

Essays from E-xcellence in Teaching

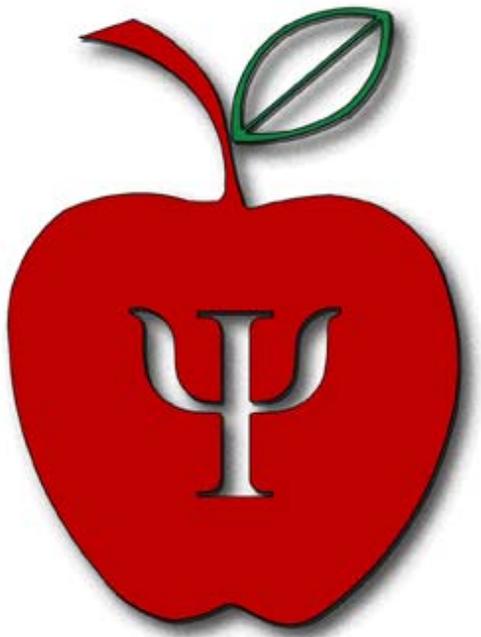
Volume IX

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Edited by

Steven A. Meyers

Jeffrey R. Stowell



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Introduction

The Society for the Teaching of Psychology (STP, Division 2 of the American Psychological Association) launched its Internet electronic discussion list, PsychTeacher™, in late 1998. In the spring of 2000, *E-xcellence in Teaching*, a monthly column devoted to the teaching of psychology, joined the list. The column features monthly essays devoted to teaching at the high school, community college, and university levels in general, and to the teaching of psychology in particular. The essays take the form of lessons learned, advice and hints on particular aspects of teaching, lore regarding teaching, book reviews, and reflections on our roles as teachers of psychology. In general, though, the primary focus of the column is to provide a forum for the discussion and promotion of effective teaching practices.

In Chapter 1, Elizabeth Davies examines social anxiety and narcissism as contributors to students' difficulties in learning psychology. She then suggests several classroom exercises to assist students in overcoming these obstacles, including peer-editing assignments, strategies for providing feedback, and structured role-plays. Because previous research has shown that negative academic emotions, including anxiety and shame, predict poor academic performance and attrition, these strategies have the potential to improve academic outcomes for students and to make teaching more satisfying.

In Chapter 2, Dana Dunn suggests that a compelling argument can be made that students learn research methods best by actually doing research. To develop research opportunities, teachers should first identify their learning goals and outcomes for research methods classes or any classes that rely heavily on methodology or research experiences. Instructors should then decide the nature of the research experience (e.g., replication, original) and subsequently introduce a variety of active learning activities as students execute and report on a research project in psychology.

MySpace, classroom response technology (clickers), and course management systems (Blackboard, WebCT) are useful tools for motivating deeper engagement with course materials, increasing student interest in learning in online and face-to-face courses, and mentoring student researchers. In Chapter 3, Kim Case and Beth Hentges suggest ideas for incorporating clickers into lectures and class discussion, and provide an example of a MySpace project assignment. They also provide suggestions for using WebCT as a tool for teaching students about the research process.

Psychology departments around the country are increasingly emphasizing cross-cultural and international research in classes. In Chapter 4, Drs. Bartolini, Gharib, and Phillips explain how their department has been involved in an international transformation of many of their core courses over the past several years. They describe this process and present three examples of course transformations, including student learning outcomes and assessments.

Motivation theory suggests that students who adopt a mastery orientation to their work will exhibit all the productive learning behaviors that we would love to see and are convinced would work. However, if students don't perceive the learning situation as a safe one, they are more likely to focus on performance. In Chapter 5, Marilla Svinicki offers several strategies for helping students feel safe enough to take risks and try new things, a hallmark of mastery goal orientation.

Recently, a great deal of attention has been focused on the new Generation Y or Millennial generation of learners born between 1981 and 1999. Although there is an abundance of available literature describing the traits of Millennials, little has been published regarding how these characteristics impact the teaching and learning process. In order to better meet the needs of Millennial students, Christy Price explores perceptions of Millennial learners regarding their ideal professors, their learning environments, and the implications for teaching Millennial learners in Chapter 6.

With trillions of Web pages on the Internet, it is a challenge to find useful resources to incorporate into your teaching and your students' learning. It is also a challenge to find meaningful uses for those resources. In Chapter 7, Jon Mueller facilitates this process by recommending some of the most helpful psychology resources available on the Web. He then illustrates how to locate such sites on your own and he describes some effective uses of the Web that faculty are currently employing.

Psychology instructors often find it difficult to present controversial issues to their students. In Chapter 8, Christa Marshall, Danielle Doucette, and Ufuoma Abiola suggest best practices for teaching contentious topics and provide examples for how to prepare and execute a controversial lecture. They discuss ways to develop the first lecture, enhance classroom structure, facilitate group discussion, and implement projects on controversial topics.

Psychology instructors have the opportunity to teach their students how to make a difference through advocacy and activism in ways that are consistent with course material. In Chapter 9, Steven Meyers describes how professors can connect their class content with relevant social problems, explains how students can outreach their elected officials, and highlights strategies for students to participate in social and political action about issues germane to psychology.

Over the past few decades, educators have debated the status of education in the United States, often concluding that the American educational system is in a state of decline. There are several possible reasons for this purported decline, among them the continued use of ineffective teaching methods. In Chapter 10, Bryan Saville suggests that teachers of psychology would do well to follow the lead of those in clinical psychology who have called for the use of evidence-based treatments. Although implementing evidence-based teaching methods can be time-consuming and sometimes complicated, the ultimate effect is likely to be an improvement in student learning.

Survey data demonstrate that many introductory psychology students enter their courses with a host of misconceptions about human and animal behavior. Yet instructors often neglect to address these misconceptions in their teaching, assuming erroneously that accurate knowledge about psychology will drive out inaccurate knowledge. In Chapter 11, Scott Lilienfeld, Steven Jay Lynn, John Ruscio, and Barry Beyerstein argue for a "comparative" approach to the teaching of psychology in which instructors continually compare accurate with inaccurate information and use misconceptions as didactic vehicles for imparting knowledge.

There is no doubt that intentional learning is superior to incidental learning. Instructors who prepare a set of "learning objectives" for their classes do themselves and their students a service. However, in Chapter 12, Josh Gerow posits that learning objectives that guide instruction and define course content seldom reflect the larger, overarching ideas and findings of the discipline of psychology that we really (should) want our students to contemplate,

remember, and carry with them long after our classes are over. He provides several general principles as examples to stimulate instructors to think about what they really want their students to take away from their introductory psychology classes.

This compilation of essays forms Volume IX of *E-xcellence in Teaching*. We thank the authors of these essays for their valuable contributions to the column and to the literature on the teaching of psychology and the scholarship on teaching and learning.

Steven A. Meyers
Roosevelt University
Chicago, Illinois

Jeffrey R. Stowell
Eastern Illinois University
Charleston, Illinois

Chapter 1

Tools for Overcoming Students' Emotional Obstacles to Learning Psychology

Elizabeth W. Davies

University of St. Francis

Narcissism and Learning

Learning inherently jeopardizes self-esteem. To learn, one must admit, even if only retrospectively, that one does not know everything already. For many people (particularly those of us in academia), the joy of learning new things more than compensates for the momentary injury to our grandiosity involved in admitting our ignorance. For some students, however, that calculus does not hold true. The vulnerability inherent in admitting to a teacher, and perhaps more importantly to peers and oneself, that one doesn't already know everything is too risky, painful, or both. Such students may close themselves off from the possibility of learning. This is one factor behind the absences, late papers, and incomplete efforts teachers encounter so often (Baker, 1979).

Students' fears of learning can take many forms, including narcissism. Narcissism among students is increasing in the college classroom (Twenge, 2006). Such narcissism can manifest itself in the form of students who are "often wrong but never in doubt," monopolize class discussion, argue every point on written work, and approach deadlines with an attitude of entitlement. Such narcissism can be distressing to both faculty and other students in the classroom. It can also have serious consequences for the narcissistic student; students' overly optimistic assessment of their own abilities (one particularly visible manifestation of narcissism) has been shown to be an academic risk factor (Ruthig, Perry, Hall, & Hladkyj, 2004).

Students' fear of learning can also manifest itself as social anxiety. Students struggling with feelings of social anxiety may present quite differently from students struggling with narcissism. Socially anxious students often seem quiet to the point of invisibility, and reluctant to question what is said. Instead of dominating the classroom, they often fail to be active participants in the class, even when assigned to small groups. While socially anxious and narcissistic students may on the surface seem very different from each other, underlying both of these presentations is a fundamentally similar response to the task of learning: a fear of exposing one's self and being found wanting, a defense against shame (Kohut, 1978). Previous research has shown that shame has a negative impact on academic achievement (Pekrun, Goetz, Titz, & Perry, 2002); both shame and anxiety have been associated with poor academic performance and attrition.

Exercises to Mitigate Students' Shame in the Classroom

How can one mitigate the effects of shame and other so-called “negative academic emotions” in the classroom? In the remainder of this chapter, I describe in-class exercises that evolved in an effort to address students’ narcissism and social anxiety in the classroom. The first involves a peer-editing exercise designed to reduce shame, enhance writing skills, as well as improve collaboration among students. The second involves techniques for engaging students in role plays, an activity that initially terrified students; however, it became one the students’ favorite activities with careful classroom preparation.

Peer-Editing Groups

One strategy for minimizing student shame is forming peer-editing circles (see Mayo, 2006). I assigned students to writing groups comprised of three or four students, mixing students based on intellect and writing ability. Before students submitted papers to me, they exchanged drafts of their paper with the members of their writing group. Each member was required to give each other member of the group extensive written feedback on the paper draft, consisting of at least three marginal comments per page and a summary paragraph. Students were encouraged to focus on substantive areas of development for the paper rather than correcting typographical errors, and to focus on areas of weakness or unclearness in the paper as well as areas of strength. Students met during class time to give each other verbal feedback and submitted copies of their comments on each paper to me. Students then incorporated the changes suggested by their peers, and submitted their next draft to me. Students were assigned separate grades for their comments on each paper and for their own paper. The grade they received on their own paper was based in part on how thoroughly they grappled with the issues raised by others. Their peer editing work comprised 5 percent of their course grade.

This exercise has several benefits. First, it vastly increases the quality of the papers I read; I read second drafts, rather than first drafts! Second, and more importantly, the students generally do a magnificent job giving each other feedback. In many instances, students experience their paper being corrected in a collegial manner by a peer, rather than experiencing shame when they receive what one student termed “a war zone of red ink” in the form of my comments. Third, the same point or query is often raised by multiple students in an editing group, which makes it easier for the student to accept that the problem is with the paper rather than the reader. Peer-editing groups thus help to minimize defensive responses to the narcissistic injury of having one’s work edited. Finally, peer-editing groups model the sort of collegial consultation process that we hope to foster among students who undertake clinical work and permit vicarious learning from other students’ mistakes.

While some students, as expected, expressed anxiety about sharing their work with their peers, I discussed the courage required to share one’s work with one’s colleagues when I assigned students to groups. Several students reported both verbally to me and on course evaluations that the peer-editing exercise had been one of the most valuable parts of the course for them. Two students separately mentioned that they had also suggested to other faculty members that they incorporate similar peer-editing tasks into their courses.

Modifications to Feedback

I also modified the written feedback I gave students on their assignments, with the goal of reducing my contributions to student shame. I recognized that I needed to temper my grandiosity and narcissism as well; I needed to give up my fantasy that I could teach each student everything he or she needed to know about everything in a single semester! I therefore stopped turning back papers that were seas of red ink, and instead tried to think about the one thing I wanted this particular student to learn. I then limited my comments primarily to that issue. Someone else could correct the spelling, the grammar, the punctuation, the organization, or the grasp on psychological theory; for today, I would focus on how to use evidence to support a point, for example. My hope was that if I did so, perhaps what I wanted the student to learn would be heard instead of being lost in the tidal wave of shame I had generated in the student. In addition, I made a point of trying to follow the golden ratio of five pieces of positive feedback for every one negative comment. I also tried to make the positive feedback as genuine and specific as the negative. Instead of writing, "I can see that you put a lot of work into this paper," I wrote comments such as, "I really like your point that adolescent refugees may choose to wear traditional clothing in their new countries to preserve their identity, even though it makes them vulnerable to peer harassment." Then I resisted the temptation to add, "You could develop this point further by exploring...". I did not become an easier grader; rather, I became more focused in my feedback to students explaining the grade they received.

Role Plays

Students' shame frequently appears to be most acute when they are asked to speak in class. The deafening silence that at times greets questions asked by faculty is enough to generate embarrassment for all involved. In an effort to break through this in a counseling and psychotherapy course, I assigned one pair of students each week to perform a role play in which one student was the "client" and one the "counselor." The client played a distressed person according to the general outlines of the disorder and life circumstances that I provided to the student, and the counselor responded using interventions consistent with the theory to which he or she was assigned. Of note, students received the assignment in class moments before they were to perform and no one knew who would role play each week. While this increased anxiety in certain respects, it also minimized the amount of preparation students could do in advance, which students reported liking. In addition, it also increased attendance and provided an incentive for students to complete the reading prior to coming to class!

Most importantly, however, after engaging in a role play, students seemed to feel much freer to contribute to class discussion; the very act of pretending to speak their minds in front of the class seemed to free them to speak their minds in class. In so doing, students appeared to begin to think more flexibly and creatively. Perhaps they discovered by ad-libbing that shame does not inevitably result from publicly admitting uncertainty, and so they became more willing to experiment with ideas about which they were not yet certain.

Conclusion

Taken together, my hope is that these exercises may have altered academic outcomes for some students; they certainly made teaching more satisfying. They appeared to reduce some of the defensiveness, some of the arrogance and social anxiety, in the classroom. They also increased my admiration for these students who present themselves to us with a desire to learn. The courage required to engage in learning is immense. It's a daunting task, to admit one's ignorance to another, and trust that one will not be shamed. I developed the above exercises out of a deep respect for these risks that we ask our students to take everyday. It is my hope and experience that these exercises make the dangers of admitting ignorance less frightening and the rewards of learning more enjoyable.

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Note

A version of this chapter was originally presented at the Associated Colleges of the Chicago Area (ACCA) Fall Symposium on the Scholarship of Pedagogy at Lewis University on October 18, 2008.

Chapter 2

Teaching by Doing: Making Research Methods Active and Engaging

Dana S. Dunn

Moravian College

Identify Curricular Goals for Active Learning

“. . . the fundamental goal of education in psychology, from which all others follow, is to teach students to think as scientists about behavior.”

-- Brewer et al. (1993, p. 169)

My main goal in this chapter is to provide a framework for teaching research methods by promoting a variety of active learning activities. The first step towards making research methods courses active and engaging is to determine your curricular goals as an instructor. For example, will you use your methods course as an opportunity to teach critical thinking (e.g., Saville, Zinn, Lawrence, Barron, & Andre, 2008)? What role will writing play in your class? Data analyses and library research require familiarity with information technology, thus, will skill development using software packages and databases, respectively, be an important consideration in your teaching?

Reviews of the psychology curriculum indicate that emphasis must be placed on teaching psychology as a science that uses appropriate methods and techniques for explaining all types of behavior (e.g., Brewer et al., 1993; Dunn et al., in press). The American Psychological Association's (APA) Learning Goals for the Psychology Major emphasize this important point as well (Halonen et al., 2002a, b; see also, APA 2007, 2008; Halonen et al., 2003). Instructors may want to use these goals toward crafting course goal statements for their research methods syllabi. Moreover, using learning goals are also good indicators of program quality (Dunn, McCarthy, Baker, Halonen, & Hill, 2007).

What Sort of Study Should Students Conduct?

Once learning goals are established, the next decision involves deciding what sorts of research projects students should be encouraged to conduct. Should their studies be replications of familiar or famous experiments? Should they generate their own project ideas? As we will see, there are good and bad points to each type of study.

“Canned” studies

Canned studies (i.e., those demonstrating well-established and replicable findings) are an attractive option because they usually always “work.” Students are delighted to confirm a hypothesis even when it is based on a well-established paradigm like the Stroop task, for example. A variety of reliable and familiar experiments are available at the American Psychological Association’s (APA) Online Psychology Laboratory: www.opl.apa.org/Main.aspx. For many canned studies, new variables can be added to the mix without great difficulty. Furthermore, a class can collect a large amount of data together, do the analyses, and draft the Method section together, whereas everything else can be done by students individually.

As known quantities, canned studies are usually pass muster with Internal Review Boards (IRBs). Any risks are usually known or minimal. Doing the study term after term helps the instructor get the “bugs” out of the procedure, too.

The disadvantage of canned studies is that they are not very creative. Students have little say as far as design issues are concerned. Saville (2008), for example, points out that students may not get a serious opportunity to actively apply what they have learned in their methods class when conducting a canned study. Still, canned studies are superior to role-play exercises, but there are few surprises where results are concerned. And, for instructors, reading 30 or more papers on the same topic can be a tiresome grading task.

Student generated studies

The chief advantage of student-generated studies is the opportunity for them to gain insight into the research process. There is no substitute for hands-on experience. Students can conceive their own project and work solo or in pairs or teams. Such autonomy promotes interest and enhances learning. A diverse set of topics is also more interesting for instructors to both read and grade as far as papers are concerned.

There are several challenges to student-generated projects, however. The chief problem is time: These studies take a lot more time than their canned counterparts. Students’ lack of experience with psychological research factors in here as well. Gaining permission to conduct novel studies from a campus IRB can take considerable time (whereas canned studies typically gain approval much faster). IRB problems become more likely if students want to work with special populations (e.g., children). Finally, writing an APA-style paper based on a novel study takes more time if only because there may be few or no peers involved.

An alternative resolution

Ideally, students will learn more about research methods if they can conduct both a canned and a self-generated project in the course of a semester. The former provides a common and structured experience, whereas the latter allows for creativity and a higher level of intellectual engagement. To save time and resources, instructors may want to run the canned study as a class effort. The student generated projects can be done by individuals, pairs, or small groups.

A third alternative is what I call a “hybrid” approach, where the entire class conceives of a novel project but conducts and shares the data together. The project’s Method can be shared among all the students, who still write and submit individual APA-style research reports. One of my classes recently did a project using unobtrusive measures and political attitudes (Dunn, Baker, Domedion, & Odenwelder, 2008). We turn now to the stages of a research project, each of which will have opportunities for active learning.

Some Active Learning Activities for the Stages of a Project

I believe students work more efficiently when they have an organizing framework for their research activities. I present project activities within each of the following five phases of project development: idea stage, implementation stage, analysis and interpretation stage, writing stage, and presentation stage. A variety of additional active learning strategies for steps involved in research methods projects may be found in Dunn (2008, 2009, in press); Dunn, Smith, and Beins (2007); and Saville (2008).

Idea stage

A great way for students to begin to think about the research process is by having them keep a *research idea notebook* wherein they record observations, topic ideas, interesting facts from class, and so on. Entries in this notebook can be used to refine project topics or research design.

Another activity for this first stage is using *brainstorming* activities (either solo or group-based) to develop a research topic, which is later refined into a hypothesis and methodology. Guidelines for brainstorming activities can be found in Hayes (1981) and Dunn (2009, in press).

Implementation stage

The second stage involves organizational matters and data collection. Typical active learning activities here include completing an IRB form, creating an informed consent form, and writing operational definitions for the study’s hypothesis and independent and dependent variables.

Having students prepare a peer research contract (for group work) and a student-faculty research contract (outlining the respective duties of student researchers and the instructor) encourages them to think through procedural details and responsibilities while instilling ownership of the project. Both contracts motivate students to be accountable toward making the research effort a learning experience. Readers can contact me for suggested guidelines for creating these contracts (see also Dunn, in press).

More mundane but essential activities in this stage include recruiting participants, administering extra credit, tracking data by experimental condition, writing an experimental script and a debriefing protocol, pilot testing the study, and actual data collection (e.g., Dunn, 2009, in press).

Analysis and interpretation stage

The key activity here is matching statistics to research methods so that analyses are planned in advance of actual data collection. Instructors should review basic statistical analyses and remind students which test is appropriate for what sort of data (e.g., the independent groups t-test is used to compare two means based on simple two group experiment). I find using flow charts or decision trees to link particular tests to appropriate data works well (see Dunn, 2008, 2009, in press). Students need to develop an analysis plan so that they select the appropriate statistical test(s). Once the data are analyzed, students need to write up the findings in prose form while properly using statistical symbols and numbers, as well as describe the contents of any tables or figures they create.

Writing stage

In this stage, students focus on outlining, drafting, writing, and revising their work in addition to learning APA-style. Unlike many instructors, I encourage my students to write the Method section first (which can be done back in the Implementation stage), then the Results (in the Analysis and Interpretation Stage), then the introduction, Discussion, and Abstract. This non-linear approach to teaching APA-style can help students craft more focused papers (Dunn, 2008).

To improve the quality of student writing and mimic the journal review process, I hold one or two writing workshops before students submit their final APA-style papers. Students bring multiple copies of their rough drafts, which are then distributed to other members of the class and to me. Everyone reads one another's papers, writes comments on them, and then provides verbal feedback. These workshops help students to learn how to give and receive feedback on writing (e.g., Dunn, 2008). Other ideas on teaching writing in psychology can be found in Dunn and Smith (2008) and Beins, Smith, and Dunn (in press).

Presentation stage

Two activities fit this final stage: Creating a poster based on an APA-style paper and giving a talk. Having students create posters is a great way for them to learn to edit their writing by turning a lengthy, detailed research report into a pithy summary. Similarly, writing a talk is a good way for students to learn to simplify complex ideas from a project and paper into a 15-minute oral presentation. Teaching them to judiciously use visual aids (e.g., PowerPoint) is a good idea as well. Ideas for both activities may be found in Dunn (2008).

Conclusions

Opportunities for active learning abound in research methods. Instructors need to provide an organizing framework and on-going guidance for students as they undertake what for many may be their only research experience in psychology. The skills students acquire by actively learning research methodology will serve them well in other courses in the psychology major, as well as in graduate school or any number of careers. And, in any case, learning by working

with and through course concepts is a much more interesting way to learn than passively sitting through topical lectures.

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Note

Portions of this article were presented at the 31st Annual National Institute on the Teaching of Psychology (NIToP), January 2009, St. Petersburg, FL. A handout containing sample directions for several of the active learning activities highlighted in this article may be obtained by emailing the author.

Motivating Student Engagement with MySpace, Clickers, and Web-Enhanced Research Labs

Kim Case and Beth Hentges

University of Houston-Clear Lake

As society becomes increasingly dependent on technology, many students are more comfortable in online environments than in traditional face-to-face lecture classes. While the struggle to maintain student interest is far from novel, technology dependence adds a new wrinkle. The old adage, "if you can't beat them, join them" seems particularly apt here. College instructors can use technology, with which students are so comfortable and familiar, to engage students in the learning process. This chapter focuses on three distinct ways in which technology can be used to increase student engagement. MySpace, classroom response technology (clickers), and course management systems (e.g., Blackboard, WebCT) are useful tools for motivating deeper engagement with course materials, increasing student interest in learning in online and face-to-face courses, and mentoring student researchers.

MySpace Assignment: Enhancing Learning in and beyond the Classroom

As students spend more time communicating through social networking forums such as FaceBook and MySpace, instructors are beginning to consider the pedagogical possibilities (Aragon, 2007; Gainer, 2008). Social networking websites offer teaching tools for increasing student interest and involvement with course materials. Given that such sites are structured for social connection, they offer students opportunities to expand the classroom and share their learning experiences. Rather than restricting students to presenting their findings in a final paper to the instructor, online MySpace presentations allow students to educate each other and encourage knowledge sharing with those outside our classroom.

In my online Psychology of Women course, for example, students utilized MySpace to present their critiques of social constructions of gender in various forms of media. However, many course paper or presentation assignments can be transformed into a MySpace project using this model. The assignment required students to: (a) conduct their media research, (b) create the MySpace website to present their findings, (c) visit their classmates' projects in MySpace, (d) use the comment function to provide feedback to at least 4 other students, (e) add at least 10 classmates' projects as "friends" so that all projects were linked in MySpace, and (f) write a three page reflective chapter on the project and how they shared their findings with others.

Student projects commonly included imbedded videos from <http://www.youtube.com> as examples of music videos, TV Commercials, and cartoons with gender stereotypes. Students may also use this presentation forum to provide links to other relevant educational websites.

The blog function within MySpace was typically used to provide the majority of the written content; they divided it into longer summaries of their findings and provided deeper analyses. Students linked their MySpace pages to the majority of their classmates' projects. Some students also chose to link their MySpace page with friends who were not enrolled in our class, which allowed them to share their learning with others. Although students were required to directly comment on 4 student projects, they actually commented on up to 20 other student MySpace pages. In addition, each student received 5 to 20 comments on their own project. These comments lead to further discussion of media images and how they impact our psychology.

Student survey responses indicated that creating the MySpace project, viewing classmates' pages, and receiving comments from others helped them learn course concepts. Several students indicated plans to not only keep their MySpace Project pages once the course ended, but that they would also continue updating the project. To assist with the implementation of this project, faculty members may choose to: (a) have a teaching assistant to help answer practical and technical questions about creating the page; (b) provide students with tutorials addressing how to get started, embed videos, and add images to the page; (c) format this assignment as a group project to reduce students' anxiety; or (d) provide students with access to a prototype MySpace project page that includes ideas about how to present their findings. The prototype used for this course is available at <http://www.myspace.com/casemediaproject>.

Increasing Attendance and Attention with Classroom Response Technology

Increasing student participation and classroom attendance is an important academic goal. One way to increase attendance and encourage student engagement during lectures is to use classroom response technology, or clickers (Cleary, 2008; Poirier & Feldman, 2007). Clicker technology allows students to respond to questions presented on the projector by using individual remotes. Each student response is individually recorded. The student responses can be viewed immediately, providing feedback on student comprehension of the material. Students' performance can also be saved to award performance points. Clickers may not only improve classroom attendance and participation, but may also increase student engagement and learning (Morling, McAuliffe, Cohen, & DiLorenzo, 2008).

Clickers can be utilized to deliver weekly quizzes, affording advantages to both the student and instructor. Weekly quizzes generally encourage reading assigned material and reward classroom attendance. In contrast to traditional paper and pencil quizzes that are administered at the beginning or end of class, clicker technology allows the instructor to embed questions directly into a PowerPoint presentation, thereby seamlessly integrating the quiz with the lecture material. Distributing quiz questions throughout the lecture allows the instructor to (a) test students' knowledge of reading material, (b) immediately discuss the information addressed by the quiz question, and (c) test student engagement in the lecture by asking questions pertaining to the lecture material. Additionally, clicker quizzes engage the student directly with the lecture and reward attention by distributing performance points throughout the lecture. Thus, if a student "drifts off" or leaves class early, they receive fewer points on the

quiz. This contrasts with traditional quizzes in which all points are awarded at once or tests in which the feedback is delayed.

Students are generally positive about clicker quizzes, which can be adapted to any kind of course content. They like the new “toy,” and after some initial confusion they adapt readily to using it in every class. Students particularly appreciate the direct connection between the quiz questions and the lecture, and the chance to discuss each question immediately after delivery. Additionally, classroom attendance and overall grades are higher in classes using clicker quizzes compared to classes with traditional paper and pencil quizzes.

Mentoring Student Researchers in a Web-Enhanced Learning Environment

Most universities provide course management systems (such as Blackboard, WebCT, or Sakai) to instructors for both web-enhanced and online courses. A recent study by Elicker, O’Malley, and Williams (2008) suggests these interactive online sites aid student learning. However, faculty can also imagine and design new spaces within these online systems for teaching and learning that occurs outside their courses. In order to enhance student engagement in research, I (Kim) developed a WebCT space for my research assistants to facilitate ongoing communication about our various studies. The students participate in continuous online discussions about journal articles, the internal review process, study design and methodology, data collection problems and solutions, and more. This online laboratory provides a central location for not only the calendar for data collection, but also document sharing and editing of surveys and conference posters, for example.

I had four major goals in mind when I originally designed this online space for research assistants. I wanted to: reduce group meetings to save time, provide students with plenty of information and resources, create a space for continuous open communication that the research requires, and establish a community of learners that engage with one another at each stage of the research process. By moving the majority of resources and communication online, we reduced our weekly face-to-face meetings to every two weeks. One student noted that this format “allows us to be in contact so much faster” than when we meet only once per week. During the weeks we do not meet, each student posts an online summary of the research they completed and asks questions for group feedback.

Student researchers gain immediate and unlimited access to rich resources they need throughout a particular study. For example, students may find journal articles along with article summaries written by previous research assistants as well as guides and external links about APA style. Of course, this WebCT site houses practical resources, such as the data collection schedule and copy codes, but also offers professional development via links to associations and tips for applying to graduate school. Students appreciated having “outside links, documents, and our calendar all available 24-7.” Although each student may not directly engage in each step of the research project during a given semester, they may freely access previous conference presentations, publications, and grants produced by our lab.

Communication among the student researchers increased dramatically due to our WebCT research site. As the research leader, I regularly post announcements regarding procedural changes, reminders, and notices such as conference submission deadlines. The discussion

board function provides the central location for student collaborations on creating posters, decision-making about study design, coordinating conference travel, and even grant writing.

As one student noted, “communication is the key to success in these complex research studies and WebCT allows for complete communication between all of us.” The site also regularly serves as a space for students to brainstorm together if one encounters an obstacle. For example, when a participant failed to follow the instructions provided, the research assistant posted the problem on WebCT as a discussion thread. Within 24 hours, several students responded with ideas about how to handle the situation if it happens again. This online environment supported the development of a community of researchers by enhancing learning through discussions, encouraging group problem-solving, and creating a space for veteran student researchers to train new researchers.

Student engagement in the research lab increased after the implementation of our online lab space. Research assistants’ attendance rates at physical meetings and online (asynchronous) meetings have been much better. Their increased participation and communication includes daily discussion board contributions, questions, and feedback to each other. In addition, the students completed more tasks on time. This may be due to the public online announcement of each individual’s duties, creating an increased sense of responsibility to their peers.

Conclusion

Engaging students in the classroom is a long-standing problem for professors. Engaged students are more likely to attend class, pay attention to lectures, participate in discussion, and carry their learning outside the classroom setting. In an increasingly “plugged-in” society, maintaining student participation may prove even more difficult. However, instructor can co-opt technology in ways that maintain and increase student engagement. MySpace, Clickers, and Web-Enhanced Research Labs are three ways to incorporate technology with instruction such that the technology enhances student learning, rather than sacrificing learning in favor of the technology.

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Chapter 4

Internationalizing Psychology Courses

LeeAnn Bartolini, Afshin Gharib, and William Phillips

Dominican University of California

Many academic departments have engaged in diversity transformation projects over the last decade. These endeavors generally focused on increasing faculty and student awareness of underrepresented groups and multicultural issues within the United States (Goldstein, 1995; 2005). Similarly, textbook authors have been broadening the scope of research included in standard psychology textbooks to include diversity perspectives.

Our university has been involved in an effort to increase diversity-focused student learning outcome (SLO) goals across the curriculum. This diversity transformation process has provided us with an opportunity to look at various cultural groups within the United States and to incorporate cross-cultural information into our classes. After concluding this examination, faculty in our department were concerned that students continued to receive a very Amerocentric view of psychology as a discipline. For example, the majority of research incorporated into textbooks and readings is carried out at American institutions. Many of us had taught and conducted research abroad and were interested in how psychology was studied and understood globally (Sexton & Hogan, 1992).

To simplify, we define "international" as research in countries other than the United States, focusing on non-American populations. "Cross-cultural," on the other hand, is a broader term that may include research participants from different cultural groups within the United States or comparing across cultures. We felt an international perspective would be important to incorporate into our classes due to a number of factors, including: globalization, increasing ease of international communication, increasing interest in psychology internationally, the growth of international organizations in psychology, and increasing opportunities for students to work and study internationally. While courses on International Psychology have been developed in the United States, we were interested in how to begin infusing internationalism throughout our curriculum (Stevens & Wedding, 2004). Here we will be summarizing our efforts (cf. Bartolini, Gharib, & Phillips, 2009) and include several examples which others may find useful in the process of internationalizing their own courses.

In particular, this chapter addresses the process of developing international SLOs. Faculty selected courses in their area of interest to transform by adding international SLOs and incorporating assessable assignments. We include three examples of SLOs and assignments that will hopefully stimulate faculty thinking at other institutions. Other examples can be found in Bartolini et al (2009).

Psychology of Learning

Learning is an upper level elective open to students from all majors. The course examines the role of learning and conditioning in behavior and behavioral change. The topic of learning and learning theory is one that is rarely addressed in an international context. In order to internationalize the course, a new assignment was added to raise student awareness of how the principles of learning and conditioning can be applied internationally.

Students in undergraduate courses on learning often have a hard time considering the real world applications of the abstract principles of learning. Around the world, a variety of social and health problems are related to human behavior and may be modified by the sort of concepts that are covered in this course. In order to emphasize this idea, an additional SLO was developed for this course and added to the syllabus: Students shall demonstrate an understanding of how principles of learning can be applied in the international arena to solve real world problems.

The aim of this SLO was to encourage students to both consider the real world applications of ideas from the course, and to apply those ideas to develop potential solutions for problems around the world. This new SLO is assessed through a new paper assignment. Each student in class is assigned a social or health problem that is specific to a particular geographic area or cultural group, and is related in a significant way to cultural and behavioral practices. Examples include the problem of population explosion in rural sub-Saharan Africa. This is caused in part by the traditional rules of inheritance whereby large family farms are passed from one generation to the next without being subdivided, which leads to pressure for large families with enough individuals to run the farm. Other examples include the spread of STDs among sex workers in India and Thailand, the spread of AIDS along trucking routes in Africa, the spread of drug resistant tuberculosis in Russia, and environmental degradation caused by mining and farming in the Amazon and elsewhere. In each of these cases, there are powerful cultural incentives that reinforce the problem behavior as well as punishments for attempting to change behavior. Students research the nature and scope of the problem and the underlying behaviors that perpetuate the problem. Students then propose culturally appropriate behavior modification methods (i.e., appropriate reinforcers or conditioning methods) that may result in a change in behavior and present their findings in a paper. Throughout the course, instructors can provide examples of culturally specific reinforcers and punishers and other applications of learning principles as models for the students to follow. As part of fulfilling the international SLO for this class, students report on the cultural factors that make controlling the spread of HIV infections in sub-Saharan Africa challenging and suggest reinforcers that may be effective (e.g., culture specific incentives for increasing safe sex practices).

Abnormal Psychology

The topic of psychopathology is one that can be addressed in an international context, and some American textbooks have attempted to incorporate international variances. We developed new international SLOs to increase student familiarity with international issues in abnormal psychology.

Mental illness is viewed in different ways in different countries, and it is valuable for students to get a sense of how a western diagnosis they become familiar with in an Abnormal Psychology course in the United States may be looked at differently in another part of the world. An additional SLO was developed and added to the Abnormal Psychology syllabus: Students will demonstrate an ability to research and comprehend current mental illness treatment from a variety of sources (Internet, Library, Bookstore, PsychInfo) and apply this knowledge to a specific disorder and to understand this disorder and its treatment in the context of another country.

This SLO was assessed in a final research paper assignment in which we asked students the following questions: (1) How is your specific mental illness written about in other countries? Find three articles, from three different international psychology journals, to summarize in your paper; and (2) Focusing on one country, how would your mental illness be diagnosed and treated in that country? What is the prevalence rate of your mental illness in that country?

Cognitive Psychology

Internationalization of a cognitive psychology course can take two routes: Reviewing research conducted in other countries or examining how culture affects various cognitive processes. The following is an example of the latter.

A number of cognitive processes that are covered in a standard course on cognition have been found to be influenced by culture. In order to introduce students to the way culture can impact cognition, a new SLO was developed and added to the Syllabus for this course: Students will gain increased understanding for how culture affects cognitive processing, as well as the kind of cognitive research that is taking place in other countries.

To assess this SLO, we ask students to find an article that pertains to cognitive research that is taking place in another country or that focuses on other cultures. Students present this information to the class so that all may be exposed to different examples of internationalization. To aid students in this project, we identify and place several sources on reserve at the library (e.g., Eysenck, 1990). For example, one classroom exercise illustrated Flaherty's (2005) demonstration of differences in articulatory suppression in speakers of different languages. A finding from studies on memory span have revealed that the number of syllables in words to be recalled influences the number of items that can be recalled from short-term memory. Native speakers of languages where the digits are multi-syllabic (e.g., Tagalog, Korean, Hebrew, and Spanish, to name a few) will on average recall fewer items on a digit span task.

Conclusion

We have begun incorporating these international SLOs into our curriculum and student feedback has been positive. One effect has been increased discussion of international issues in the classroom. We will be continuing this process of including international SLOs in other courses. We are also expanding our international efforts by producing a study abroad in psychology link for our departmental website to encourage international experiences for our students.

We began this process of internationalizing our courses by brainstorming as a department and generating ideas for new SLOs and assessments collectively. Along the way, we had to clarify for ourselves what internationalizing a curriculum would mean for our department. Each of us then considered how to incorporate some of the ideas we had generated as a group into our individual classes. Faculty from other departments may benefit from a similar process of brainstorming and discussion, followed by a consideration of how international perspectives could be incorporated into individual courses.

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Chapter 5

Fostering a Mastery Goal Orientation in the Classroom

Marilla D. Svinicki

The University of Texas at Austin

Raise your hand if you have ever had a student ask you one of these questions: "Will that be on the test?;" "Is there anything I can do for extra credit? I have to have an A in this class!;" or "Could you just tell me what you want?" Have you ever wished that all your students would ask this question instead: "Could you help me understand this better?"

I have yet to meet an instructor who can't identify with either of those situations. As teachers, we would like our students to work for the sake of learning, not for the sake of a grade. Translated into more psychological terms, we wish our students would adopt a mastery goal orientation toward the class rather than a performance goal orientation. The theories and research on achievement goal orientation toward motivation have been very prolific (Elliott & Dweck, 2005), and point out the advantages of having students adopt a mastery goal orientation toward their learning, just as we instructors would have them do. Mastery goals focus students' attention on achievement based on intrapersonal standards of learning; performance goals focus on achievement based on normative or comparative standards of performing. Colloquially we often think of this as being learning-oriented as opposed to grade-oriented (Eison, 1982).

When students adopt mastery-oriented goals, they engage in more effective learning strategies, such as learning from their mistakes, changing strategies that don't work, and seeking help when necessary. They also are more intrinsically motivated, the gold standard of motivation. Performance goals lead to a focus on the outcome rather than the process of learning, such as achieving success by any means, avoiding the appearance of incompetence, and being more susceptible to extrinsic sources of motivation (Elliott & Dweck, 2005; Harackiewicz et al., 2002). Since most instructors are focused on helping students learn, we'd rather work with those students who are similar.

When we examine the characteristics of mastery-oriented learners, one quality that seems to stand out is their willingness to take risks and learn from their mistakes. They appear to be confident that nothing bad will happen to them when they fail. They feel that their classroom is a safe place, where they are supported when they stumble and assisted when they try. If this is indeed the underlying base for mastery orientation, then as instructors we need to find ways of helping students feel safe so that they are willing to take risks. Learning is a risky business, but we can minimize fear and maximize risk-taking by the structure of the classroom. What follows are suggestions drawn from psychological theory and research about how an instructor can create that safe environment.

Class Strategies to Foster Mastery Orientation

Give students choices

Self-determination theory (Deci & Ryan, 1985) suggests that when individuals feel autonomous, they are more motivated. I believe that this is because when we feel we are in control, we believe we will make choices at which we can succeed. If that is the case, we can be less anxious and freer to adopt a mastery orientation toward the task. So one of the first ways to help students adopt a mastery goal orientation is to allow them some choice and control over their own fate.

Model a mastery approach

Social learning theory (Bandura, 1985) focuses on the tendency we have to model our behavior on those around us. When the instructor models a mastery orientation, students are more likely to adopt it. What does this mean? It means that instructors need to show that when we make mistakes, we handle them in a way that causes us to learn from them rather than trying to hide or avoid them. Students need to see strategies that involve successfully coping with failure so that they can have a way to cope with their own failures. Once you know how to handle failure successfully, you are less likely to fear it.

Emphasize learning from mistakes

A corollary to the previous point is the need to give students opportunities to correct and learn from their mistakes. In general, once a grade is given, there is little that a student can do about it; students therefore do not have much motivation to learn from the experience. Instructors can change students' behavior by providing the opportunity to earn back points they have lost by examining their mistakes and learning from them. I do this in my own classes by allowing students to redo test answers that they have missed by writing a brief explanation of why they were wrong and why the right answer is right. If they're successful, they can earn back half the points they lost.

Give positive, diagnostic feedback that focuses on personal improvement

Instructors' feedback directs student attention toward its focus. Therefore, in providing feedback, instructors should not just say that something is wrong, but rather how to make it better. Even when giving positive feedback, an instructor can compare a student's current level of progress to previous performance and emphasize those areas that have shown improvement. In giving feedback on a paper, I always describe how it could be made better, not just that it was found lacking. Focusing on this also points students toward their own work rather than a comparison with others.

Minimize comparisons with other students and emphasize comparisons with previous performance

Goal orientation theory holds that performance orientation is a manifestation of normative performance, i.e., how one compares to others (Elliott & Murayama, 2006). If it is made difficult to make those comparisons, students will be less likely to make them. Of course, we can never eliminate students' comparing themselves to others ("what did YOU get?"). However, if the criteria for success are clear and not comparative, students are more likely to focus on what THEY did rather than what everyone else did. Another strategy for making such comparisons more difficult is to make performance outcomes more private. The law is on our side on this one; the posting of information that discloses details about an individual's performance is a violation of federal privacy laws. Fortunately, the advent of computer classroom management systems that allow easy feedback to an individual online have made this task much easier.

Foster a community within the classroom

Making the classroom a safe place is helped if students perceive others in the class as resources and supporters rather than competitors. It is also helped when they perceive the instructor as their partner in learning, not just their evaluator. There are many ways of fostering classroom community (Bransford, Brown, & Cocking, 1999), but a few stand out as easily to implement. For example, having students work together in groups encourages them to get to know other students in the class and seek their help when it's needed. The instructor can even help this process along by allowing groups to consult with other groups as they work through a problem. The instructor should also make an effort to learn students' names and something about them so that each can view the other as a person not just a role. The instructor can build a shared history for a class by referring to their unique experiences as a group and creating new ones that they share. Most important, the instructor should encourage all participants in a class to treat everyone with respect, both student-to-student respect and instructor-to-student respect.

Conclusion

There are undoubtedly many more strategies that an instructor can use to help students view the classroom as a safe place, one where the goal is learning, not just performing. Promoting collaboration ultimately helps us discover and create new class structures that make students feel safe so that they are free to become mastery oriented. And, an added benefit is that the instructor feels safer, too: safer to relax and enjoy teaching, to try new things, and to adopt a mastery orientation toward teaching itself.

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Why Don't My Students Think I'm Groovy?: The New "R"s for Engaging Millennial Learners

Christy Price

Dalton State College

Ask colleagues who have taught undergraduates for a decade or more if students have changed, and they will typically respond with a resounding, "YES!" My interest in this new breed of students was piqued when I began to notice unrealistically high expectations of success among my students combined with an astonishingly low level of effort on their part. After having read the "Bible" on assessment, Angelo and Cross's *Classroom Assessment*, I began to embed formative assessments in the courses I taught more regularly. One of these assessments turned out to be particularly valuable. After the first major assessment or exam, I asked students to anonymously respond to the following four questions:

1. What did you do to prepare for the exam?
2. Considering what you did to prepare for the exam, what grade did you expect to earn?
3. What will you do differently in preparing for the next exam?
4. Is there anything I can do to assist you in preparing for the next exam?

In response to the first question, students offered up surprisingly candid responses. For example, they replied, "I read parts of the chapter" and "I looked over my notes the night before and reviewed during my class that meets right before." There was the classic commuter student response: "I looked over my notes in the car before coming to class," and my personal favorite, "I'm going to do much better next time, now that I bought the book." This student sat through three weeks of class and took the first exam without purchasing the required text! The most astonishing part of all of this was when these students were asked what grade they expected to earn, they confidently listed an A or a B.

The gap that existed between students' level of effort and their expectation of success was only one of many Generation Y or Millennial issues thwarting my efforts to change the world through molding young minds, so I did what any other self-respecting teacher of psychology would do: I expressed my negative emotions through interpretive dance and went to the literature!

In my search, I discovered a wealth of information describing the characteristics of Generation Y Millennials (born between 1981 and 1999) and their hovering parents. Howe and Strauss (2007) described Millennials as wanted children who grew up central to their parents' sense of purpose. These helicopter parents have often sheltered them, a practice that tends to extend the students' adolescence and delay their development of independence. In her book *Generation Me* (2006), Jean Twenge described Generation Y as the first generation

to be fully raised in the aftermath of the technological revolution in which information has been readily available to them with the click of a mouse. This environment has driven them to be demanding educational consumers with no tolerance for delay. In addition, Twenge found that Generation Y youth are more likely to seek wealth as opposed to meaning and purpose in life; therefore, they typically view their college education as a means to an end. For these reasons, Generation Y Millennials often fail to see the value of a liberal arts education. Finally, this generation finds social rules less important and they have become very informal in their writing, speaking, dress, and interactions with authority figures. This generational shift has undeniably increased incivility in the classroom.

Although there is an abundance of information focused on the traits of Millennials, very little has been published regarding how these characteristics impact the teaching and learning process. One exception is Ellen Pastorino's 2006 *E-xcellence in Teaching* chapter, "When Generations Collide in the Classroom," in which she makes a case for understanding generational differences and their potential impact on our teaching. In keeping with Pastorino's assertion, I conducted a qualitative analysis of narratives provided by more than a hundred Millennial learners. What I uncovered was truly enlightening, and it transformed my teaching.

Over the past year, I have maintained an almost dizzying schedule of invited addresses and faculty development workshops sharing the findings of this research on the Millennial learner. Whether we like it or not, the Millennial learner is the new generation of student that we must influence, inspire, and serve. So take heed, and be warned! There may be moments during the reading of this chapter when you become irate, vehemently protest, and perhaps even secretly plot to slash the tires of my minivan! At these moments, it is important to bring yourself back to a peaceful place with a Tantric Chant or an herbal tea and remember that as the author of this article, I am simply sharing what Millennial learners have offered up and so desperately wish for us to hear.

The student narratives I collected focused on three main areas and provided Millennial student perceptions regarding: (a) professors who were familiar with Millennial student culture versus those who were not; (b) their ideal professor; and (c) their ideal learning environment.

Student Perceptions of Professors Who Are Familiar With Millennial Culture Versus Those Who Are Not

In distinguishing between professors perceived as familiar with Millennial culture versus those who are not, Millennial learners noted the following differences:

1. Techno-savvy

Millennials view a professor's ability to effectively utilize technology as an indicator of his or her connectedness to their culture. In fact, when asked to write about professors perceived as unfamiliar with Millennial culture, one student wrote in frustration, "My professor is not up to date with technology. He is still confused about how to work the VCR!"

2. *Currently relevant*

Use of “real,” “relevant,” and “current” examples was one of the most obvious themes apparent among professors perceived as connected to Millennial culture. As one student commented, “Use of old shows like Taxi are not practical references that the average college student can relate to.”

3. *Seriously humorous*

Surprisingly, Millennials associated our tone of voice as an indicator of our lack of connection to their culture. Instructors perceived as “boring” or “monotone” were seen as lacking connection to Millennial culture. I realize this is disheartening news to those of us who are innately boring. To make matters worse, respondents perceived professors to be more connected to Millennial culture when they used “humor” and, dare I quote the other word they used, “fun.”

4. *Relaxed and relatable*

Respondents perceived professors who “listened,” “related,” and “talked to students about their lives,” as connected to Millennial culture and perceived those professors who were “unattached” or solely focused on course content as not connected to Millennial culture. As one respondent lamented about her biology professor, “...he doesn’t really talk about anything that we are interested in... he only talks about strictly class stuff and he won’t go off onto anything else... he doesn’t seem like he is into anything but scientific things.” Imagine that, a biology professor who wants to talk about science!

Millennials also identified professors they perceived as “down-to-earth,” “informal,” “relaxed,” and “flexible,” as connected to the Millennial culture; while those described as “uptight,” “strict,” “intimidating,” or “condescending” were perceived as not connected to Millennial culture. In general, Millennials seem to strongly resist authoritarian power structure. Respondents relayed numerous examples of what they viewed as rigid course policies and harsh reactions on the part of the professors perceived as not connected with their culture. Student responses such as “if you forget to turn off your cell phone and it rings, it’s like you’re the devil” and “my professor locks us out if we are late and does not allow us to wear hats” perfectly illustrate key generational differences between a mainly Baby Boomer professoriate and a new Millennial generation of learners.

The Millennials' Ideal Professor

Most astonishing of all the findings of my study on Millennial learners were their perceptions regarding the ideal professor. The Top Five List below summarizes respondents' views. Millennials feel that the ideal professor should be:

5. "Energetic," "enthusiastic," and "upbeat" with a "positive attitude."
4. "Open-minded" and "flexible."
3. Alert as to whether students understand.
2. "Nice," "friendly," "caring," and "helpful."
1. "Approachable" and "easy to talk to."

It is hard to believe that what these students basically want is for us to be decent individuals who are responsive to them! As the sarcasm begins to drip from the page, it is important to note that I did ask for Millennials' views of the ideal professor. We should at least give them credit for not expecting us all to have chili peppers at ratemyprofessor.com. Upon further analysis of their responses, what is most intriguing is not what is on their list, but perhaps what is missing. In other words, they seem to care more about who we are and how we interact with them, than they care about what we know. What is painfully obvious is Millennial learners' responses suggest they highly value positive interactions with their professors.

The Millennials' Ideal Learning Environment

The next Top Five List below summarizes Millennials' perceptions regarding their ideal learning environment. Millennials felt the ideal learning environment was one in which:

5. "Students know one another" and "work together in groups." This is consistent with Millennials' team orientation, interdependence, and desire for connection.
4. Learning is "relaxed," "enjoyable," and that awful "F" word we dread hearing... "fun."
3. A "multimedia" format is utilized, including podcasts, on-line activities, video, PowerPoint, etc.
2. "Real examples" that are "relevant" to their culture are used.
1. "Interactive" and "participatory."

Interestingly, the most consistent theme present in the analysis of the Millennial responses was they preferred a variety of teaching methods as opposed to a "lecture only" format. It is important to note that these Millennial students did not attack the lecture method altogether, but they had strongly negative perceptions of learning environments in which lecture was the only method used. According to one Millennial respondent, "If you lecture all throughout the time then we get bored. If you are constantly changing from lecture, to discussion, to group work, that helps a lot. It helps keep us awake and we learn more. Stuff gets into our head better."

Summary

In presenting on this topic, I often summarize the main themes of this research with the following five new “R”s for engaging the Millennial:

Relevance

Millennials do not typically value information for information’s sake. One of the greatest challenges of the professoriate will be to connect course content to the current culture, and make learning outcomes and activities relevant to Millennial learners and their future.

Rationale

Unlike Boomers who were raised in a more authoritarian manner in which they more readily accept the chain of command, Millennials were raised in a non-authoritarian manner and are more likely to conform, comply, and adhere to course policies when they are provided with a rationale.

Relaxed

Millennials thrive in a less formal, more comfortable learning environment in which they can informally interact with the professor and one another.

Rapport

Millennials are extremely relational. They are more central to their parents’ lives than previous generations and are used to having the adults in their lives show great interest in them. They appreciate it when professors show that same interest, and they seem to be more willing to pursue learning outcomes when we connect with them on a personal level.

Research-based methods

Millennials have grown up in an era in which they were constantly engaged. When they are not interested, their attention quickly shifts elsewhere. This research suggests Millennials prefer a variety of active learning methods, as opposed to a more traditional lecture-only format.

Conclusion

Clearly, meeting the needs of Millennial learners is a topic still under study, yet I highly encourage you to apply these initial findings to your practice in the classroom. I regularly receive enthusiastic e-mails from professors who have participated in my workshops and subsequently altered their methods. It is my hope that this chapter will inspire you to do the same.

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Chapter 7

Finding and Using Internet Resources for Student Learning of Psychology

Jon Mueller

North Central College

What's Out There

Because there are literally trillions of Web pages, psychology faculty members can easily become intimidated or overwhelmed when they seek to incorporate Internet resources into their teaching. What I will share, of course, only scratches the surface. Fortunately, others have scoured the Web for us, and pulled together relevant resources into nicely organized collections. Some of these are organized for a specific instructor's course. For example, I have collected hundreds of Web-based resources for my introductory psychology courses over the years, which you can find at <http://jonathan.mueller.faculty.noctrl.edu/100/100SCHED.HTM>. These include articles, images, videos, animations, and interactive sites. The links with yellow dots in front of them on that webpage connect to sites that permit student interaction. For example, students can probe the motor cortex (<http://www.pbs.org/wgbh/aso/tryit/brain/>) or train Pavlov's dog (<https://pantherfile.uwm.edu/johnchay/PL06/CC/CC.html>).

Others have created collections for a general audience. For example, Amy Sweetman has created an introductory psychology site at <http://intropsychresources.com/>. Amy has collections of class activities, classroom demonstrations, movies, and more. Her site is built on the Wiki model, like Wikipedia. That means other instructors can go to Amy's site and add resources themselves.

Another excellent site is Personality Pedagogy, created and maintained by Marianne Miserandino. Also built as a Wiki, Marianne includes many links to resources for the teaching of personality. It can be found at <http://personalitypedagogy.arcadia.edu/pmwiki/pmwiki.php>.

I have always appreciated all the work others have done to provide me with resources for which I did not have to hunt. I have tried to return the favor by creating such a site of my own called Resources for the Teaching of Social Psychology at <http://jonathan.mueller.faculty.noctrl.edu/crow/>. I have thousands of annotated links organized under categories such as Activities and Exercises, Classroom Assignments, Course Examples, Student Resources, and more. On the Technology in Teaching page, you will find links to hundreds of video clips related to social psychology. If you know of others, please feel free to pass them along.

Finally, a new site for the teaching of educational psychology has come online at <http://teachingpsych.wikispaces.com/>. There is not much there yet, but you can add to it because it also uses a Wiki format.

Video Resources

Because I teach in 10-week terms, I have been reluctant to use a significant portion of a class to show a long video or movie. With the Web, however, I now have access to a wealth of two- to ten-minute clips that I can use in class to illustrate or introduce all kinds of concepts. I can also use them to build assignments or to direct students to view them outside of class.

You are likely familiar with general video sites such as YouTube (<http://www.youtube.com/>) and Hulu (<http://www.hulu.com/>). There are also sites that have psychology-specific videos. One good site is learner.org at <http://learner.org/resources/browse.html>. Here you will find the entire series on The Brain, The Mind, Abnormal Psychology, and others. You can freely (and legally) show these in class. Just cue them up to the point you want to start and show part or all of the video. Another such site is PsychExchange at <http://www.psychexchange.co.uk/videos/>. Here you will find lots of video -- some good, some not -- as well as PowerPoint files, sound files, and more.

Finding Resources

Again, this is just a sample of the useful resources available on the Web. You want more? Well, find it yourself! How, you say? Here are a few tips.

First, you can, of course, just search for it. If you use Google, there are a few tricks that can sharpen your searches. You can search for relevant syllabi for courses you teach by putting the following in the Google search box: "child development" +syllabus (or any other course you teach).

You can get greater precision in that search by searching within the "title" of the Web pages (which is usually the blue bar at the top). To do that, you would put: intitle:"child development" +syllabus

You are now more likely searching for pages that really are child development syllabi.

If you want to find more academic material on the Web, you can use Google Scholar at <http://scholar.google.com/schhp?hl=en&tab=ws>. Within Google itself, you can search by putting, for example: "social loafing" filetype:pdf

That search will yield only pdf documents that include the phrase "social loafing." Much academic material on the Web is in pdf form. Similarly, to find PowerPoint presentations or lectures on your topic of interest, you can search for: "social loafing" filetype:ppt

Better Yet, Have Others Search For You

You can subscribe to free, e-mail newsletters from people or organizations that have carefully identified and reviewed relevant resources. You then just have to scan through the e-mail to see if any are of use to you or your students. For example, I send out a free, monthly e-mail newsletter to accompany my Resources for the Teaching of Social Psychology site, in which I include new and newly discovered ideas and resources for those who teach social psychology and related courses. I currently have more than 1,000 subscribers. You can subscribe for free at <https://lists.noctrl.edu/sympa/info/socialpsy-teach>. You can also view past issues of the Newsletter at <https://lists.noctrl.edu/sympa/arc/socialpsy-teach>.

Similarly, Marianne Miserandino sends out a free, monthly newsletter to accompany her Personality Pedagogy site. You can subscribe at http://www.arcadia.edu/forms/pp_registration.asp.

There are also some excellent general newsletters that you can scan for psychology-related resources. One is the Scout Report at <http://scout.wisc.edu/>. Another good one, Librarian's Internet Index, can be found at <http://lii.org/>.

Psychology-related blogs are another relatively new resource you can search through to find resources for teaching and learning. These blog authors often review and comment on recent research in a variety of fields. Their summaries and commentaries can serve as excellent, brief readings for your students, especially when you chose not to assign them an original research article. Some of my favorite psychology blogs include Cognitive Daily (<http://scienceblogs.com/cognitivedaily/>), BPS Research Digest (<http://bps-research-digest.blogspot.com/>), Mind Hacks (<http://www.mindhacks.com/>), PsyBlog (<http://www.spring.org.uk/>), We're Only Human (<http://www.psychologicalscience.org/onlyhuman/index.cfm>), and Psychology Headlines (okay, not really a blog; <http://www.socialpsychology.org/>).

Rather than checking these and other blog sites regularly, you can use an RSS reader to notify you when their authors have updated them. Specifically, you can subscribe to a blog through a reader so that anytime a new entry appears on that blog it gets sent to you on your reader Web page. I just open my Web browser, click the Bloglines reader button on my toolbar, and all the sites that I subscribe to are listed in one pane on the page. I can click on a site if it is bolded (which means it has a new entry) and I can scan quickly through all the new stuff without having to visit any of these pages.

Readers not only allow people to be informed automatically about updates to blogs, but similarly can alert you to updates about tables of contents from different journals, YouTube videos that are about a chosen keyword, news stories about particular topics, and more. It is easy to set up a blog reader and to add and access "feeds" to it. To learn how to get Google reader, see the following blog entry from Technology for Educators at <http://sfrantz.wordpress.com/2009/04/12/here-comes-the-news/>.

What Do I Do With It All?

Okay, so you have collected a lot of Web-based resources. Now what? How might you and your students use them to promote learning both inside and outside of class? I offer a few ideas here. If you have others you would like to send me, feel free to do so. I always like hearing about new resources and new ideas.

As mentioned above, one easy thing to do is to start collecting your resources on one course-related Web page, such as my page above (<http://jonathan.mueller.faculty.noctrl.edu/100/100SCHEM.HTM>). With that page on the Web, I can walk into any classroom anywhere in the world and bring up those resources to use in myriad ways. Alternatively, Sue Frantz, the author of the Technology for Educators blog mentioned above, describes how she uses Delicious to share Web sites with her students at <http://sfrantz.wordpress.com/2009/04/18/share-your-bookmarks-mmmm-delicious/>.

Many of these resources provide students with opportunities to practice or apply the concepts associated with the course. One related site that you may have used is the Online Psychology Laboratory at <http://opl.apa.org/>. As the instructor, you can set up research projects in which your students can participate, collect and analyze data, and discuss the results.

To give my own students practice with thinking about correlations and causal relationships, for example, I have created a page in which I collected headlines of popular press articles that accurately and inaccurately present scientific research. You can find it at http://jonathan.mueller.faculty.noctrl.edu/100/correlation_or_causation.htm. The links list actual article headlines. I use the links to help my students learn the language of correlations and causal relationships and to practice critical thinking.

Web-based resources can also structure students' learning outside of class time. For example, I want to develop scientific thinking skills in my introductory psychology class. But skill development requires a great deal of practice. So, I assign 18 brief out-of-class assignments along with in-class practice. (You can find these at <http://jonathan.mueller.faculty.noctrl.edu/100/printsched.htm>.) Because students are only required to write a few sentences for each assignment, I find that virtually all of them complete them, including my weaker and less motivated students. Grading is not a burden because, adapting an idea from Barbara Wolvoord, I assign a plus or minus grade for good faith effort rather than evaluating the accuracy of their work. A fuller description of the grading rubric can be found at <http://jonathan.mueller.faculty.noctrl.edu/100/>

As one last example of using Web resources to structure outside learning, you can simply send students to view a video such as this one at <http://www.spike.com/video/office-jim-trains/2820493>. You can then design all kinds of brief assignments around it.

Conclusion

Our students are quite familiar and comfortable with the Web. As instructors, we can take advantage of that predilection by weaving a wealth of these sites into instruction, modeling, practice, and application for our students. With sites such as the ones described above, these resources are at our fingertips. The tools to find more are readily accessible and easy to learn as well.

I hope you found something valuable in this chapter. I also hope you will send me something valuable if you know of any good resources or have any good instructional ideas. Remember, I prefer it when others do my work for me!

Chapter 8

Best Practices for Teaching Controversial Topics in Psychology

Christa M. Marshall, Danielle Marie Doucette, and Ufuoma Abiola

Roosevelt University

Some instructors, because they fear what may occur when discussing controversial topics, avoid teaching sensitive issues. However, it has been our experience that having students discuss controversial topics can be a valuable learning experience. Often as instructors, we receive positive feedback from students describing such conversations as enlightening; our assertion is that avoiding this discussion is a disservice to students' learning. In this chapter, we suggest best practices for teaching sensitive topics as well as provide examples to illustrate how to prepare and execute a controversial lecture.

Practices for the First Lecture

The fundamental rule of teaching contentious material is to develop rapport with your students before the controversy begins (Benson, Cohen, & Buskist, 2005), starting on the initial day of class. First, introduce yourself, discuss why you chose to pursue psychology, and talk about any interesting professional experiences. Second, make an effort to learn each student's name; using nametags and taking pictures of students in small groups can help achieve this goal. Making time for introductions creates a foundation of trust necessary for discussing controversial issues. Finally, instead of merely mentioning when you have office hours, draw a map of how to get to your office, and make sincere invitations for students to attend; this will encourage communication throughout the semester.

To maintain rapport, clearly set expectations for the course and classroom conduct, and highlight available support resources. Putting a statement in the course syllabus about sensitive content and listing behavioral expectations will help some students decide whether they want to remain in the course or you can use this as an opportunity to provide them with reasonable alternatives. This process allows the instructor to proactively establish a concrete set of expectations and consequences instead of having to create policies during the semester. If you prefer a more egalitarian style, try developing a list of expectations with the class during the first lecture. Whatever method you choose, students will perform better if they know what is expected of them.

Practices for Enhancing Classroom Structure and Group Discussion

Before the first lecture, preparation of teaching materials should begin with a careful examination of your biases. It is important to recognize that students should be exposed to more than one opinion or view. It is best to present all sides of an issue and to be familiar with more than one argument.

Team-teaching a course, in which more than one instructor co-leads lectures, allows for a balanced presentation of material and affords instructors the opportunity to receive feedback from one another. Some courses, for instance human sexuality, may be taught from multiple disciplines (e.g., psychology, sociology, biology). Students report that team-led courses are more interesting and that they learn more than in other courses (Hammer & Giordano, 2001). Admittedly, some departments may not have the financial resources for team-teaching. However, instructors can achieve a similar effect by inviting guest lecturers to share alternative views, various professional experiences, or supplement discussions with real-world examples.

Beyond presenting a balanced lecture, facilitating class discussions about a controversial or sensitive nature can be challenging. It is often troublesome when students do not participate in class lectures; we have found that validating different views stimulates conversation. Preface your lecture with the notion that everyone comes from different backgrounds and experiences. This will help create an atmosphere that encourages students who have non-traditional views to feel safe discussing their opinions and experiences. To facilitate discussion, ask students to take a few minutes to reflect on and write down how different factors (such as family background, race, religion, socioeconomic status, gender) shape their understanding of an issue. This fosters an environment that encourages students to evaluate their biases and become aware of the impact of their experiences. Also, if students have their ideas organized on paper, they may feel more comfortable sharing their thoughts with the class.

Another way to facilitate a discussion is to begin by asking students to discuss an issue in pairs before opening the conversation to the entire class. For example, during a Tests and Measurements lecture about differences in achievement and educational testing across ethnic groups, one of the authors directed students to find a partner of a different gender, race, or age. She then asked students to compare and write about their high school educational experiences. As the instructor skimmed the room, she heard students comparing how one student had few computers and poor library resources while another had excellent resources beyond that of many high schools. She then opened the topic up to the entire class. This prompted a productive discussion about how environmental factors may explain gender and ethnic differences in achievement and intelligence test scores.

Instructors may need to take on a particular role when moderating a controversial discussion. *Neutrality*, *devil's advocate*, and *making one's personal opinions explicit* are three roles that an instructor can utilize. By taking on the role of neutrality, instructors act as a judge, in which they remain objective and unbiased (Center for Teaching and Learning, University of North Carolina at Chapel Hill, 2004). The role of devil's advocate includes changing positions on a topic, depending on which position is weaker. The instructor can demonstrate how to expose weaknesses in opposing views and display effective debate practices. When the majority of students share similar views about an issue based on popular opinion instead of fact

or research, the role of devil's advocate is particularly effective (Center for Teaching and Learning, University of North Carolina at Chapel Hill, 2004; Payne & Gainey, 2000). Additionally, instructors should state their opinion while making sure to treat the students' views respectfully. This strategy allows students to think about ideas that may be contrary to their own opinion. In order for the instructor to determine which strategy to use, it is best to use one that meshes with one's own personality style. Also, instructors should ask themselves: "What am I trying to elicit from my students?" and "What is the goal of the discussion?" The answers to these questions can also guide which role to play when moderating controversial discussions.

Facilitating a discussion about a controversial topic can be challenging, especially when students' responses become emotionally charged. It is imperative that instructors attend to verbal and nonverbal signs of discomfort. Suggestions for addressing such situations include calling "time-outs" to allow students to relax, or using humor if appropriate (Keith-Spiegel, Whitley, Balogh, Perkins, & Wittig, 2002). In addition, be mindful of students who monopolize conversations, which may exacerbate feelings of discomfort among other students. In this case, it is best to address the situation with the specific student privately to decrease potential animosity. It has been our experience that intervening in such situations as soon as possible has warded off or resolved conflicts between students.

Practices for Developing Projects on Controversial Topics

Students often bring preconceived ideas about controversial topics into the classroom, which can be difficult to influence through lecture alone. To enhance students' critical thinking skills, one project to use in the classroom is "cooperative controversy" or "structured controversy," based on the cooperative learning model (Johnson, Johnson, & Smith, 1988). The structured controversy method begins with the teacher introducing a controversial topic. Students are then grouped into teams to research the topic, prepare and present a case for or against it, and try to rebut the other side's argument. The teams then reverse positions, debate again, and develop a report that combines the arguments of both sides. The goal is to enhance students' learning by teaching them to reach compromise between different views.

Experiential learning is another method that can be used for teaching sensitive topics. It encourages students to explore controversial topics in a hands-on way. For instance, there are few figures in psychology more controversial than Freud; having students keep a dream log is one way to help them understand the insight and novelty that Freud provided to Victorian society (Dunn & Dougherty, 2005). Given societal attitudes toward people who abuse substances, requiring attendance at an Alcoholics Anonymous or Narcotics Anonymous meeting might affect students in a way lectures cannot. Experiential learning not only provides a way to open students' minds to a particular topic, but also may generalize to understanding other controversial issues.

Conclusion

Effectively leading a class session about controversial topics is a difficult, but necessary task in order to encourage students' academic development. With careful preparation and a

handful of techniques to facilitate lectures, instructors can guide students' exploration of controversial issues that are common in psychology. Whether it is leading a class discussion or assigning group work or projects, there are numerous practices that stimulate vigorous debate and critical thinking in the classroom.

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Note

All authors equally contributed to this chapter.

Civic Engagement in Psychology Classes

Steven A. Meyers

Roosevelt University

Do your students understand how psychological knowledge can help solve social problems? Can you encourage students to create change in their communities as a part of your class? Can they understand the connections between research, practice, and public policy?

Psychology instructors have the opportunity to teach their students more than their subject matter. They can also provide students with important skills about how to contribute to society. Many professors address these objectives through developing students' critical thinking skills, scientific literacy, or ability to provide individualized services in the professional areas of our field. However, another important potential contribution we can offer our students is to help them become active citizens.

In this chapter, I provide psychology instructors with specific strategies to promote civic engagement in their classes. These recommendations focus on how to incorporate relevant material and how to teach specific skills, such as advocating to elected officials, informing others through media, and inspiring collective action.

Is Civic Engagement Consistent with Psychology?

Some psychology professors do not immediately appreciate the bridges between their course topics and civic participation. Psychology often emphasizes individual level functioning instead of broader social, cultural, political dynamics. The first step in preparing psychology students for active citizenship, therefore, involves making these connections apparent.

Instructors who want to learn more about relevant social problems can refer to the resources offered by the Public Interest Directorate of the American Psychological Association. Their website at <http://www.apa.org/pi> describes the interface between policy and psychology for areas including aging, children, disabilities, LGBT issues, women's issues, health care, and socioeconomic inequalities. To promote civic engagement, professors must draw students' attention to the applications of their course material to society. For example, those who teach courses in Sensation/Perception can discuss issues related to sensory impairment. Instructors who teach a course in Learning can discuss learning disabilities. A course in Health Psychology can address the environmental determinants of health. The common denominator in all of these examples is that psychology instructors must often go beyond core concepts to discuss how their material is relevant for collective well-being.

Expanding Students' Awareness

In addition to background knowledge provided by lectures in psychology classes, students can actively research social problems and solutions relevant to course topics. Several strategies can help accomplish this goal. Many well-established advocacy organizations offer a wealth of material through their websites. Instructors can direct students to organizations that address a range of pertinent areas such as disabilities, education, health and safety, human rights, poverty, and child development. One helpful website to start this search is through the related Google directory at <http://www.google.com/Top/Society/Organizations/Advocacy/>.

A second, powerful way to inform students about civic issues relevant to course topics is through service learning. In service learning, students volunteer in their communities and assume responsibilities that are connected to the content of the class. In this mutually beneficial relationship, students engage in an extensive reflection process to bridge site work and course experiences. For example, students in a Biopsychology course can serve in rehabilitation centers to assist patients with head injuries. Students enrolled in Developmental Psychology classes can assist children in schools or child care centers. Undergraduates in Abnormal Psychology classes can find placements in social service agencies. Students often understand the scope of a social problem much more thoroughly when they work with individuals who are directly affected. This helps make abstract concepts more concrete, and can inspire students to take civic action.

Advocating to Elected Officials

Buttressed by course knowledge and additional research or experience, students can approach their elected officials to advocate for responsive programs and policies. The first step in this process is to encourage students to register to vote. Students can do so in person at the office of their Secretary of State or Board of Elections, or via Internet if they go to <http://www.usa.gov/Citizen/Topics/Voting/Register.shtml> and download the required form to mail to the appropriate listed address. Constituency is often a prerequisite for the attention of elected officials, so this is important. Instructors can then help students find the contact information for their local, state, and federal representatives by using Internet resources such as Project Vote Smart at <http://www.votesmart.org>. Students are often apprehensive about contacting their elected officials; however, it is not a difficult process. This is especially true for state and local politicians.

Letters to elected officials are typically brief, and are often no longer than one single-spaced, typewritten page. At the top, they contain the student's address. In the first paragraph, the student can identify the reason for writing and can state that he or she is a constituent. In the second and third paragraphs, the student can clearly discuss the issue of concern that is relevant to the content of your course. This is an opportunity for the student to summarize facts, research, and personal stories to support the key points. Effective letters frequently present such material in personalized and poignant ways. The concluding paragraph specifically identifies the requested action from the legislator, such as supporting a particular bill or issue. Letters can be mailed or e-mailed, but personalized correspondence is significantly more effective than form letters that are pre-written by organizations.

Students can also speak with their elected officials or their staff members by telephone or in person at their district offices. Federal officials are often very difficult to speak with directly, so students should be prepared to speak with their legislative staff. However, students can more easily communicate with their local and state-level representatives. Conversations last fewer than 15 minutes. Effective in-person advocacy involves students concisely sharing their position (as supported by their knowledge and experiences), asking about the official's position on the issue, and encouraging him or her to support/oppose related legislation. Students should be aware that it is likely that they will need to call several times across a period of a few days before they may speak with a person on the telephone in depth. In addition, meetings with state or local elected officials require scheduling several a few in advance.

Students can become more effective advocates when they are aware of pending legislation. Bills at the federal level can be found on the Internet at <http://thomas.loc.gov>. Legislation at the state level can be found at http://www.usa.gov/Agencies/State_and_Territories.shtml. Students can enter keywords related to the particular course (e.g., children, brain, mental illness, prejudice) to find pertinent bills and their status. For example, students in a Psychology of Adjustment course can contact their United States Senators or Representative to stress the need for expanded mental health services for veterans returning from war. Students in an Abnormal Psychology course can meet with their local and state elected officials to emphasize the importance of expanding public social service agencies and widespread implementation of evidence-based treatment. An assignment in a Social Psychology course can involve lobbying for legislation that addresses hate crimes, whereas students in a Developmental Psychology class can advocate for funding for programs to reduce child maltreatment.

Promoting Awareness through Media and Collective Action

Another form of civic engagement occurs when students in psychology classes educate others about relevant social issues. One well-established way of speaking out is through writing letters to editors of local newspapers. These letters are often only two paragraphs in length because of space limitations. They relate to recent news stories that have appeared in the particular venue. The Youth Policy Action Center offers Internet policy tools to help users to locate the contact information for many local media outlets at <http://www.youthpolicyactioncenter.org/>. In my own classes, for instance, students have written to newspaper editors following episodes of youth violence in Chicago. They shared relevant research on juvenile justice in their letters, and highlighted examples they observed in their community service with at-risk youth. Many newspapers now also have online editions that allow readers to post comments following published articles.

Relatedly, Internet technology allows students to disseminate information through venues such as weblogs or wikis. For example, students can share their research, photos, sound files, and videos to promote greater awareness around issues of interest at sites such as Blogger (<http://www.blogger.com>) or YouTube (<http://www.youtube.com/>).

Psychology students can also become civically engaged by promoting collective action on university campuses and beyond. After learning about social issues in their courses, they can

involve peers by organizing campus demonstrations, developing voter registration or petition drives, or even coordinating a community event such as a boycott. Imagine a professor and students from a Psychology of Women course organizing a Take Back the Night demonstration on campus, and then collecting signatures to demand greater funding for domestic violence shelters catering to women who are battered and their children. Consider students from a Psychotherapy class petitioning the president of their university to expand their campus-based counseling center. Such events not only educate others, but also inspire them to take action.

Conclusions

Civic education can be infused throughout many psychology classes. It often involves modifying the focus of some class sessions and assignments to address relevant issues, and entails professors teaching students the needed skills. With encouragement, support, and practice, college students can gain the ability to make a difference in their communities. They can learn in our courses how to become empowered, active citizens who promote the application of psychological principles, knowledge, and contributions in society to advance collective well being.

Recommended Readings

- Colby, A., Beaumont, E., Ehrlich, T., & Corngold, J. (2007). *Educating for democracy: Preparing undergraduates for responsible political engagement*. San Francisco: Jossey-Bass.
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- Meyers, S. A. (2008). Putting social justice into practice in psychology courses. In B. Perlman, L. I. McCann, & S. H. McFadden (Eds.), *Lessons learned: Practical advice for the teaching of psychology* (Vol. 3, pp. 273-281). Washington, DC: Association for Psychological Science. Available at <http://www.psychologicalscience.org/observer/getArticle.cfm?id=2241>
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Using Evidence-Based Teaching Methods to Improve Education

Bryan K. Saville

James Madison University

Over the past few decades, educators have spent considerable time discussing the state of American education. Quite often, their conclusions have been less than flattering. Over 25 years ago, Cameron (1983) lamented: “Most predictions about the future of colleges and universities as organizations include conditions of decline” (p. 359). More recently, Hersh and Merrow (2005) suggested that, “Higher education, long viewed as the crown jewel of American education, is tarnished” (p. 1). A recent article in *The New York Times* echoed this sentiment: “At its top levels, the American system of higher education may be the best in the world. Yet in terms of its core mission -- turning teenagers into educated college graduates -- much of the system is simply failing” (Leonhardt, 2009). By many accounts, then, students are not learning what they should be learning during their formative college years.

There are numerous reasons for the purported downfall in American education: (a) many students view college as nothing more than job preparation, (b) students often come to college ill-prepared for the rigors of higher education, (c) what students want in a college is not exactly what colleges are offering, and (d) administrative emphasis on the “bottom line” (i.e., money) is creating conditions that are not conducive to learning (see Hersh & Merrow, 2005). In this chapter, I argue that one other factor is having a negative impact on American higher education: the continued use of ineffective teaching methods.

What is Teaching?

Ask any student (and many teachers) to explain what teaching is, and he or she will likely provide a description that equates teaching with lecturing. Although teaching certainly entails more than just lecturing, it is easy to see why students hold this belief. Enter many college classrooms, and one will likely observe some variation of the following scene: (a) a teacher, standing at the front of the classroom, working his or her way through a set of PowerPoint slides, some of which may contain useful pictures, diagrams, or even movie clips, but most of which contain text that the teacher reads word-for-word; and (b) students, some of whom are furiously attempting to write down every word that appears on the PowerPoint slides, but many of whom are engaged in other activities such as texting friends, reading the school newspaper, gazing off into space, listening discreetly to their iPods, or even catching a catnap -- activities to which our PowerPoint-toting teacher is either oblivious or doesn't seem to care. Of course, not all lecture-based classrooms resemble this hypothetical Hades of learning.

What is certain, however, is that most college instructors use lecture-based teaching methods (Benjamin, 2002).

Unfortunately, lectures tend to be relatively ineffective at improving student learning. In fact, numerous studies have found that alternative teaching methods tend to be more effective than lectures at improving a wide range of student-learning outcomes (e.g., Benedict & Anderton, 2004; Dochy, Segers, Van de Bossche, & Gijbels, 2002; Kulik, Kulik, & Cohen, 1979; Saville, Zinn, & Elliott, 2005; Saville, Zinn, Neef, Van Norman, & Ferreri, 2006; Tiwari, Lai, So, & Yuen, 2006). Certainly, there are ways to improve the impact of one's lectures (Bain, 2004; McKeachie & Svinicki, 2006), but simply altering one's lectures does not negate the fact that many lecture-based teaching methods fail to capitalize on what psychologists know about human learning (Halpern & Hakel, 2003).

If a primary goal of teaching is to optimize student learning, as many teachers believe, it also seems reasonable, then, to assume that teachers of psychology should use teaching methods that have the biggest impact on learning. The recommendation to use effective teaching methods mirrors a recent trend in another area of psychology, a trend that I would like briefly to discuss.

Evidence-Based Treatment

Over the past decade or so, there has been much debate in clinical psychology regarding the use of evidence-based treatment, or EBT (e.g., Burns & Hoagwood, 2005; Goodheart, Kazdin, & Sternberg, 2006; Hunsley, 2007; Kazdin, 2008a, 2008b; Norcross, Beutler, & Levant, 2005; Weston, Novotny, & Thompson-Brenne, 2004). Briefly, EBT refers to “the interventions or techniques . . . that have produced therapeutic change in controlled trials” (Kazdin, 2008a, p. 147). Closely related to EBT is evidence-based practice, or EBP, which is “clinical practice that is informed by evidence about interventions, clinical expertise, and patient needs, values, and preferences and their integration in decision making about individual care” (Kazdin, 2008a, p. 147; see also APA Presidential Task Force on Evidence-Based Practice, 2006). Thus, whereas EBT refers to treatments whose efficacy has been established in controlled settings, EPB entails the implementation of effective treatments in real-world clinical settings. One can draw a similar analogy with regard to teaching. EBT is analogous to teaching practices that have been shown to enhance student learning under controlled conditions, and EBP is akin to implementing these practices in the classroom.

Although one might assume that EBP is simply the application of EBT in new settings or with new individuals, the connection between EBT and EPB has been a topic of hot debate. On one hand, researchers have argued that clinicians need to use EBT because these treatments have empirical support (Dawes, 1994; Hayes, Follette, Dawes, & Grady, 1995). Clinicians, however, have voiced concern that the results from studies occurring under highly controlled conditions are too contrived to generalize easily into real-world clinical settings, where numerous factors affect treatment outcomes (Hoagwood, Hibbs, Brent, & Jensen, 1995; Weston & Morrison, 2001). Again, one can draw an analogy with the teaching of psychology: Although the outcomes of laboratory-based teaching studies may show that a particular practice seems to improve student learning, producing the same results in the classroom might be more difficult (see Chew et al., 2009; Daniel & Poole, 2009).

Thus, the relation between EBT and EBP is not as clear as one might assume. As Kazdin (2008a) noted, though, even in the face of such contentious debate, researchers and clinicians ultimately have the same long-term goal in mind: to provide the best care to people who are in need of clinical services. Kazdin (2008a) therefore urged researchers to spend more time studying other factors that might impact treatment efficacy in real-world settings and recommended that clinicians use EBT whenever possible. Whatever twists and turns the EBT-EBP debate takes, though, as Kazdin (2008a) noted, “The best practice will continue to be based on the best science” (p. 157).

Evidence-Based Teaching Methods

Just as clinicians should be using treatments “based on the best science,” so should teachers of psychology be using effective teaching methods -- namely, those evidence-based teaching methods that have the biggest impact on student learning. At this point, some readers might be wondering, “Okay, I’ll buy into your argument. What are some of these evidence-based teaching methods, and where can I read more about them?” Fortunately, readers interested in learning more about evidence-based teaching methods need look no further (at least to begin with) than previous *E-xcellence in Teaching* chapters. For example, the Computer-Aided Personalized System of Instruction (Pear, 2004), Just-in-Time Teaching (Benedict & Apple, 2005; see also Benedict & Anderton, 2004; Novak, Patterson, Gavrin, & Christian, 1999), and Reciprocal Peer Tutoring (Riggio, 2007; see also Fantuzzo, Dimeff, & Fox, 1989) have been subjected to rigorous analysis and have produced positive student-learning outcomes. Other evidence-based teaching methods include Problem-Based Learning (PBL; Duch, Groh, & Allen, 2001) and Peer Instruction (PI; Crouch & Mazur, 2001), both of which emerged outside of psychology (PBL in medicine and PI in physics) but have shown promise in psychology courses (Chew, 2005; Connor-Greene, 2002; Connor-Greene, 2005; Yandell & Giordano, 2009). Finally, Keller’s (1968) Personalized System of Instruction (PSI), although not as popular as it was 30 years ago, continues to produce positive outcomes (see Buskist, Cush, & DeGrandpre, 1991; Fox, 2004).

Unfortunately, extensive discussion of each of these methods is beyond the scope of this article. I would, however, like briefly to discuss interteaching, a new evidence-based teaching method that has its roots in the behavior-analytic tradition (Boyce & Hinline, 2002). The general format for interteaching works as follows (see Saville, Lambert, & Robertson, in press, for a more detailed description). The instructor first prepares a preparation (prep) guide, consisting of questions designed to guide students through a particular reading assignment. Students then have several days to complete the prep guide before class. In class, students work in pairs and discuss the prep-guide items. During the discussions, the teacher traverses the classroom, answering questions and guiding discussion. After students finish the discussions, they complete a record sheet on which they list how their discussions went and which prep-guide items were difficult. The instructor then uses the record sheets to prepare a brief clarifying lecture that begins the next class period; the lecture lasts approximately one-third of the class period and focuses on those items that students listed most often on their record sheets. Following the clarifying lecture, students spend approximately two-thirds of the class period discussing the next prep guide.

Over the past few years, my colleagues and I have conducted a number of studies comparing interteaching to more traditional teaching methods. In our first study (Saville et al., 2005), a lab-based study in which we compared interteaching to lecture, reading, and control, we found that students in the interteaching condition performed significantly better on a multiple-choice quiz given 1 week later than students in other conditions. Moreover, students in the lecture and reading conditions did no better on the quiz than students in the control condition, who had no exposure to the material before taking the quiz.

To examine the generality of Saville et al.'s (2005) findings, we then compared interteaching to lecture in two sections of an undergraduate research methods course (Saville et al., 2006, Study 2). We alternated between interteaching and lecture several times during the semester and counterbalanced the order across sections. We found that students in the interteaching condition scored consistently higher on exams (about 10% higher across all exams) than students in the lecture condition. Moreover, students reported that they preferred interteaching to lecture, a finding that others have since replicated (Goto & Schneider, 2009; Scoboria & Pascual-Leone, in press).

We have also conducted a series of lab-based and classroom-based studies in which we examined which components of interteaching contribute to its efficacy (e.g., Saville & Zinn, 2009), whether certain student characteristics predict success in interteaching-based classes (Lambert & Saville, 2009), and ways to make interteaching even more effective (e.g., by adding brief post-discussion quizzes; see Roediger & Karpicke, 2006). In other words, we have studied EBT and engaged in EBP. Throughout this process, we have continued to collect data and share our findings with others, remembering always that, "The best practice will continue to be based on the best science" (Kazdin, 2008a, p. 157). As Gurung and Schwartz (2009) noted, the teaching of psychology will advance when teachers not only collect data on their pedagogical practices, but also when they share their outcomes with others (see also Gurung, 2009).

Conclusion

Teachers of psychology have a unique opportunity to impact what their students learn in college. In few disciplines can teachers use what they know about their own subject matter to effect positive change. To have the greatest impact, though, teachers of psychology need to use effective teaching methods -- namely, those evidence-based methods that have been shown empirically to impact student learning. Fortunately, there are numerous practices that seem to be more effective than traditional lecture-based strategies and that teachers can mold to their particular situation (Chew et al., 2009). Certainly, implementing any new teaching method can be tricky and sometimes frustrating, especially in classroom settings where students have grown accustomed to lectures and where other factors affect what they learn. Nevertheless, implementing effective teaching strategies, which, in turn, can have a positive impact on student learning, is a worthy endeavor. It is one that may help to slow, or even reverse, what many see as a rapidly declining educational system.

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Mythbusting in Introductory Psychology Courses: The Whys and the Hows

Scott O. Lilienfeld

Emory University

Steven Jay Lynn

Binghamton University

John Ruscio

The College of New Jersey

Barry L. Beyerstein

Simon Fraser University

As anyone who has taught introductory psychology courses knows, beginning students – even the best and the brightest – enter their classes with a host of misconceptions about human and animal behavior (Chew, 2004; Della Salla, 1999, 2007; Mercer, 2009; Vaughan, 1977). Survey data collected over the past three decades bear out these perceptions. Across various studies, investigators have found that undergraduates hold the following largely or entirely false beliefs (with the percentages of students endorsing the belief in parentheses):

- Opposites tend to attract in romantic relationships (77%; McCutcheon, 1991)
- Most elderly people are lonely and largely alone (65%; Panek, 1982)
- Expressing anger reduces pent-up anger (66%; Brown, 1983)
- Hypnotically-enhanced memories are especially accurate (35%; Brown et al., 1997)
- The polygraph test accurately detects lies (45%; Taylor & Kowalski, 2003)
- Memory operates like a tape recorder (27%; Lenz, Ek, & Mills, 2009)
- People with schizophrenia have multiple personalities (77%; Vaughan, 1977)
- Tourette's disorder is characterized primarily by cursing (65%; Taylor & Kowalski, 2003).

What's more, psychology students tend to hold these and other incorrect beliefs with even greater confidence than they hold correct beliefs (Landau & Bavaria, 2003).

In our new book, *50 great myths of popular psychology: Shattering widespread misconceptions about human behavior* (Lilienfeld, Lynn, Ruscio, & Beyerstein, 2009), we examine fifty widely held, but largely or entirely false, beliefs about human nature, trace their potential

psychological and social origins, explore their ramifications in popular culture, and review the scientific evidence bearing on their accuracy – or much more often, inaccuracy. More briefly, we dispel over 250 “mini-myths,” or more specific claims about human nature. One core thesis of our book is that many psychological misconceptions are not only ubiquitous, but of prime educational importance.

For many instructors of introductory psychology, debunking erroneous beliefs about human nature may not seem like a major teaching priority. This view is understandable, especially given the daunting amount of material they must cover in their courses. After all, if our students hold erroneous beliefs about some psychological issues, what’s the harm?

The Dangers of Psychological Misconceptions

In fact, we maintain that misconceptions are among the most crucial issues to address in introductory psychology courses (Lilienfeld et al., 1999). For one thing, psychological myths can impede accurate knowledge. Students who believe falsely that most of us use only 10 percent of our brain power (Beyerstein, 1999) may assume that many of the brain structures they learn about in class lie dormant most of the time. Students who believe falsely that memory operates like a videocamera or DVD, accurately recording and playing back all of the information it receives (Loftus & Loftus, 1980), may be unreceptive to evidence demonstrating that our recollections are fallible and subject to a host of distortions.

Psychological misconceptions may also leave our students at the mercy of the vast popular (“pop”) psychology industry, which dispenses a bewildering mix of accurate and inaccurate information on a daily basis. As we demonstrate in our book, many psychological misconceptions are perpetuated by self-help books, radio call-in shows, television programs, Hollywood movies, magazines, and Internet sites (Lilienfeld et al., 2009). For example, scores of self-help books falsely inform readers that low self-esteem is a virtual guarantee of psychological maladjustment (Baumeister, Campbell, Krueger, & Vohs, 2003), that most physical abusers grow up to become abusers themselves (Lilienfeld et al., 2009), and that venting anger is a good way of dissipating anger (Lohr, Olatunji, Baumeister, & Bushman, 2007). Without explicit guidance for distinguishing fact from fiction in pop psychology, our students may find themselves virtually helpless in the face of widely disseminated misinformation. With such guidance, they should be better prepared to evaluate pop psychology claims with healthy skepticism, that is, with an open-minded insistence on evidence. Forewarned is forearmed.

As we also argue in our book (Lilienfeld et al., 2009), some psychological myths may be harmful for students in their everyday lives. Students who believe incorrectly that opposites attract in romantic relationships – a belief fueled by scores of Hollywood movies - may invest fruitless time, energy, and effort in finding a partner who differs markedly from them in their personality traits and attitudes. They may also pursue relationships that are at high risk for failure. Students who believe incorrectly that only deeply depressed people commit suicide may falsely assume that a roommate or sorority sister who talks frequently about killing herself, but who does not seem very depressed, is at extremely low risk for suicide. And students who believe incorrectly that life events and material possessions are the principal determinants of happiness may look outside themselves (e.g., to a high-paying job after

college), rather than inside themselves, for long-term happiness. Because psychological misconceptions touch on so many domains of daily life, including friendships, romance, interpersonal communication, positive and negative emotions, memory, sleep and dreams, and peer pressure, addressing these misconceptions in our courses can reap substantial practical rewards for our students.

The Didactic Value of Addressing Psychological Misconceptions

Most psychology instructors focus on providing students with the factual knowledge they need to become “psychologically literate” consumers of claims about human and animal behavior (Boneau, 1990; McGovern et al., 2010). By doing so, instructors may assume that their students will emerge from their courses more skeptical of poorly supported psychological claims.

If so, they would be mistaken. The results of most studies suggest minimal, if any, change in psychological misconceptions following introductory psychology courses (Gutman, 1979; McKeachie, 1960; Vaughan, 1977). The average decrease in misconceptions following such courses has typically been only 5 to 6.5%. Moreover, even these small percentages may be overestimates given that they derive from pre-post designs, which are vulnerable to practice effects, maturation, and other threats to internal validity. In addition, the decreases in misconceptions following introductory psychology courses are lowest among D and F students, who are the most susceptible to these beliefs to begin with (Gutman, 1979).

Research on “extramission beliefs” provides an illustration of this point. Remarkably, studies using a variety of methodologies demonstrate that large percentages of college students believe that tiny particles emerge from the eyes when people perceive the world (Winer, Cottrell, Greg, Fournier, & Bica, 2002). Moreover, these beliefs do not decline much, if at all, following standard college lectures on sensation and perception (Gregg, Winer, Cottrell, Hedman, & Fournier, 2001), most or all of which presumably do not address extramission beliefs explicitly. If such research is generalizable to other psychological domains, it suggests that the failure to address misconceptions explicitly in coursework often leaves such misconceptions intact. As we will soon discover, however, recent research suggests at least some reason for hope.

Presenting psychological myths in the classroom also affords instructors the opportunity to impart scientific thinking skills, which we regard as tools designed to overcome cognitive biases (Lilienfeld, Lynn, Namy, & Woolf, 2009). Because many psychological myths derive in part from the misapplication of availability, representativeness, and other heuristics, as well as from errors in thinking that afflict all of us from time to time (e.g., illusory correlation, confirmation bias, hindsight bias), these myths can serve as helpful didactic vehicles for showing students how scientific thinking skills can compensate for human error. For example, the misconception that unusual behaviors, like suicides, homicides, dog bites, and psychiatric hospital admissions, are especially likely to occur during full moons (Rotton & Kelly, 1985) provides instructors with an excellent real-world illustration of illusory correlation (Chapman & Chapman, 1967). By discussing this misconception, instructors can explain how we tend to notice and recall strange events that occur during full moons, yet fail to notice and recall both

(a) strange events during non-full moons and (b) the absence of strange events during full moons, thereby leading us to perceive a statistical association that does not exist.

A final reason to address psychological misconceptions when teaching introductory psychology courses should not be overlooked: Doing so can be immensely fun, not only for instructors, but for students. Here, our impressions are anecdotal and therefore must be interpreted with caution, but in our experience they are widely shared by our fellow instructors. Most students seem to enjoy learning that their long-held convictions are in fact mistaken, particularly because they recognize that their newfound knowledge can help them to make better real-world decisions. Moreover, in light of research demonstrating that surprise is a key ingredient in learning (Fenker & Schutze, 2008), debunking student misconceptions can be a helpful means of increasing students' retention of information and interest in the subject matter.

How to Confront Psychological Misconceptions in the Classroom

Here and elsewhere, we have argued for what might be termed a “comparative” approach to psychology education. In this approach, instructors continually compare well established findings with popularly held but refuted findings, using false beliefs as “foils” for explaining accurate information. For example, dispelling the belief that most severely mentally ill individuals are violent (Douglas, Guy, & Hart, 2009) allows one to challenge other erroneous beliefs about psychosis, such as the assumption that virtually all people with psychotic disorders require institutionalization. Moreover, as the late paleontologist and science writer Steven Jay Gould noted, in debunking a scientific falsehood one necessarily affirms a scientific truth. Thus, by learning that the claim that abstinence is the only realistic treatment goal for all people with alcoholism is false (Rosenberg, 1993), students come to understand that controlled drinking is a feasible goal for all least some people with alcoholism.

This comparative approach also allays introductory psychology instructors' understandable concerns about how to fit discussions of misconceptions into their courses given their formidable time constraints. Rather than presenting psychological myths as disembodied facts, instructors can usually weave them seamlessly into their lectures by presenting them in conjunction with well-supported information.

As we have seen, research suggests that standard approaches to introductory psychology teaching, which presume that misconceptions will evaporate with the presentation of accurate information, are largely ineffective in reducing the rates of false beliefs. Nevertheless, research on extramission beliefs reveals that an “activation” approach – in which instructors explicitly introduce students to misconceptions and then refute them with scientific evidence – can significantly reduce levels of false beliefs (Winer et al., 2002). Moreover, recent research suggests that raising and then challenging psychological misconceptions in lectures, readings, or both can produce large – 50% or more – decreases in the levels of these misconceptions among undergraduates (Kowalski & Taylor, 2009). This approach, it is worth noting, necessitates a comparative approach in which instructors teach their students not merely about what is true or well supported, but also what is false and poorly supported.

In teaching introductory psychology courses, one can apply an activation approach to a host of topics. For one example, one can begin one's course by surveying students about the

prevalence of their misconceptions using a show of hands or graphical outputs from clickers. One can then use these misconceptions as didactic vehicles or “hooks” for imparting accurate information. For example, when lecturing on memory in his introductory psychology course, the first author initially introduces students to widespread false beliefs – such as the belief that memory operates like a videotape, and that our brains record exact replicas of everything we have experienced – and dispels these beliefs while providing students with accurate information about memory. In addition, he examines the probable psychological and social origins of this and other erroneous beliefs, including the inaccurate presentation of these beliefs in the popular media. In the case of false beliefs about memory, for example, he often offers examples from television shows, like *CSI*, that may portray memory as essentially infallible. By adopting this approach, one’s students can achieve greater conceptual understanding because they come to appreciate the reasons for their uncritical acceptance of erroneous claims.

When addressing psychological misconceptions in one’s courses, it can be helpful to emphasize that these false beliefs are widespread and psychologically understandable. In some cases, it may even be useful to admit to students one’s own past psychological misconceptions. This “normalization” approach not only helps to avoid making students feel foolish, but it underscores the crucial point that many misconceptions stem from normally adaptive psychological processes, such as heuristics, that can mislead us in specific circumstances (Shepperd & Koch, 2005). In this way, students can become less defensive about their misconceptions and more open to scientific evidence that challenges them.

Concluding Thoughts

In sum, we maintain that instructors teaching introductory psychology courses should routinely address student misconceptions. By continually comparing accurate with inaccurate information and highlighting the differences between them, one can deepen students’ understanding of psychological knowledge and assist them with distinguishing science from pseudoscience. Although we have emphasized this approach in the teaching of introductory psychology courses, it applies to more advanced psychology courses as well. In both cases, introducing students to misconceptions can assist them with acquiring scientific thinking skills, arm them with accurate knowledge, help them to make better everyday decisions and, if done skillfully, spark their interest in psychology.

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Learning Objectives for Introductory Psychology: May I Object?

Josh R. Gerow

Indiana University — Purdue University at Fort Wayne

All psychologists will readily agree that what we used to call “intentional learning” is more effective and efficient than “incidental learning.” Cognitive psychologists now talk about the “focused and unconscious processing” of information -- as John Watson, Fred Skinner, Greg Kimble, Bill Verplanck and others spin in their graves. Regardless of terminology, it does seem to be true that purposively setting about to learn something is a smart way for students to behave. Intending, focusing, and effort do matter.

Thus, the notion of providing students a set of objectives or learning goals appears to be -- *prima fascia* -- a good thing to do. Before we step into a class, we should have a firm idea of what it is that we want our students to learn. In other words, we should be aware of our “learning objectives.”

Learning objectives can serve as a set of organizing statements. I’ve written ten editions of an introductory psychology text (and six brief editions), and continue to be guided by the advice I received nearly 25 years ago from my first editor, Scott Hardy of Scott Foresman & Co.: “Tell them what you are going to do; do it; then tell them what you have done.”

The most impressive and extensive set of learning objectives I have yet encountered is the 2005 revision of the National Standards for High School Psychology Curricula. It was written by a truly blue-ribbon panel and can be found at www.apa.org/ed/natlstandards.html. The document includes learning objectives for every conceivable topic in general psychology, followed by examples of how students may demonstrate their knowledge of these objectives, which they call “performance indicators.” Here is a very brief sample of some of those indicators. Students may indicate their comprehension of varied objectives by:

- Summarizing some 19th century scientific research findings (e.g., Helmholtz, Weber, Fechner).
- Describing how learning affects neural transmission (e.g., Eric Kandel’s work).
- Discussing how bicultural and multicultural individuals may express different personality dimensions (e.g., code-switching) depending on the cultural context.
- Comparing the views of Chomsky and Skinner on language development.
- Defending spiritually-based explanations for abnormal behavior (e.g., soul loss, transgression against ancestor).

There are 48 pages of such performance indicators, and remember, these are designed for high school students!

I do not object to these objectives. They provide excellent guidance for what one ought to be doing in a first course in psychology. My objection comes when we start to believe that these might be the sorts of things that our students will remember after their final exam, much less for the rest of their lives.

Related to this point, I share a true story. I recently met a man whose daughter had just been in my introductory psychology class. He guessed that he himself had taken that same class from me in about 1971. With a smile, he said, “I remember you and that class -- ding-foof-slobber.” This was my simple little mnemonic for remembering the essence of Pavlovian conditioning: Ring a bell, blow food powder into a dog’s mouth, and it will salivate; or ding-foof-slobber. This, 38 years later, was a former student’s primary recollection of the hours we spent together in the classroom.

The point of this chapter is that we all need to spend time focusing on the question: What 5 or 6 things do we want our students to carry with them long after the class is over? To me, these are the real learning objectives of any course. In this spirit, I recommend a brief article in the December 2006 APS Observer by Julie Gosselin, who was at the time a graduate student at Université de Montreal. Speaking to the issue of what students might remember from our courses, she wrote, “Always hope for more, but be prepared to settle for less.”

I conclude by sharing some of my own major learning objectives for introductory psychology. I do not argue that these should be your learning objectives. I offer them only in the spirit of encouraging you to think concretely about those issues that you would like your students to remember should you encounter them 31 years from now.

1. That Gerow guy was one great teacher! (How’s that for intellectual honesty?)
2. Psychology is a science. Our cognitions come from many different sources, tradition (e.g., “My grandmother always used to say...”); common sense (e.g., “Absence makes the heart grow fonder.”); faith (e.g., “There is a God” or “There is no God.”); or the arts (e.g., Shakespeare really knew what true is.”). But when we are being psychologists, we rely on the methods of science. That science may yield beliefs that are counterintuitive (e.g., Festinger & Carlsmith, 1959) or controversial, but it the method of psychology. My favorite quote from the history of psychology (Galton, 1894) captures this sentiment: “I can find no evidence that the intensity of a belief is any measure of its validity.”
3. Psychological functioning is always more complicated than it may appear at first, and interactionism is a powerful concept. Nature and nurture interact. Personal dispositions and situations interact. Specific experiences and culture interact. Almost everything in psychology resonates with a biopsychosocial model of explanation.
4. There are individual differences. All of psychology’s “laws” are nomothetic and are expressed in terms like “by-and-large,” “in the long run,” or “more often than not.” For example, students with high SAT scores will do well in college, at least through their freshman year. Indeed, no two people are alike, and no one person is exactly the same from one moment to the next. Given the nearly infinite number of ways in which we each are different from all others, sometimes it is a wonder that we get along with each other at all.
5. One’s experience of reality is often more important than reality itself. What we perceive and what we remember are surely dependent upon events as they occur. But they

also are influenced by one's motivation, one's expectations, and one's past experiences. For example, simply consider the conflicting reports of several eyewitnesses to the same event.

That is a short list. I do hope for more than the comprehension and recollection of these large ideas. Here are my second-tier objectives for my students. I hope they come to appreciate that: (a) Thorndike's Law of Effect is old, but its essence is still true; (b) Persons with psychological disorders are not weak, or bad, or sinful; (c) Life is short, stress is bad, and it's important to learn how to cope; (d) Distributed practice is superior to massed practice; (e) Our ability to pay attention is severely limited; (f) Psychotherapy works; (g) Spanking doesn't; and (h) It is always a good idea to know when to stop. I believe that time is now.

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About the Authors

Ufuoma Abiola is a doctoral teaching fellow at Roosevelt University, where she has taught Introductory Psychology. She earned her Bachelor of Arts degree in Psychology with a minor in African & African Diaspora Studies from Boston College, and a Master of Arts degree in Clinical Psychology from Roosevelt University. Her clinical experiences include working in community mental health centers, psychiatric hospitals, a medical hospital, and a shelter for battered women and their children. The populations that she has served include children, adolescents, families, and adults with a wide range of psychopathology. She has presented her work at various conferences, including the Midwestern Psychological Association and American Psychological Association; clinical, pedagogical, diversity, and multicultural issues are of great importance to her.

LeeAnn Bartolini is a Professor in the Psychology Department at Dominican University of California, and is a clinical psychologist who specializes in the diagnosis and treatment of mental disorders. LeeAnn is involved in teaching both undergraduate and graduate psychology courses, as well as courses in the humanities and in Women and Gender Studies. She maintains a private practice and has taught and studied in Thailand and Uganda during her sabbaticals.

Barry L. Beyerstein passed away in 2007. As professor of psychology at Simon Fraser University, he studied myths about the brain and the application of critical thinking to evaluating psychological claims.

Kim Case is an Assistant Professor of Psychology and Women's Studies at the University of Houston-Clear Lake. A social psychologist by training, she applies critical race theory, feminist theory, and queer theory to her teaching, research, and service. Her current research focuses on privilege awareness, prejudice reduction, ally behavior, and the impact of social identity. She also serves as Co-Director of the university's Teaching-Learning Enhancement Center (T-LEC). T-LEC promotes and celebrates excellence in teaching, encourages faculty engagement in the scholarship of teaching and learning, and provides support and resources for pedagogical effectiveness and reflection.

Elizabeth Davies received her BA from Swarthmore College and her MA and PhD degrees from the University of Chicago in Psychology, Human Development, and Mental Health Research. Her research focuses on retrospective reevaluation of life course events, the idea that people remake the meaning of events in their lives in the service of a current question and with consequences for future adaptation. She has explored this topic from the perspective both of clinical psychology and cognitive psychology; she is also interested in the philosophy and methodology of the social sciences. She is currently an assistant professor of psychology at the University of St. Francis in Joliet, IL.

Danielle Marie Doucette teaches undergraduate psychology courses at Roosevelt University in Chicago. She earned her Bachelor's degree in psychology from Georgian Court

University and her Master's degree in clinical psychology from Roosevelt University. Currently, Danielle is pursuing a doctoral degree in clinical psychology at Roosevelt. Her research interests involve understanding the experience of racial microaggressions with multicultural clients. Her clinical interests focus on treating a diverse population of children, adolescents, and adults, as well as understanding psychopathology and therapy processes across the lifespan. She enjoys integrating her clinical experience with lecture material in order to demonstrate the applicability of psychological skills and principles to clinical work in the field.

Dana S. Dunn, a social psychologist, is professor of psychology and director of the Learning in Common Curriculum at Moravian College, Bethlehem, PA. He received his PhD from the University of Virginia, having graduated previously with a BA in psychology from Carnegie Mellon University. A Fellow of the American Psychological Association (APA), Dunn will serve as President of the Society for the Teaching of Psychology (Division 2 of the APA) in 2010. A former Chair of Moravian's Department of Psychology, Dunn writes frequently about his areas of research interest: the teaching of psychology, educational assessment, social psychology, and rehabilitation psychology. He is the author or editor of 10 books, and has written over 100 articles, chapters, and book reviews. Dunn lives with his family in Bethlehem, Pennsylvania.

Josh R. Gerow graduated from the University of Tennessee in 1967 with a PhD in experimental psychology. He taught for two years at the University of Colorado at Denver before joining the faculty of Indiana University - Purdue University at Fort Wayne (IPFW) in 1969. After retiring in 2001, Dr. Gerow returned to IPFW in 2007, where he currently is visiting professor in psychology. He has authored or co-authored sixteen editions of an introductory psychology text (the most recent with Pearson Custom Publishing), and virtually all of the ancillaries that accompanied them. His research has focused on factors that affect performance in introductory psychology and teaching psychology in high schools.

Afshin Gharib is an Associate Professor of Psychology at Dominican University of California. His research interests include the cognitive and neural mechanisms of associative learning, with a focus on the role of attention, timing, and response learning in operant conditioning and age-related changes in learning and memory.

Beth Hentges is an Associate Professor of Psychology at the University of Houston-Clear Lake. Her research interests focus on media representations of gender and race and their effect on children and adults. She teaches courses in Child Psychology, Media and Psychology, and Critical Thinking in Psychology.

Scott O. Lilienfeld is professor of psychology at Emory University. He studies personality disorders, psychiatric diagnosis, evidence-based psychological practice and questionable psychotherapeutic and diagnostic techniques.

Steven Jay Lynn is professor of psychology at Binghamton University. He has conducted research on hypnosis, memory, fantasy and psychotherapy.

Christa M. Marshall is a doctoral teaching fellow at Roosevelt University. She teaches human sexuality and abnormal psychology, and enjoys exposing her students to her diverse, and sometimes controversial, clinical experiences in the lecture hall. These experiences include volunteer work at a crisis hotline and sexual assault center and conducting psychotherapy with members of the Deaf and Hard of Hearing community. Other professional experiences involve work in community mental health clinics and veterans' hospitals, including individual, family, and group psychotherapy and neuropsychological assessment. Her research interests include: pedagogy, psychotherapy outcomes, traumatic brain injury, and posttraumatic stress disorder. She graduated from Clarkson University with an undergraduate degree in psychology and minored in software engineering.

Steven A. Meyers is a Professor of Psychology at Roosevelt University in Chicago, Illinois. He received an AB degree in psychology from Brown University, and MA and PhD degrees in child/family clinical psychology from Michigan State University. His teaching has been recognized by his designation as the 2007 Illinois Professor of the Year by the Carnegie Foundation for the Advancement of Teaching. He has also received Michigan State University's Excellence-in-Teaching Citation, the McKeachie Early Career Teaching Award from the Society for the Teaching of Psychology, and the Excellence in Teaching Award given by Roosevelt University. His research interests include effective college instruction, faculty development, and parent/child relations.

Jon Mueller is Professor of Psychology at North Central College in Naperville, Illinois. Along with interests in using technology in teaching, Jon is an expert on student assessment. He is the author of the popular and award-winning online text, *Authentic Assessment Toolbox*, at <http://jonathan.mueller.faculty.noctrl.edu/toolbox>. Additionally, you can read more about Jon's newly published text, *Assessing Critical Skills*, at <http://jonathan.mueller.faculty.noctrl.edu/toolbox/tableofcontents.htm>.

William Phillips is an Associate Professor of Psychology at Dominican University of California. He teaches courses in Cognition, Learning, Evolution, Statistics, Research Methods, Perception, and Introductory Psychology. His research interests include the impact of classroom variables on student evaluations and exam performance.

Christy Price, a Professor of Psychology at Dalton State College, has been teaching at the collegiate level for seventeen years. Christy won the Excellence in Teaching Award at Dalton State in 2007, the University System of Georgia Teaching Excellence Award in the Two and Four-Year College sector for 2008/2009, and she was honored by the National Resource Center for the First-Year Experience and Students in Transition as one of ten Outstanding First-Year Student Advocates for 2009. Her dynamic and interactive style make Christy a favorite as a professor and presenter. As a recipient of an institutional foundation grant award, Christy has studied teaching techniques that influence student motivation. Her most recent research focuses on engaging Millennial learners and preventing incivility in the classroom.

John Ruscio is associate professor of psychology at The College of New Jersey. He investigates statistical methods and the distinction between psychological science and pseudoscience.

Bryan K. Saville is an associate professor in the Department of Psychology at James Madison University. He earned a BA in psychology at the University of Minnesota, an MS in applied psychology at St. Cloud State University, and a PhD in experimental psychology at Auburn University. In 2002, he received the McKeachie Early Career Award from the Society for the Teaching of Psychology (STP). Dr. Saville has authored or coauthored 35 book chapters and journal articles on such topics as effective teaching practices, the relation between Internet addiction and impulsivity, the importance of research experience in undergraduate education, and single-subject research designs. He is also the author of *A Guide to Teaching Research Methods in Psychology*, published in 2008 by Wiley-Blackwell. Dr. Saville currently serves as associate editor for *Teaching of Psychology* and as STP's vice president for awards and recognitions. From 2003-2006, he co-edited the *E-xcellence in Teaching* column on the PsychTeacher discussion list.

Marilla Svinicki is currently the chair of the Learning, Cognition, Instruction and Motivation area of Educational Psychology at the University of Texas at Austin. She came to that position after receiving her Ph.D. in Experimental Psychology from the University of Colorado and teaching psychology at Macalester College. After subsequently serving 30 years as the faculty development coordinator for the University of Texas, a post which exposed her to a lot that was both right and wrong about teaching at the postsecondary level, she is now happy to be back in the classroom teaching aspiring teachers to provide a better learning environment for their students.

About the Editors

Steven A. Meyers is a Professor of Psychology at Roosevelt University in Chicago, Illinois. He received an AB degree in psychology from Brown University, and MA and PhD degrees in child/family clinical psychology from Michigan State University. His teaching has been recognized by his designation as the 2007 Illinois Professor of the Year by the Carnegie Foundation for the Advancement of Teaching. He has also received Michigan State University's Excellence-in-Teaching Citation, the McKeachie Early Career Teaching Award from the Society for the Teaching of Psychology, and the Excellence in Teaching Award given by Roosevelt University. His research interests include effective college instruction, faculty development, and parent/child relations.

Jeffrey R. Stowell earned his BS and MS from Brigham Young University and his PhD in Psychobiology from The Ohio State University. He also did one year of postdoctoral research with Dr. Janice Kiecolt-Glaser at OSU on marital stress and wound healing. He currently is an Associate Professor of Psychology at Eastern Illinois University in Charleston, Illinois where he teaches courses in biological psychology, sensation & perception, learning, introductory psychology, and controversial topics in psychology. In 2006, he received the Early Career Award from the Society for the Teaching of Psychology. His research interests include teaching psychology and stress-health connections, particularly in the context of test anxiety.