of a majority of second-year freshmen.

- Our operation definition of first-generation status may be more narrow than necessary, thus excluding some cases of first-generational status.

- The method of internet administration of our survey prevented the monitoring of reporting errors.

- This is a correlational study, therefore, causation cannot be implied.

Future Work
- We would like to expand our subject pool to include a more diverse population.
- We would like to expand the use of the subject pool.
- We would like to study other possible mediating factors such as macro-economic status.

Citations


Study supported by NIH undergraduate research fellowship provided by the Appalachian Health and Research Center Research Seed Fund.
Abstract

Reading is not only necessary in college, it is also a skill that is vital for economic prosperity and social life. Unfortunately, several studies suggested that reading compliance and comprehension are on the decline at an alarming rate (Clump, Bauer, & Bradley, 2004; Sikorski et al., 2002). Attitudes toward reading significantly affect reading compliance and comprehension. Reading attitude is influenced by behavior (success and failures), cognition (self-efficacy) and emotional response (positive feelings and valuing reading) (Isakson, Isakson, Plummer, & Chapman, 2016). Petscher (2010) found a modestly positive relationship between reading attitude and reading achievement.

Another significant factor that highly impacts reading is the use of metacognitive reading strategies. In order to be successful at comprehending reading material, students must engage in metacognitive strategies while reading (Pressley, Ghatala, Woloshyn, & Pirie, 1990). Without metacognitive strategies, students would be unable to monitor comprehension and select strategies. Metacognitive strategies should be used in all phases of reading, including planning, reading, and evaluating.

The current study examined college students’ reading attitudes and metacognitive reading strategies. The following research questions were addressed:
(1) What are college students’ reading attitudes?
(2) What metacognitive reading strategies do students utilize?
(3) What is the relationship between attitude and metacognitive reading strategies?

Method

We collected data from students at two universities: Stephen F. Austin State University and Sul Ross State University. We asked students from these two institutions to complete two surveys: The Survey of Academic Reading Attitudes and the Metacognitive Reading Strategies Questionnaire.

The Survey of Academic Reading Attitudes measures students’ perceived academic reading behaviors, their explanations for success with academic reading and the value they place on
academic reading (Isakson, Isakson, Plummer, & Chapman, 2016). Questions on the survey focused on three components: self-efficacy, positive behavior, and negative behavior. This survey was formatted using a Likert scale with answers ranging from strongly disagree, disagree, neutral, agree, and strongly agree. Scores on the Academic Reading Attitudes Survey range from 10 (negative attitude) to 50 (positive attitude). The questions can be found in the table below.

The Metacognitive Reading Strategies Questionnaire (MRSQ) is an instrument used to determine the frequency at which individuals use metacognitive strategies while they read. The MRSQ consisted of 22 items used in the Taraban, Rynearson, and Kerr (2000) study. This survey was based on a Likert type scale (1= never, 2= rarely, 3 = sometimes, 4 = often, 5 = always). Scoring this survey was accomplished by summing the answers from each item to form one total score for metacognitive reading strategies. Scores on the Metacognitive Reading Strategies Questionnaire range from 22 (never using metacognitive strategies) to 110 (optimal use of metacognitive strategies).

**Results**

Participants from Stephen F. Austin State University (N=141) and Sul Ross State University (N=29) consisted of 82% females and 14% males. There were 33% Latino/Hispanic participants. Participants were classified as 33% freshman, 18% sophomore, 23% junior, and 18% senior. First generation college students consisted of 38%.

The data (see Table 1) suggested that 75% of participants felt comfortable accomplishing a reading assignment efficiency and on time and 63% reported that they could comprehend textbook material. Participants (33%) reported that they welcomed the challenge of a difficult textbook. However, 59% of participants reported that they disliked reading college textbooks and forced themselves to read. This was further confirmed with the finding that 56% of participants reported procrastinating or putting off reading assignments.

**Table 1. Participants’ Reported Reading Attitudes**

<table>
<thead>
<tr>
<th>Survey Prompt</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I receive a college reading assignment, I am able to accomplish the reading efficiency and on time.</td>
<td>23%</td>
<td>52%</td>
<td>12%</td>
<td>6%</td>
<td>1%</td>
</tr>
<tr>
<td>As I approach as college reading assignment, I am confident I will comprehend.</td>
<td>15%</td>
<td>48%</td>
<td>19%</td>
<td>11%</td>
<td>1%</td>
</tr>
<tr>
<td>I usually procrastinate or put off college reading assignments, not wanting to get started.</td>
<td>15%</td>
<td>41%</td>
<td>14%</td>
<td>19%</td>
<td>5%</td>
</tr>
<tr>
<td>I welcome the challenge of a difficult college reading assignment because I feel I can handle it.</td>
<td>7%</td>
<td>26%</td>
<td>35%</td>
<td>32%</td>
<td>10%</td>
</tr>
<tr>
<td>Statement</td>
<td>9%</td>
<td>48%</td>
<td>44%</td>
<td>38%</td>
<td>8%</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------------------------------------</td>
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<td>-----</td>
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<td>----</td>
</tr>
<tr>
<td>I am confident that I will retain and recall the important information in a college reading assignment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I dislike reading my college texts and have to force myself to read them.</td>
<td>16%</td>
<td>43%</td>
<td>16%</td>
<td>18%</td>
<td>3%</td>
</tr>
<tr>
<td>I am confident in my abilities to read for purposes other than college classes, e.g., for pleasure.</td>
<td>31%</td>
<td>35%</td>
<td>16%</td>
<td>12%</td>
<td>1%</td>
</tr>
<tr>
<td>When I am faced with a difficult college reading task, I am able to monitor my understanding and know what to do to facilitate my learning from the text.</td>
<td>10%</td>
<td>55%</td>
<td>23%</td>
<td>7%</td>
<td>1%</td>
</tr>
<tr>
<td>I often read for pleasure in my spare time.</td>
<td>20%</td>
<td>26%</td>
<td>11%</td>
<td>29%</td>
<td>10%</td>
</tr>
<tr>
<td>I can adjust my reading speed to fit the demands of the text and my purpose for reading</td>
<td>16%</td>
<td>45%</td>
<td>12%</td>
<td>17%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Results from the Metacognitive Reading Strategy Questionnaire suggested little to no differences in the use of metacognitive reading strategies among freshman ($M = 68$), sophomore ($M = 67$), junior ($M = 68$), or senior ($M = 68$) level students. There were no differences in the average metacognitive reading strategies and reading attitude scores for Stephen F. Austin State University students ($M = 67.4$, $SD = 8.8$; $M = 19.5$, $SD = 4.8$) and Sul Ross State University participants ($M = 70.1$, $SD = 8.5$; $M = 19.5$, $SD = 4.9$).

Data was also evaluated to determine relationships between metacognitive reading strategies and student reading attitudes. The results suggested that reading attitudes were positively correlated with the frequency of metacognitive reading strategies reported, $r = .238$, $p < .001$. Students who reported positive attitudes toward reading reported using more metacognitive reading strategies. Students who reported procrastinating on reading assignments (negative attitudes) often reported using little to no metacognitive reading strategies. Interestingly, both participants with positive and negative attitudes toward reading did not report engaging in more sophisticated metacognitive reading strategies, such as inferring, evaluating, visualizing, and considering other interpretations.

**Conclusions**

According to this study, attitudes are related to the reported use of metacognitive reading strategies. Prior studies (Isakson, Isakson, Plummer, & Chapman, 2016) suggested that attitudes and reading compliance can be improved by placing more value on the reading process in the college classroom. Culver and Morse (2012) suggested that learning how to effectively use more sophisticated metacognitive reading strategies may improve student’s learning from reading. This, in turn, may result in more positive attitudes toward reading.
References


Introduction

Laptops & Classrooms
- Some educators have promoted tech advances and laptops in classrooms as the next great educational advances.
- Others have shown that laptop use distracts students and leads to lower test scores.
- Students who multitask on a laptop during a lecture scored lower on a test compared to those who did not.
- Some students view laptop use to be an automatic process. These users engage in media behavior with very little mental work.

Self-Control
- Self-control is used to override automatic processes such as distracting laptop use during class.

Hypotheses
- Students who have low self-control (vs. high self-control) will be more likely to get lower grades in classes that allow laptops than those that don’t allow laptops.
- Students with high self-control (vs. low self-control) will be more likely to get higher grades in classes overall.

Method & Procedure

Participants
- Predetermined sample size of 156 students (54 males, 101 females, 1 other; Mage = 30.89) recruited from university participant pool.

Materials
- Laptop Use: Participants answered questions about laptop use for each class in which they are currently enrolled and each class last semester.
- EC: Does the instructor allow laptops in class?
- EC: Percentage of time (out of 100%) that a laptop is used during class.
- Academic Performance: current grade and expected grades in each class for the current and previous semesters.
- Trait Self-Control: extent to which participants endorse behaviors and attitudes indicative of trait self-control.

Procedure
- Participants answered questions about their laptop use, their academic performance, and trait self-control in an 10 minutes online session.
- All participants reported academic performance first, then the order of trait self-control and laptop use measures were counterbalanced.

Results

Overall, people's exam scores were better when they had high self-control than low self-control.
- For classes that do not allow laptops, b = 5.04, Z = 2.32, p = 0.02
- For classes that allow laptops, b = 8.06, Z = 4.44, p < .001
- For people with low self-control, average exam scores in classes that allow laptops are significantly higher than classes that do not allow laptops, b = 10.84, Z = 2.26, p = 0.02
- For people with average self-control, there was no difference in average exam scores for classes that allow laptops vs. those that do not allow laptops, b = 1.09, Z = 1.64, p = 0.10
- For those with high self-control, there was no significant difference in average exam score in classes that allow vs. don't allow laptops, though the trend suggests that they did better in classes that don't allow laptops than those that do allow laptops, b = -8.66, Z = -1.78, p = 0.08

Conclusions
- Contrary to our hypothesis, students with low self-control performed better in classes that allowed laptops than classes that didn't allow laptops.
- We are planning to test if students who have low self-control use their laptops differently during class than students who have high self-control (note taking strategies etc.)

Select References
Section XXX
Writing

1. Tools, Resources and Instructional Strategies to Improve Students’ APA Style Writing

2. Manuscript Builder: The Use of Digital Pedagogical Tool to Teach Research Methods in the Social Sciences

3. From Stacks of Articles to Literature Review: Techniques and Activities to Facilitate First Papers in Psychology

4. Academic Entitlement, Grit, and Students’ Perceptions of the Importance of Writing
Tools, Resources, and Instructional Strategies to Improve Students’ APA Style Writing

B. Jean Mandernach, PhD
Grand Canyon University

ABSTRACT
The purpose of this study was to identify areas of APA formatting that college instructors view as most problematic in student writing. Using a Likert-type survey, the greatest areas of reported concern were problems with documentation, specifically, citations, references and quoting; of lesser concern were various style and formatting errors in student work. Respondents included 135 primarily undergraduate faculty members at institutions where APA style is the required documentation style across disciplines. While the Publication Manual of the American Psychological Association is the definitive source, there are a number of tools, resources and strategies that may facilitate students’ mastery of APA style guidelines. In addition to identifying instructors’ concerns, we offer a number of instructional aids (i.e., teaching strategies, support resources, feedback banks and a sample rubric) to help faculty address the main areas of concern.

INTRODUCTION
College instructors grapple with identifying the most effective strategies to teach students APA format. Seemingly despite numerous resources and even after lessons detailing the nuances of APA, students make frequent and repetitive errors writing in APA style. It is challenging for instructors to both keep up with the changes and revised guidelines of APA style and, more importantly, to identify strategies to effectively teach the format to their students.

The purpose of the current study is to determine what instructors view as the greatest challenges that students have with APA style writing in order to develop effective instructional supplements and strategies to assist students in gaining competence with APA style.

METHODS
Participants included 135 faculty teaching primarily undergraduate courses; respondents teach in both face-to-face and online (33%) modalities and represent a range of academic rank (38% assistant; 18% associate and 8% full professor). At the target institution, APA style is the required writing style for all undergraduate courses regardless of discipline.

Faculty participants were asked to rate the extent to which they saw various APA style errors in their students’ writing using a Likert-type scale (1 = never, 2 = some, 3 = often, 4 = frequently). The list of APA style errors was generated based on a theme analysis of instructor comments on 50 sample papers. Instructor comments were grouped into similar themes resulting in the 17 categories of errors included in the current survey.

RESULTS
Aligned with previous research responses indicate that instructors saw frequent errors in students use and format of in-text citations and direct quotes. These areas, along with format of the reference page and listed sources, were reported as most problematic in student writing. Approximately half (between 43.7 and 52.29%) of instructors surveyed reported that these documentation related areas are the most frequently occurring problems in student submissions. Similarly, the findings of Landrum (2011), while instructors did report inaccuracies in other areas of APA, such as style, tone, use of headings, these areas did not garner the same response as the frequency of documentation issues.

CONCLUSION
At the undergraduate level, spending course time on APA style is valuable. Introducing and explaining APA style as a function of specific assignments is an effective way to get students focused on and accountable to the topic. In addition to direct instruction, providing additional resources for students to use, followed by the use of explanatory feedback and rubrics on assignments to identify common APA errors in submitted work are ways instructors can ensure students are learning and integrating correct APA style in their work.

<table>
<thead>
<tr>
<th>Instructional Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Activities</td>
</tr>
<tr>
<td>• CATS</td>
</tr>
<tr>
<td>• Correct sample APA paper</td>
</tr>
<tr>
<td>• Generate reference list for different sources</td>
</tr>
<tr>
<td>• Peer review of papers with APA style rubric</td>
</tr>
<tr>
<td>• Online scavenger hunt for APA style quiz</td>
</tr>
<tr>
<td>Grading Strategies</td>
</tr>
<tr>
<td>• Sequential draft submission of work</td>
</tr>
<tr>
<td>• Opportunity to earn points for correcting APA style</td>
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<tr>
<td>• Highlight errors but don’t correct</td>
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<tr>
<td>• Detailed rubric</td>
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<tr>
<td>• Feedback information</td>
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<tr>
<td>Teaching Tools</td>
</tr>
<tr>
<td>• Text-expander programs with feedback banks</td>
</tr>
<tr>
<td>• Video or screen cast feedback (or instruction)</td>
</tr>
<tr>
<td>• Reference formats</td>
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</tbody>
</table>
Manuscript Builder: The Use of Digital Pedagogical Tool to Teach Research Methods in the Social Sciences

Teresa M. Ober  
The Graduate Center, CUNY

Biographical sketch of the author:
Teresa Ober is a doctoral student in the Educational Psychology program at the Graduate Center of CUNY. She received a B.A. in Psychology from Cornell University and a M.A. in Cognitive Studies in Education from Teachers College, Columbia University. After completing her undergraduate degree, she worked at a charter school in western New York state. During her master’s training, she worked on several research projects to address issues of learning and instructional design among elementary school students. She is interested in studying cognitive development, including aspects of executive functions, self-regulation, literacy, and language learning.

Abstract

Introduction

The process of writing, particularly writing in a novel subject area, is believed to impose limitations on working memory processes. Kellogg et al. (2001; 2007) proposed a model of writing with respect to the working memory system (Baddeley & Hitch, 1974) which suggests that imposing less load during the initial planning phase of writing may free cognitive resources for later phases of the writing process, including executing and editing/revising. Though writing may be challenging to many students, instruction that incorporates writing activities can be effective for teaching content knowledge and improving general written communicative skills (McCutchon, 2000; Fallahi et al., 2006). However, since research methods and statistics are required by most psychology departments nationwide (Stoloff et al., 2010), many first- and second-year students may be unfamiliar with subject-matter and therefore may require targeted support to achieve degree fulfillment. Therefore, writing instruction that targets both the development of writing and knowledge of research methods and statistics may be multiplicatively beneficial for undergraduate students studying psychology.

The tool, "Manuscript Builder," is designed based on multimedia principles intended to make cognitive resources less burdened (Mayer, 2001). “Manuscript Builder” supports students in the writing process by providing a set of ordered prompts that add structure to students' writing during the planning phase by way of an outline that can be used for further drafting purposes. This evaluation is intended to better understand the efficacy of the tool and its implementation.
Research Questions
The study was designed to address the broad question of whether students’ use of "Manuscript Builder" substantially improves the quality of their writing more than a comparable alternative. The comparable alternative consisted of the general outline afforded by "Manuscript Builder" but in the form of a word processor document rather than online. A control group was also used, in which students were expected to write a report but no outline was provided. The study specifically aimed to understand whether there are significant differences with respect to:
1. The quality of students' reports based on the condition in which students completed them.
2. The quality of students' final reports based on the condition and order in which they were completed.
3. Students’ attitudes towards psychological research methods and statistics before and after the semester.
4. Students’ attitudes towards psychological research methods and statistics following each of the three report submissions.
5. Students’ attitudes towards psychological research methods and statistics across the three conditions.

Research Design and Methodology
The design was fully counterbalanced across three time points and three conditions such that all participants completed each condition at a different time. Participants completed 3 written reports that were expected to conform to the 6th Edition APA Style Guide. The written reports were based on the findings of three different CogLab5 (Francis & Neath, 2015) activities (i.e., Visual Search, Memory Span, Remember-Know) that had been selected according to the content of the course. The written assignments were stripped of identifying information and then coded by a rater trained in using the rubric proposed by Thaler et al. (2009) that closely adheres to current APA guidelines. The rater was unaware of the assigned conditions. Participants completed 4 surveys to document changes in their beliefs towards statistics and psychological research methods before and after each written report was submitted. Responses were provided on a 1-5 scale (1=Strongly Disagree, 5=Strongly Agree) to items on participants’ self-efficacy towards statistics or research methods (“I don’t find it hard to understand concepts related to [statistics/psychological research methods]” and perceived benefit (“I will use [statistics/psychological research methods] in my future career.”).
Results

Participants consisted of 27 students enrolled in an undergraduate psychology course who were recruited during the spring 2017 semester. In total, 23 students consented and submitted all assignments to be considered in the final analysis. A one-way mixed ANOVA with repeated measures on overall score revealed a significant effect of condition, $F(2, 20)=12.87, p<.01$. Pairwise comparisons of the main effect indicate a significant difference between the MB and Control conditions ($p<.05$) and the MB and WP conditions ($p<.05$). No differences were found between the Control and WP conditions ($p=.99$). A two-way 3 (Condition: MB, WP, Control) x 3 (Time: Report 1, Report 2, Report 3) mixed ANOVA with repeated measures on the overall score revealed a main effect of condition, $F(2,20)=8.47, p<0.01$, no main effect of time $F(2,20)=0.86, p=.43$, and marginally significant interaction effect , $F(2,20)=2.68, p=.06$. A t-test comparing the overall attitudes towards psychological research methods at the beginning and end of the semester indicated no significant difference ($t_{3.0}=-2.03, p=.09$). A t-test comparing the overall attitudes towards statistics at the beginning and end of the semester indicated a marginally significant difference ($t_{3.0}=-2.57, p=.05$). A one-way (Time: 1,2,3,4) mixed effects ANOVA with repeated measures revealed a marginally significant difference in attitudes towards psychological RM across time, $F(3,19)=7.44, p=.06$. A similar analysis for attitudes towards statistics revealed a significant difference by time, $F(3,19)=8.22, p=.05$, with Tukey post-hoc comparisons revealing a significant difference between attitudes towards statistics between the third and final report and both the pre-survey and the second report. A one-way mixed ANOVA with repeated measures on the overall score revealed no effect of condition on attitudes towards research methods, $F(2, 20)=3.64, p=.16$. However, an effect of condition on attitudes towards statistics was revealed, $F(2, 20)=7.66, p<.05$. Tukey post-hoc comparisons revealed a significant difference favoring WP over the Control only ($p<.01$).

Discussion

These findings suggest that the use of “Manuscript Builder” may be effective for improving the overall quality of students’ APA-style written research reports compared with an outline in the form a word processor or no outline at all. “Manuscript Builder” aims to fill a need by providing a purpose, text structure and prompts to students as they develop an outline for writing a research report. Through structured planning in the process of writing, students may have the opportunity to practice a working knowledge of statistics by interpreting and describing the results of a research study.
References/Suggested Resources:


From Stacks of Articles to Literature Review: Techniques and Activities to Facilitate First Papers in Psychology

Nancy Davis Johnson & Jenn Q. Goddu
Queens University of Charlotte
Presented at: Southeastern Conference on the Teaching of Psychology
For further information, contact: johnsonn@queens.edu

Abstract
While improved search technologies and databases have allowed them greater access to information, many students report feeling overwhelmed at the thought of organizing and synthesizing information into a coherent literature review (LR) or an introduction to a research paper. We offer multiple options for helping students navigate the steps between information search and LR, utilized in a 200-level information literacy course, a prerequisite for research methods.

Introduction
Like many psychology programs, we found that increased access to information did not necessarily correspond to awareness of how to search, evaluate or write about information. The psychology department at Queens University of Charlotte developed a course, PSY 200 - Information Literacy in Psychology, initially as an elective preparatory course for research methods, later made a prerequisite or co-requisite for our research methods sequence of courses. Objectives for this course include:
• Developing skills for literature searches
• Learning to read research
• Learning APA style for writing
• Writing a 10-page LR (10 articles minimum)

In teaching this course over multiple semesters, we were surprised by the challenges students faced in learning to write scientifically and to develop a review of a small body of literature. As Granello (2001) reported, this task requires a cognitive complexity, and multiple modalities of teaching can help students navigate the steps from literature search to proposal, outline, draft, and final paper. The following activities have been utilized between 2011 and present and were evaluated as helpful by students in Information Literacy.

Techniques and Activities

Active learning activities
(1) Class Yelp

Two versions:
• Select an example of a Yelp review of a local restaurant that students might know (one with a wide range of ratings works well). Gather student thoughts first, then show online information.

• Gather student thoughts on a topic they know or think they know about (polling apps can be useful to generate a visualization of their thoughts). Effective topics in our class have been how to study best for a test; written vs. typed notes; choosing a professor/registering for classes.

For either version: look for trends in the findings; examine reasons for the variability in outcomes; determine what would make one rely more or less heavily on the information; notice what information would still need to be addressed. Have students work together to summarize the findings; then tell them this is very similar to a LR and compare. This task as an opening activity on the first day of a semester can lessen student apprehension and fear about the LR task, framing it as something they do intuitively with conflicting pieces of information.

(2) Sources talking

Provided by Goddu, this exercise provides students with a “piece of information” (a quote or a paraphrase) representing a source. Each student takes her source and walks around the classroom, looking for related pieces of information until students can group into clusters, with each cluster having a meaningful connection or topic across the sources. These “pieces” are taken from an actual article the students have not yet read; more recent classes have used sources from Goddu and McClelland’s (2012) review of causes of plagiarism.

Advantages

• Very active classroom activity; gets even shyest students involved

• Excellent feedback from students: “I finally get what I’m supposed to do with my articles!”

Caveats

• Pre-planning required: cutting and pasting portions of articles and numbering them randomly so the instructor can tell when students have re-created the original article

• Be warned: it can feel chaotic, and students initially seem a bit confused. [The “aha!” moments afterward and the generalizations from this to organizing and writing have made the momentary chaos worth it.]

Visual learning activities

(1) Reading literature reviews
**Advantages**

- Models what a LR should look like
- Nice means of including an additional area of content into a writing course
- Useful for noting (1) structural possibilities for LRs and (2) use of transitions to enhance or weaken the flow of the paper

**Disadvantages/Caveats**

- Has actually raised the anxiety of some students, who find them a high level of expectation. Using student-written versions of short ones early on may help.

**(2) Mapping**

Drawing “clusters” to visualize the common themes across articles to determine how best to organize.

**Advantages**

- Helps students step back from collecting articles to see the big picture (able to see the “forest” instead of just “trees”)
- Allows visualization of material to determine gaps in information.

**(3) Color-coded literature review**

Idea shared by English department colleagues: highlight the text of a LR, using different colors for the author(s)’ narrative voice, paraphrased information, and quotations. This works well with Landrum’s (2008) descriptions of synthesis, helping a student see how his narrative voice leads the reader in evaluating the information and highlighting themes across the studies.

**Advantages**

- Helps readily identify how the author’s voice guides the paper, opening and ending paragraphs and providing a cohesive flow.
- Receives strong support from students as a helpful visual that “made sense” of what their final product should be.

**Tips**

- Works well after the Sources talking exercise to illustrate how the author(s) brought sources together
• Works well alongside a companion list of transitional statements that students can identify

**Verbal learning activities**

(1) **Best and worst lecture**

Have students generate a list of what makes a great lecture vs. a horrible lecture. (Most can identify, so discussion can be animated). Describe the literature review as similar to a lecture class: how could students set up the paper to best “teach” the topic? What transitions/summaries would help the “student” (reader/listener) keep up and see where this is going? Having them generate a list of what made a lecture best or worst to them can lead to issues of organization and flow.

(2) **Telling the story of your paper**

Have students partner with a classmate and simply talk through their topic—what they know so far—before writing a draft.

*Two techniques:*

• Listener takes notes or maps for the speaker
• Listener has to explain the paper back to the speaker

*Advantages*

• Both alert the speaker to gaps or confusing areas of their organization prior to writing; listeners may generalize to his or her own paper
• Low threat situation; may seem like casual conversation

**Written learning activities**

(1) **Self-motivating statement**

A staple of the Rosnow and Rosnow (2011) text, this task pushes students to complete the following questions in preparation for a first draft:

• “I’m going to describe…”
• “I’m going to compare…”
• “I will begin with…”
• “I will emphasize…”
• “I will conclude with…”
(2) Approximating a literature review

Similar to a model by Kucan (2011), students choose a topic and find three to five articles, highlighting major findings and drawing comparisons between them. As Cook and Murowchick (2014) have reported, students transfer LR skills across classes, and this activity generates an early opportunity for that transfer, even if the approximation is not the same topic as their individual papers.

Advantages

• Can work well with small groups, assigning articles for all to read and giving each student major responsibility for one of them. Group determines order and evaluation.

Additional Resources

Video

Listening to someone talk about writing may not sound like a good time to many, but the following videos have received strong positive responses from students:

• Get Lit: The Literature Review – Dr. Candace Hastings at Texas A&M University
  https://www.youtube.com/watch?v=9la5ytz9MmM
  Long (45 minutes): works well breaking into portions, but this find (from our Writing Center) has been helpful for struggling students

• Writing the Literature Review (Part One): Step-by-Step Tutorial for Graduate Students – David Taylor at University of Maryland University College
  Three parts in total; friendly approach with more visual information
  https://www.youtube.com/watch?v=2IUZWZX4OgI

References

Cook, K. E., & Murowchick, E. (2014). Do literature review skills transfer from one course to another? Psychology Learning and Teaching, 13, 3-11.


Academic Entitlement, Grit, and Students’ Perceptions of the Importance of Writing

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Employers consider written communication a fundamental skill necessary for success in the workplace (NACE, 2015). Similarly, psychology educators have positioned effective writing as one of the primary learning goals for undergraduate psychology majors (APA, 2013). Although there is some evidence that students may recognize the importance of writing (Miller & Carducci, 2015), students, like many people, have misconceptions about the strategies that lead to learning (Brown, Roediger, & McDaniel, 2014).

Certain individual differences may relate to students’ preferences regarding the course components that lead to the development of effective written communication skills. Two factors of interest are academic entitlement and grit. Academic entitlement captures the relationship between exerted effort and satisfaction with a particular outcome. Individuals high in academic entitlement believe they deserve more than they have earned regardless of their effort and ability (Miller, 2013). Grit assesses both perseverance of effort and long-term consistent interest in tasks (Duckworth & Quinn, 2009). In the current study, we examined how these two constructs, academic entitlement and grit, related to students’ a) views and preference for courses that include various writing requirements and b) perceptions of the importance of writing skills.

Method
Participants included 370 students (39 Psychology majors) enrolled in 14 sections of introductory psychology at Kennesaw State University (Summer and Fall 2016). Participants were on average 20.20 years old (SD = 4.12). Over half of the sample identified as Caucasian American or White (56%). Participants received one credit toward their course research participation requirement as an incentive.

Students were randomly assigned to read one of three course descriptions. All course descriptions included four quizzes and two exams, but they placed varying emphasis on writing assignments. The paper-plus course included a number of scaffolding activities that build to a significant writing assignment. The paper-only course included a significant writing assignment with detailed instructions but no scaffolding activities. The no-paper course had no significant writing assignment. After reading a course description, students rated their perceptions of learning, enjoyment, and difficulty in the course on a 7-point Likert scale.
Students then read all three course descriptions and indicated which course they preferred. They also rated their perceptions of the importance of writing formal research reports and reviews for employers, faculty, and themselves on a 7-point scale. Finally, students completed an academic entitlement scale (Miller, 2013) that included eight items (e.g., “I am most satisfied in my classes when I have to do as little as possible; α = .75). Additionally, they completed a measure of grit (Duckworth & Quinn, 2009) that included eight items; four items measured consistency of interest (e.g., “I often set a goal but later choose to pursue a different one”) and four items measured perseverance of effort (e.g., “I finish whatever I begin”; α = .84). Responses for both scales were made on a 5-point Likert scale.

Results

First, regarding relationships between academic entitlement, grit, and students’ perceptions of course learning, enjoyment, and difficulty, across all three conditions, academic entitlement was negatively related to students’ perceptions of learning and enjoyment. Grit was positively related to both (see Table 1). Both academic entitlement and grit were unrelated to perceptions of course difficulty.

Table 1. Descriptive statistics and correlations.

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>1</th>
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<tbody>
<tr>
<td>(1) Academic entitlement</td>
<td>2.22 (0.75)</td>
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<td></td>
<td></td>
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<tr>
<td>(2) Grit</td>
<td>3.53 (0.72)</td>
<td>-.44**</td>
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<tr>
<td>(3) Learning</td>
<td>5.35 (1.37)</td>
<td>-.20**</td>
<td>.18**</td>
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<tr>
<td>(4) Enjoyment</td>
<td>4.75 (1.59)</td>
<td>-.15**</td>
<td>.13*</td>
<td>.61**</td>
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<tr>
<td>(5) Difficulty</td>
<td>4.59 (1.24)</td>
<td>-.01</td>
<td>.04</td>
<td>-.02</td>
<td>-.14**</td>
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<tr>
<td>(6) Writing employers</td>
<td>5.28 (1.48)</td>
<td>-.15**</td>
<td>.20**</td>
<td>.11*</td>
<td>.16**</td>
<td>.05</td>
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<tr>
<td>(7) Writing faculty</td>
<td>6.33 (1.06)</td>
<td>-.02</td>
<td>.15**</td>
<td>.09</td>
<td>.08</td>
<td>.19**</td>
<td>.31**</td>
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</tr>
<tr>
<td>(8) Writing students</td>
<td>5.60 (1.53)</td>
<td>-.14*</td>
<td>.18**</td>
<td>.09</td>
<td>.18**</td>
<td>.08</td>
<td>.50**</td>
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</table>

Note. Academic entitlement and grit responses made on a 5-point scale, all other responses made on a 7-point scale. *p ≤ .05, **p ≤ .01

Second, regarding students’ course preference, approximately 70% of students preferred the no-paper course compared to 21% for the paper-plus course, and 9% for the paper-only course, χ² (2, N = 363) = 217.50, p < .001. We also found that students’ academic entitlement scores differed based on their preferences for the three courses, F(2, 332) = 8.26, p < .001, η² = .05. Students who preferred the paper-plus course had lower academic entitlement scores (M = 1.90, SD = .75) than students who preferred the paper-only course (M = 2.30, SD = .73), p = .042, or the no-paper course (M = 2.31, SD = .74), p < .001. Students’ grit scores were unrelated to their preference for the three courses, F(2, 332) = 1.90, p = .121, η² = .01.

Third, regarding students’ perceptions of the importance of writing formal research reports and reviews, students rated the importance of writing differently for employers, faculty, and themselves, F(2, 714) = 87.31, p < .001, η² = .20. Students’ ratings of
importance for employers \( (M = 5.27, SD = 1.48) \) were significantly lower than their ratings of importance for themselves \( (M = 5.60, SD = 1.53) \) or for faculty \( (M = 6.33, SD = 1.07) \), \( ps < .001 \). Students’ importance ratings for themselves were also significantly lower than those for faculty, \( p < .001 \). Furthermore, as shown in Table 1, academic entitlement was negatively related to students’ perceptions of the importance of writing for employers and for themselves, whereas grit was positively related to students’ perceptions of the importance of writing for employers, faculty, and themselves.

**Discussion**

As predicted, students’ academic entitlement was negatively correlated with their grit. Additionally, perceptions of learning and enjoyment were negatively related to academic entitlement but positively related to grit. These results are consistent with the finding that academic entitlement is negatively correlated with schoolwork engagement (Knepp, 2016) and university satisfaction (Miller, 2013) and that grit is related to GPA and level of education achieved (Duckworth & Quinn, 2009).

Additionally, students overwhelmingly preferred the course that did not include a major paper. This preference was unrelated to grit but related to academic entitlement. Specifically, students who preferred the course that included a significant writing assignment with scaffolding had lower academic entitlement than students who preferred the courses with no scaffolding and no writing. Students’ perceptions of the importance of writing seem colored by their sense of entitlement and grit. Findings suggest that students with higher academic entitlement may not think that learning to write well is worth the effort required whereas those with more grit may realize its worth. Based on these results, faculty should consider a) utilizing interventions that reduce academic entitlement and promote grit and b) increasing students’ motivation for writing by clarifying the purpose of written assignments and their connections to learning goals.

**References**


