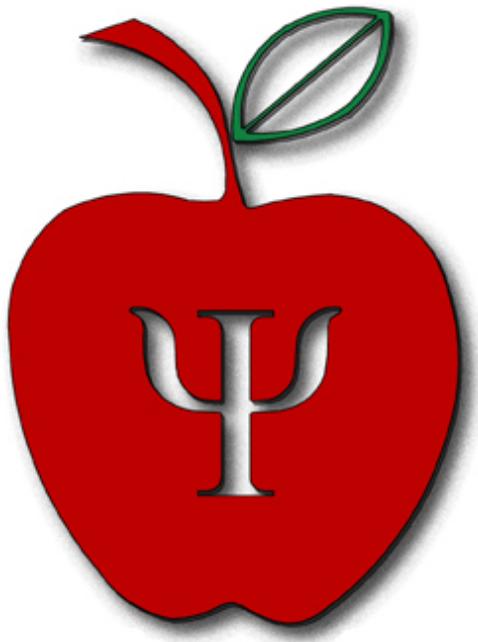


Essays from E-xcellence in Teaching Volume XI

A collection of essays originally published on the
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Edited by

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Introduction

This year's volume of *E-xcellence in Teaching* contains invited essays originally published on the Society for the Teaching of Psychology's PsychTeacher listserv. Since its launch in 1998, the listserv has provided a forum for discussion of issues related to the teaching of psychology at all levels. The *E-xcellence in Teaching* essay series has been featured on the listserv since the spring of 2000. This year's essays present both practical strategies and food for thought on a wide range of topics.

Amy Marin's essay in Chapter 1 starts off the volume with a quick discussion of active learning approaches, followed by specific examples of how these approaches can be incorporated into classes. Marin demonstrates that meaningful active learning activities can be introduced in small steps which may not require major curricular changes on the part of the instructor.

In Chapter 2, Mitchell Handelsman describes the role of student management teams. Handelsman recommends that student management teams consist of 4-5 students who meet weekly with the instructor to provide feedback from students, suggest changes in class structure or design, and work on implementing proposed changes. Handelsman also illustrates how the use of such teams can be both advantageous and challenging.

Many psychology programs encourage student research, and in Chapter 3, Kristin Ritchey discusses an in-class activity with some proven success. Incorporating "Meet the Faculty" events into a research methods class not only provided students with specific examples of research methods to discuss, but also provided the spark that encouraged many of them to seek out additional research experiences in the department. This is a relatively low-effort activity that could be incorporated in a variety of classes to increase student exposure to, and interest in, faculty research.

In Chapter 4, Michael Clump describes the application of a jigsaw teaching technique in a sensation and perception course. As Clump reports, such a technique can lead to an interesting shift in the faculty member's role, from course director to course manager. Clump includes practical suggestions for using jigsaw techniques.

In Chapter 5, Dan Corts discusses the role of psychology in the teaching of scientific literacy. If we take the position that teaching our students about science is a primary function of teaching psychology, how does that impact our objectives? How can assignments be focused on scientific literacy? Corts provides interesting examples in this chapter.

In Chapter 6, Deb Briihl and Jessica Edenfield present a practical strategy for accomplishing an important but sometimes dreaded task – that of assessment. They describe how student interest and energy can be harnessed to assist with this key task, and how such a strategy worked for a specific project in their own program. As Briihl and Edenfield point out, involving students in the assessment process can help departments complete assessment tasks, but more importantly it can help students learn about the ins and outs of data collection and how it can be used to improve programs.

In Chapter 7, Krisztina Jakobsen and Matthew Lee provide an approach to a pressing problem for many faculty – finding time to write. Their essay describes how they established a

writing partnership and strategies they have adopted to maximize the partnerships' effectiveness.

Patricia Prunty's essay in Chapter 8 takes on another practical issue, this time related to student evaluations of teaching. Shifting the collection of student evaluation data from in class to online can result in a decrease in response rates. Prunty presents an approach that takes advantage of both positive reinforcement and group processes to encourage students to complete course evaluations. Her approach has resulted in increased response rates for her classes.

Beth Schwartz and Holly Tatum provide a thoughtful discussion of academic integrity and honor systems in Chapter 9. They describe different types of honor systems and describe how such systems can impact institutional as well as classroom culture. As Schwartz and Tatum point out, instructors can draw on data concerning the effectiveness of honor systems to institute policies in their individual classes that can minimize academic dishonesty.

Together, these essays make up Volume XI of *E-xcellence in Teaching*. We hope our readers find both thought-provoking ideas and practical teaching help in among these pages. We thank the contributors for sharing their experiences and ideas with the readers of PsychTeacher, and with the rest of the psychology teaching community.

Micro-Activities in the Classroom: When Good Teaching Comes in Small Packages

Amy J. Marin
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Instructors in higher education are feeling increasing pressure to use student-focused approaches over traditional lecturing in the classroom. Instead of seeing the student as a passive spectator, the learner is viewed as ultimately in charge of what gets learned. Putting the student at the center of the learning process means that the student must actively engage with course material and apply, process, and analyze information during every class period. There are a variety of teaching techniques that encourage active learning including cooperative learning, service-based learning, peer instruction, collaborative learning, critical thinking exercises, role-playing, practice quizzes, and more. The good news is that these methods seem to be more effective than passive approaches (Prince, 2004; Michael, 2006; Cazabon, 2009). The bad news is that faculty are not exactly jumping on the active learning bandwagon.

Despite growing faculty interest in active learning techniques, teaching methods have not really changed. The combination of lecture with “chalkboard” (visuals presented on screens or boards) still remains the dominant teaching method in higher education (Watts & Becker, 2008; Benjamin, 2002). And proponents of alternative methods often encounter resistance when it comes down to actually implementing new teaching methods in the classroom (Brainard, 2007; Walczyk, Ramsey, & Zha, 2007). Why the reticence to embrace active learning?

Barriers to Active Learning

If you walk down the hallway of any institution of higher education, you are likely to hear at least some of these common reasons for sticking to lecturing over active learning:

Barrier #1: I don't have “room” in my course

One of the biggest concerns that faculty have is that they would have to cut course content. There is already more information in most psychology textbooks than instructors can realistically cover, and the thought of cutting more isn't exactly appealing.

Barrier #2: I don't have the time to redo my course

Designing an effective cooperative learning assignment can be A LOT more time consuming than creating a lecture. And if we're not really sure whether or not a new activity is

going to work, it seems cost prohibitive. Most of us would rather take a few weeks off over the summer than spend every waking moment completely restructuring a course using an alternative format.

Barrier #3: Active learning is great for other courses, but not mine

We tend to think that active learning will work better in other courses than in ours. If we teach research methods or statistics, it may be hard to imagine using something like role play. Teaching in a large lecture hall of 200 students firmly planted in immovable chairs is not exactly ideal for working in small groups. Some of us teach online courses and aren't sure how active learning could be used in this format.

Barrier #4: Active learning is psychologically risky

One of the biggest barriers to active learning is probably the one faculty are least comfortable admitting to: active learning is psychologically risky. What if a new exercise doesn't "work"? What if students don't like it or won't comply? Our lectures become a security blanket - predictable and safe. The thought of parting with our trusty and prized lectures may be too much to bear.

Introducing the Mindful Moment

How do we as faculty overcome these barriers? Is there a way to be more active in the classroom without giving up a lot of content, spending a lot of time and energy, and taking a lot of psychological risk? I believe there is. One way to increase active learning is to pause briefly throughout our lectures to incorporate short activities. I refer to these as *mindful moments*, a term borrowed from the meditation literature referring to a state in which people approach each moment with alertness and awareness. That is, after all, what we hope from our students, right? Alert and aware is preferable to texting or asleep.

Mindful moments are micro-activities lasting only a few minutes that require students to actively engage in the learning process. During a mindful moment, the instructor assumes a facilitator role, designing and implementing an activity, but it is ultimately the student who must do the work. A mindful moment can include anything -- brainstorming, drawing, discussion, role playing, debate, writing, listening, critical thinking, and more, as long as the exercise meets 3 basic criteria:

- 1) Mindful moments should only last a couple of minutes
- 2) Mindful moments should require the student to actively process information
- 3) Students must be accountable for the end product of the mindful moment.

This final criterion is very important. When activities "flop", it is usually because the instructor has failed to build in accountability. It is not enough to pose an interesting question to the class. Students must then write the answer down and turn it in, or know that they may be called on to speak.

Examples of Micro Activities in the Psychology Classroom

Let's look at some examples of micro-exercises, keeping in mind that these are just a starting point. Instructors should develop their own mindful moments based on their own strengths and their particular goals for course content.

5-Minute Papers

Brief papers give students the opportunity to write in addition to actively processing course content. Class can start with a "question of the day" and students can take a few minutes to write their answers. Five-minute papers can involve students coming up with an everyday example of a course concept (e.g. "Write down an example of an influence tactic you've experienced while shopping"), or writing an obituary, toast, book jacket bio, or poem about the work of an important figure (e.g. Freud, Pavlov, Skinner). The answers can be used in various ways, including stimulating discussion and debate. In addition, the papers can be collected as a way to record attendance or for daily participation points.

Visual Learning

Vision trumps all other senses, and pictures and images can be a powerful learning tool (Medina, 2008). Students can be asked to organize information visually such as using affinity diagrams, concept maps, and so forth. Students can be asked to draw, such as designing a tattoo that illustrates a psychological concept (e.g. monocular cues for determining depth). Students may be asked to visualize a course concept (e.g. "picture a psychologist at work"), and then draw, write, or share their responses. Students could be asked to analyze a cartoon or respond to a visual quiz.

Critical Thinking

Critical thinking is an important component of active learning (Ford, 2010), and micro-activities can provide more opportunities to practice this skill. Students can be asked to apply what they've learned to solve problems, analyze case studies, make connections to earlier course content, or create their own mnemonics for studying.

Assessment

When students get feedback on what they know, they become self-regulated learners - modifying their own thinking or behavior to improve learning (Fluckiger et al., 2010; Nicol & Macfarlane-Dick, 2006). In a matter of a few minutes, students can answer practice questions or compare their notes with a partner. Micro-activities can also be a way for students to give feedback to instructors, such as writing down the most difficult or confusing part of the day's lecture.

Student Interaction

If you want students to interact with each other, you can ask them to quiz each other, brainstorm, or discuss a topic with a partner. One way to get students to connect with each other is through role play or improvisation, and there are simple and effective active learning exercises that don't require a degree in theatre (see Sullivan, 2010). When students are working together, it is important to build in accountability in order to avoid students getting off track.

Discussion and Debate

Students can be asked to vote or take a side on a controversial issue. They can write down the strongest point they see in favor of their position as well as the strongest counterpoint. "Clicker" or other types of student response systems can be a quick way to stimulate discussion. Equal participation in discussions can be insured by passing a talking stick, that one must be holding in order to speak, or by rolling a die or using some other random method for calling on students.

Pop-Culture

In an effort to engage student interest, I regularly use activities that tie to pop-culture including Twitter, Facebook, Google, texting, and TV shows like *American Idol*. For example, I will ask students to imagine they are texting a friend who missed class, and in one or two sentences describe the "take home message" of the lecture. Or, I might ask students to imagine they are contestants on *American Idol*, and the weekly theme is psychology. They must come up with a song that illustrates a psychological concept, and must be ready to defend their song choice.

Conclusion

In the spirit of Dr. Seuss's (1954) observation that, "A person's a person, no matter how small," I say to you "active learning is active learning, no matter how small!" We don't need to move mountains to include more active learning in our classes. We can start by adding one new activity in a semester, and slowly adding more over time. There is a tremendous payoff to using micro-activities well beyond the teaching of psychology content. Most institutions have general education objectives like critical thinking, oral communication, and written fluency, and micro-activities provide a way for these to be practiced on a regular basis in the classroom. Mindful moments are also quite flexible and user friendly, capitalizing on the unique strengths of the instructor. They can also be used for outside class assignments, can be modified for large classrooms, and can even be used for hybrid and online courses (Gulbahar & Filiz, 2010). Good teaching *can* come in small packages!

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Course Evaluation for Fun and Profit: Student Management Teams

Mitchell M. Handelsman

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This morning I spent three hours at City Hall waiting to (not) be picked to serve on a jury. As I sat there I felt just like I used to feel when contemplating my course evaluations: My responsibility for jury duty was an externally-mandated appendage to my identity—a necessary but unwelcome cost of living in a democracy. I dreaded it and wanted it to be over as quickly as possible. When it was over, I felt free and unencumbered. In a similar way, course evaluations used to feel disconnected from my identity as an educator. They were the necessary, periodic price I paid for academic freedom. I hoped that whatever the outcome, it would at best be a waste of time with maybe a little learning. At worst, it might be a complete waste of time.

This morning I told myself that there was substance to jury duty—it makes the system work with relatively small individual investments. My attempts at attitude adjustment didn't work for jury duty, and they were only slightly more successful with end-of-semester course evaluations. But I'm here to tell you about a method of course evaluation—the Student Management Team (SMT)—that is so different from our standard procedures that now I feel that evaluations are as fun and essential as the daily doubles in the *Jeopardy!* game that is teaching. If you have felt even a little like I did about course evaluations, read on.

Ed Nuhfer (1991/2008), a geologist and faculty developer, created the idea for SMTs by applying Juran's (2004) and Deming's (Walton, 1986) management concepts to education. These principles include a focus on quality, constant improvement in outcomes, breaking down communication barriers, and self-improvement. The theory is that the teaching and learning environment can be improved when students and faculty share responsibility for success. SMTs, consisting of 4-5 currently-enrolled students and the instructor, assume responsibility for monitoring the course, transmitting feedback from the class to the instructor, and making and helping to implement suggestions. Receiving feedback and making improvements all through the course make the experience more engaging for everybody involved (the fun part) and reduces the dread of end-of-semester evaluations. It may even increase students' ratings of us (the profit part).

There are no courses too large or small for an SMT; I have utilized SMTs in intro courses of up to 200 students and in graduate courses as small as eight students. I usually form a team a quarter of the way through the semester, choosing the team from among volunteers who can make the same meeting time. Other professors choose members by lot, or choose some students and ask for volunteers for the other slots. In my upper-division and graduate courses I have simply left the room for a few minutes after instructing students to decide who will serve

on the team.

SMTs can provide feedback and suggestions about course details (such as assignments, testing, clarity, absenteeism, and class discussion) or the instructor (such as using technology, lecturing methods, and teaching style). You can have the team focus on one aspect or give them *carte blanche* to make suggestions about any aspect of the course. I always ask for suggestions about how to use class time.

Students earn no extra credit, grade consideration, or other direct rewards for their participation on the SMT. Some students, of course, figure out that they might get better letters of recommendation, just like I might get better evaluations. We always announce upcoming SMT meetings in class and invite all students to attend. Thus, the SMT is not a secretive or exclusive club. We usually meet on campus, in public, near food (more of the fun part).

The SMT meets weekly; I attend every other week. I run the first meeting, after which the roles of leader, recorder, and encourager rotate among all team members. The leader runs the meetings. The recorder notes suggestions and plans for implementation. The encourager makes sure everybody stays (a) awake, (b) engaged, and (c) active.

At the first meeting I ask students for their goals and fears regarding the course and the SMT, after which I share my own motivations—including the noble (e.g., empowering students), the practical (e.g., avoiding burn-out after 30 years of teaching), and the base (higher course evaluations). I usually ask the team to create (at their next meeting, without me) a mid-term course evaluation. Teams usually develop great questionnaires which they administer, tally, and discuss with me. In one upper-division course the team and I agreed that students needed to be more engaged and active—reading the assignments, initiating discussions, etc. During the next class meeting the SMT members, in turn, talked to their colleagues about many ways they could get more involved. I sat and watched.

As Nuhfer (1991/2008) recommends, I elicit one suggestion during the first meeting that can be implemented right away, just to show that I am serious about getting and using student feedback. For example, the SMTs and I have organized study groups, developed additional get-to-know-each-others'-names exercises in class (I had learned everyone's names, but students hadn't), and planned refreshments for an upcoming workshop day. One team simply had me explain more clearly to the class why I seldom lecture or show videos in class.

My favorite success story about the use of SMTs is actually a prevention-of-disaster story. The first test in my introductory psychology course had been uneventful, but I had inadvertently made the second test way too difficult. Students did much worse on the second test. Several complained to me, saying things that struck at the heart of my professional identity, like, "Why should I even study?" These were not whiners—they were good students who correctly perceived that I had messed up.

I brought my problem to the SMT, and they developed a solution I never would have thought of: Students would have their Test-2 score changed to the *average* of their scores on Test 2 and Test 3! I announced the new policy during the next class meeting, giving full credit to the SMT. Students loved the idea, they seemed motivated to put in extra effort on the next test, and they seemed especially impressed that their fellow students developed the solution. Several students came to me to express their gratitude, and my end-of-course ratings did not suffer.

Another SMT collaborated with me to design a portion of the final exam, helping me articulate (to myself and to the class) and implement some guiding principles, such as fairness and pedagogical value. Once again, student buy-in seemed greater because of the team's involvement.

Do I have failure stories? After doing more than twenty teams, the answer is no. At worst, some teams didn't have many suggestions. Some of the teams simply ran out of steam. Sometimes I pushed them, but sometimes I ran out of steam too and was happy to concur that things were good enough and there were no pressing problems. Once or twice—OK, once—the SMT concluded each week that things were going pretty well!

Let me anticipate some possible concerns you may have. First, you may wonder whether students will take advantage of the SMT procedures to air their own individual grievances. In fact, students—even those who are not doing well—do not engage in much special pleading by making suggestions exclusively in their self-interest. Much more commonly, students take their tasks seriously and appreciate the balance we need to accomplish between support and challenge. I have not felt pressured to compromise my principles or standards. Rather, I have found new ways to implement them, and ways to actualize new principles and virtues such as respect, accountability, transparency, empowerment, collaboration, and humility.

Second, you may question whether you have the time or the inclination for an SMT. Good point. You should not do more than one SMT in any semester. It will take effort and time to go to meetings, to teach some communication skills if necessary, to implement at least some suggestions, and to articulate your principles on the occasions when you don't follow the SMT's suggestions. Third, you may doubt that students will buy in to the SMT process. You can increase student investment by including information (and enthusiasm!) about the SMT in the syllabus and in first-day activities (Handelsman, 2011).

At the last SMT meeting of the semester (which often includes pizza), I ask members to evaluate their experience by reviewing their hopes, by completing questionnaires, and/or by writing letters to next semester's team. The feedback I have received has been overwhelmingly positive. Most students express gratitude for the opportunity to serve and would do it again. They often report that they now appreciate the amount of preparation and thought that goes into teaching. "I never knew teaching was so hard!" is a typical comment from these students.

As you can tell, I'm sold on the value of SMTs. I no longer teach a new prep without an SMT, and I do not go more than one semester without one. I find SMTs a wonderful way to improve my teaching and avoid burn-out by making small but meaningful changes in my teaching and by developing positive collaborative relationships with young students who might otherwise call me "Pops" (Pastorino, 2007; Price, 2010, Svinicki & McKeachie, 2011).

If you are even partly convinced that SMTs are for you but still have doubts, please read other accounts (Buch, 2002; Cunningham, Chambers, Howard, & Schenk, 1994; Mutschelknaus, 2000; Nuhfer, 1997, 2004; Schwartz, 1996). Also consult Nuhfer's (1991/2008) comprehensive handbook, which includes lots of practical suggestions and empirical evidence of effectiveness. For me, the jury is in.

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Meet the Faculty: Encouraging Undergraduate Participation in Departmental Research

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The faculty in many undergraduate psychology departments consider student involvement in research a desirable outcome, in part because they know that this experience bodes well for students' acceptance into graduate school and for meeting their other career goals (Hathaway, Nagda, & Gregerman, 2002), and in part because they want their students to fully appreciate the value of scientific investigation into psychological concepts. They also know that close and positive interactions between undergraduates and faculty, such as those developed in a research setting, facilitate students' academic and personal development (Kim & Sax, 2009). Unfortunately, student involvement in research is not always easy to accomplish. The National Survey of Student Engagement reported that only 27.6% of seniors majoring in the social sciences participate in research activities with faculty (ASHE Higher Education Report, 2007). Research participation may be limited because curriculum requirements restrict the time students can spend on 'optional' research activities (Perlman & McCann, 2005) and because many departments have a large student to faculty ratio, limiting how many independent research projects can be mentored. Such issues are typically beyond faculty members' control.

One possible cause of the lack of student research involvement, however, may be quite fixable. Perhaps students are not aware of their professor's research interests or of the opportunities to become involved in research. To address the possibility that students may not be familiar with faculty research interests and departmental research opportunities, I implemented an activity called "Meet the Faculty" in an undergraduate research methods class and found informal evidence of its effectiveness in familiarizing students with faculty research interests and in increasing the likelihood of students becoming involved in research in our department.

My suspicion that my undergraduate students do not know a lot about their professors' research interests, or even realize their professors conduct research, developed from several well-intended but off-target student comments. As a first-year student interviewed me for an English paper she was assigned to write about academic careers, she commented, "My teacher wants me to ask you what you do during a normal day. Well, that's easy. You teach classes." Another student tapped on my office door at the end of the semester, saying she had enjoyed my section of Introductory Psychology and wondered if I taught any other first-year courses such as World Civilization or Introduction to Sociology. A student visiting me during office hours, noticing my large collection of research-related texts, asked, "Do you really use all of these books when you teach?" Students' assumption that we spend the majority, if not the entirety, of our time teaching is understandable. The majority of student-professor interactions

occur in the classroom, where we may not discuss our own research interests, either due to lack of time or due to teaching courses outside our area of research specialization (Cotton & Pfaff, 2009).

A review of the literature supports the idea that students are largely unaware of their professors' research interests (Healey, Jordan, Pell, & Short, 2010). While a large body of literature promotes the benefits of engaging undergraduate students in research (e.g., Pascarella & Terenzini, 2005; Young & Sax, 2009), there is much less emphasis on how to actually accomplish this. Some authors provide suggestions for engaging students in discipline-specific research endeavors (e.g., Henkel, 2006) and others offer suggestions for broader, university or discipline-wide changes (e.g., Healey & Jenkins, 2009). My approach was to try to strike a balance with a strategy that could be implemented by individual instructors, regardless of discipline and regardless of departmental or institutional constraints.

"Meet the Faculty" Activity

During one semester of an undergraduate research methods course (class size = 22) I introduced one faculty member from our department each week and tied that person's research interests to the course topic for that week. To 'introduce' the faculty, I showed the students the faculty member's website which usually contained a photo of the person, a list of classes he or she teaches, and a synopsis of his or her research interests. When the website did contain a research synopsis, I read it out loud to the class and provided clarification on issues such as what research methods and subject pool that person tended to use and how his or her results applied to 'real world' situations. Once students heard this overview of the research, I incorporated the research into the topic for that day.

As one example of the "Meet the Faculty" approach, I once used a colleague's interest in juror decision making to illustrate the concepts of internal and external validity. After defining these terms, I asked the class to identify some possible extraneous variables that would threaten the internal validity of a study on juror decision making and what the researcher could do to ensure she has internal and external validity. In another case I used a colleague's research on personality assessment during a class discussion of operational definitions. I asked the class how a researcher could begin to define what he or she means by 'personality,' why it is important for researchers to create such specific definitions, and why it is important for different researchers to agree on an operational definition?

Anecdotal evidence (i.e., observations of students' answers during class, conversations with students outside of class, and conversations with faculty) indicated positive outcomes of this activity both during and after the course. Students who experienced the "Meet the Faculty" activity demonstrated a greater interest in faculty research than students in my previous sections of research methods who had not experienced the activity. Further, students were more likely to become involved in research with faculty than students from previous semesters who had not experienced the activity.

Although the purpose of the activity was to increase research participation, one surprising outcome was that it seemed to engender a sense of community in the class, giving students who knew the professor being discussed that day a sense of importance and ownership of the department. When students knew the professor they enjoyed being able to

share their knowledge about that person, volunteering information such as what classes he or she taught, how to find his or her office, and what other roles that person played in the department (“You know him... he’s the Psi Chi advisor”). An additional, unplanned benefit I observed through conversations with students was their increased understanding of their own professors’ roles as scholars (as opposed to assuming all professors are solely teachers) and an increased understanding of what an academic career entails.

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More than Just Stepping Away from the Podium: A Jigsaw Classroom

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One definition of the term “instruct” is “to furnish with orders or directions; direct; order; command” (Instruct, n.d.). Imagine a classroom in which the instructor does little “teaching,” and instead spends time “supervising” or “instructing” class. Many techniques and activities now exist that emphasize such a learning environment, but how many of these techniques can be successfully utilized over multiple days in a course, or even an entire semester? The “jigsaw technique” is one strategy that allows a teacher to transition away from only providing knowledge to students to focusing on helping students discover and share their knowledge. Aronson (1990; 2002) and colleagues (Aronson, Blaney, Stephan, Sikes, & Snapp, 1978) developed the jigsaw technique as a method to help reduce racial tensions. The jigsaw technique and other cooperative learning environments have been used by individuals for this purpose for many years, as well as to influence student achievement and student interaction (Aronson, 1990; 2002; Aronson et al., 1978; Carlsmith & Cooper, 2002; Johnson & Johnson, 1989; Sharan, 1980; Slavin, 1983; 1985; 1996; Walker & Crogan, 1998).

The jigsaw technique’s use in college psychology classrooms has a more limited history. Caroll (1986) and Perkins and Saris (2001), respectively, described how they used the jigsaw technique in a laboratory course for the psychology of learning and memory and a statistics course. I learned about the technique from a colleague who suggested we try it in some of the courses in our department. My colleague told me about the technique near the end of the semester that I was teaching a course on sensation and perception in which I used a more traditional format involving at least one demonstration or activity each class period. I was intrigued by how the jigsaw technique would further change the students’ foci from passive vessels to active participants in their learning, so I decided to try the technique the following spring when I taught the sensation and perception course again.

General Procedures of a Jigsaw Class

Aronson et al. (1978) fully described the procedures of a jigsaw class, but I present its use in the sensation and perception course in order to provide a course-specific example of its implementation over multiple topics and half of the course’s class periods. The sensation and perception course met once per week for three hours over the 18 week spring semester. Twenty-six students took the course during the semester we used the jigsaw technique. We used the jigsaw approach for approximately half of the semester, with the following allocations: the beginning weeks of the semester utilized a more traditional format, the middle weeks used

the jigsaw technique, and the last weeks involved a split between the more traditional lecture format and the jigsaw format. The more traditional format classes used lectures and active learning techniques to cover background information and the history of sensation and perception research, as well as the physical structures and physical changes involved in sensation and perception (i.e., the physiological aspects of sensation and perception). The jigsaw classes focused on the application of sensation and perception principles and the more cognitive aspects of sensation and perception topics.

In a jigsaw class, the students divide into groups of four or five, with each individual becoming responsible for teaching a portion of the overall topic to the other group members. In the sensation and perception course, I divided the students into groups of four at the end of the class period before we implemented the jigsaw technique. The groups changed every two weeks to ensure contact with the other students in the course, and to ensure that group members did not become too complacent as they would be responsible to a new set of students.

I randomly gave each student in the group a number from one to four, with these numbers corresponding to a portion of the next chapter. I attempted to divide each chapter into four equal sections based on length and difficulty. The students were then responsible for reading the chapter prior to the next class period and for becoming experts for their prescribed portion.

During the next class period, the students met initially in their groups of four (the “main group”), to reacquaint themselves with one another. After meeting for a few minutes, the students divided into the “expert groups,” composed of the students from each main group responsible for becoming experts on that portion of the chapter. Thus, students who were the experts on ambiguous figures met together, while students who were experts on shape constancy met together. The experts spent time together discussing exactly how to teach the material to the other members of their main groups. The experts also, as often as possible, developed a demonstration or activity to illustrate their portions of the course chapter.

Once the expert groups had sufficient time to meet (approximately one fourth of the class period), students returned to their main groups. The “experts” then began teaching their main groups their portion of the chapter material. I allocated at least half of the class period to this activity. Once all of the experts taught their material to their peers, the groups ensured no questions remained on any of the topics.

I then randomly selected two of the main groups to lead the entire class in one of the demonstrations, activities, or explanations developed by the expert groups. The other members of the class and I rated the group presentations. These ratings were averaged, and this score formed part of the students’ grades for the course.

After the main groups had completed their presentation to the class, I provided an opportunity for additional clarifying questions to be asked of a presenting main group or myself. Less than one fourth of the class period was dedicated to the presentations and review/questions. The final portion of the class period involved preparation for the next jigsaw class, which entailed distributing the division of the next chapter, as well as informing the students of their new main groups if it was a week in which these main groups changed.

The final tasks the students completed before the class period ended were a short main group, open-ended quiz question I developed for the chapter and an evaluation of the other

members of their group with regard to the perceived quality of their peers' preparations, presentations, and abilities to teach the class information.

I compiled the weekly peer assessments, averaged them, and included those in the calculation of their overall peer assessment, which was part of a student's final course grade.

Instructor's Role and Responsibilities

The role and responsibility of the teacher dramatically changes when using a jigsaw classroom. My mom has a saying with regard to raising a child: "It never gets easy, things just change." This statement accurately depicts what occurs for the instructor of a jigsaw class. The instructor's focus moves from developing PowerPoint files, finding videos, thinking of active learning activities for each class period, and delivering this content, to being a "course manager." The role of a course manager involves examining the content to ensure an equitable division of labor, assigning students to groups and content to teach, reviewing the material to be covered and its division, rotating between expert groups quickly enough to catch possible misinformation, helping students determine the appropriate information to teach (without providing it for them), repeating this previous task during the main group time, being available for clarification when necessary without imposing or overshadowing information presented by students, and collecting and analyzing the evaluations for the students after each jigsaw class. Additionally, the instructor must ask questions as necessary to clarify information presented by students or to reinforce important concepts during the main group presentations at the end of the class. In doing so, the instructor should take care to correct any misinformation without appearing to dismiss the work done by the students.

The key to being successful at leading a jigsaw classroom experience is to be organized and embrace the change in role to someone who instructs/manages, rather than just someone who transmits information. The change can be rather daunting since an instructor abdicates control and responsibility to students, but this change provides the instructor and the students an opportunity to grow and develop, along with a change of pace in the course.

Student Responses and Course Evaluations

After the completion of the jigsaw classroom sessions, I had students complete a survey to learn about their thoughts on and experiences with the technique. Students reported that they read the course material significantly more for class periods in which we used the jigsaw technique compared to the same class periods the previous year in which the technique was not used in the course. Nearly all of the students enjoyed the classes with the jigsaw technique, thought the technique should be used in the future, felt their classmates did a good job explaining the material, and felt that they got to know their classmates better as a result. Very few students considered the technique a waste of their time or wished the course had not included the jigsaw format. However, a majority did not want the technique used in other classes. In fact, one student freely admitted that he enjoyed the technique, but was concerned it would be used in other classes, and this would have required him to be prepared for all of his classes.

As a non-tenured faculty member at the time, I was particularly concerned about the end-of-course evaluations. The students' responses to the survey immediately after the jigsaw class periods might have been clouded by the recency of their experience as well as social pressure, but course evaluations provided a freer opportunity for students to express their thoughts. The ratings of the course and my instruction when I used the jigsaw technique were similar to ratings when the course entirely followed a more traditional, lecture format with learning activities. Many of the students mentioned in their course evaluations, which occurred nearly a month after the last jigsaw class, that they enjoyed the jigsaw technique. For instance, "I enjoyed the jigsaw method, I think it improved my studying habits (because I had to perform) and got everyone in the class to open up and get to know each other," "I did think it was nice doing the jigsaw because it forced me to study before class. I also enjoyed getting to know everyone in the class," and "I liked the jigsaw, I felt that it was a very good way to learn the material and read the text before the lecture."

Modifications of the Technique

As previously mentioned, we used the jigsaw technique in the sensation and perception course for approximately half of the semester, with the middle four weeks only using jigsaw and the last four weeks splitting between a more traditional format and the jigsaw format. I describe the division of the course to provide an example of how an instructor can incorporate the jigsaw method into a course. The jigsaw technique's flexibility allows an instructor to choose the courses in which to implement the technique, the number of class periods in which to incorporate the technique, and the topics for which the technique is used. I suggest that instructors use the technique for more than one topic in the course because, as with any skill or experience, it takes students time to become comfortable and proficient with the technique. The technique seems to work best in courses whose enrollments are slightly smaller because space needs to be available for the different groups, both expert and main, to meet to discuss and teach. However, the technique could be used by a creative instructor in any class with any topic. Meyers (1997) and Giordano and Yost Hammer (1999) have suggestions for using collaborative groups in a classroom and practical solutions for managing them. The jigsaw technique can influence the dynamics of the class, and help with student achievement.

My final suggestion is to try the jigsaw technique in a class and see what happens. Just expect a different course environment and a possible change in preparation for you and for your students. That is not to say that growing pains will not occur, but it may be worth it.

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Scientific Literacy as a Goal for Undergraduate Education in Psychology

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A few years ago, our department engaged in a discussion about the goals of introductory psychology: Should we focus more on teaching the facts? Or should we focus more on the skills and dispositions that psychologists value the most, such as critical thinking and an appreciation for human diversity? As a veteran of such discussions—we seem to have them regularly—I suspected that the answer would simply be “both.” I was surprised, however, when the conversation took an unexpected turn. A colleague suggested that the real goal might be to foster *scientific literacy*. It was an interesting thought. It seemed consistent with curriculum guidelines published by the APA (2008) and the recommendations of the 2008 Puget Sound Conference (Halpern, 2010). Furthermore, we had all encountered this term with what seemed to be increasing frequency, mostly in the context of articles lamenting how the typical citizen lacked knowledge of the most basic scientific concepts. For example, Jonathan Miller, a leading researcher on matters of scientific literacy, stated that around 70% of Americans lack the scientific knowledge to read and understand an article in the New York Times’ science section (Science Daily, 2007). Starting from this point, we set out to determine exactly what others meant by scientific literacy, how it was measured, and whether it was truly a suitable goal for undergraduate education in psychology.

So what is scientific literacy? It has been defined in the National Science Education Standards (1996) as “the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity.” Miller (1998) further emphasizes the civic component of scientific literacy by adding that it is “...a level of understanding of scientific terms and constructs sufficient to read a daily newspaper or magazine and understand the essence of competing arguments on a given dispute or controversy” (p. 204). In these definitions and descriptions we see a consensus that scientific literacy involves at least four main elements: a knowledge of basic scientific concepts (i.e., the facts of science), an understanding of and appreciation for the methods of science, the ability to critically evaluate scientific (and pseudoscientific) claims, and the ability to apply scientific findings to personal concerns as well as issues facing the community. All of these, of course, contribute to *literacy*: the ability to read and understand information. It may be tempting to view these four components of scientific literacy as a hierarchy, but that is not necessarily the case. For example, one can know facts that were developed through scientific research without understanding the scientific method. Likewise, one can have a thorough understanding of scientific methods, but know little about a certain scientific discipline.

So that is the essence of scientific literacy, but how is it measured? Scientific literacy tests often contain a set of questions about important scientific concepts, such as the following:

-Electrons are smaller than atoms. (True)

- It is the father's gene that determines if a baby is a boy or a girl. (True)
- Antibiotics work by killing viruses as well as bacteria. (False)
- The center of the Earth is very hot. (True)
- The earliest humans lived at the same time as the dinosaurs. (False)

Thinking as a psychologist, do you notice anything missing from these items? None of them actually pertain to the science of behavior—and that is true for the overwhelming majority of items on the most popular tests of scientific literacy. But doesn't psychology deserve a place in this test? And don't psychologists have anything to contribute to scientific literacy? I believe the answer to both of these questions is a clear and resounding *yes!*

For starters, recent research has identified that psychology is one of a handful of “hub sciences” (Cacioppo, 2007). A hub science is a centralized discipline whose methods and concepts support other disciplines. In this view, psychological science supports fields such as education, public health, biomedical research, among others. If a student can understand psychological research, he or she is well on the way to understanding research in the supported fields that share methodology, concepts, and even journal citations.

Second, Introductory Psychology is a very popular undergraduate course. For many students in the arts and humanities, introductory psychology may be the only science course they take. The focus on human concerns makes it much more appealing (and some might argue more relevant) to those students than other sciences such as geology or chemistry. Therefore, the first psychology course should prepare students to read and understand general science, not just psychology. In other words, we can do more than just develop knowledge in our own discipline; we can also teach students to read and understand information from disciplines that are linked to psychology's hub. Given that other sciences are well-represented in tests of scientific literacy, here are a few suggested items drawn from the field of psychology:

- People with schizophrenia do not have multiple personalities. (True)
- Chronic stress can be harmful to immune system functioning. (True)
- Homosexuality is a psychological or psychiatric disorder. (False)
- Autism is caused by childhood vaccines. (False)
- Experimental methods are required to establish cause-effect relationships. (True)

My colleagues and I quickly and easily came to an agreement that scientific literacy was our overarching goal, that psychology deserves a place in the greater discussions of scientific literacy, and that we have a responsibility to our students—whether or not they are science majors—to help them develop scientific literacy. The next question we faced was perhaps the most important: How do we develop scientifically literate students?

Our approach to teaching scientific literacy focuses on primary sources. We introduce research methods in the second chapter of our textbook (the same as we have always done). We supplement this discussion with direct instruction on how to read and make sense of scientific journal articles in psychology. In a series of assignments, we ask students to dissect several papers which we have chosen for their straightforward methods and simple language. For the first assignment, we have students compare their outlines in small groups and then with the instructor's analysis. For subsequent assignments, students' outlines are graded so students can receive individual feedback. As students complete their third or fourth outline in the series, we increase the complexity of the task. We assign a New York Times article that covers a

psychological study and ask the students to compare it to the primary source in a short writing assignment. Finally, for the last assignment in the term, students not only dissect a journal article, they also write their own newspaper style account of the study. In our assessment of these assignments, we find that students greatly improve their ability to understand primary sources and they also improve their ability to read and understand popular sources. In other words, they become more scientifically literate.

Whatever methods are used to teach scientific literacy, there should be a combination of direct instruction on reading articles (whether primary or secondary), as well as practice reading and interpreting. The didactic component of our method teaches students to ask four questions related to the four facets of scientific literacy: *What are the facts and major concepts? How do we know this (i.e. what methods were used)? How should we evaluate these findings? and How is this relevant for individuals and/or the community?* As for the practice, students should actually provide answers to the questions in some format—an outline or perhaps their own New York Times style article.

In summary, I would encourage my colleagues to think about scientific literacy as a goal for their courses. I have described it in the context of the introductory psychology course, but I have implemented similar, but more advanced, assignments in my Statistics and Cognitive Psychology classes as well. Teaching scientific literacy in the introductory course reaches a broad audience, including students who never take another science course. By preparing them to read and make sense of scientific information in psychology, we are helping them become better consumers of science in general.

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Need Help with Program Assessment? Ask Your Students!

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Like faculty at many institutions, we at Valdosta State University have had to conduct departmental program reviews with dwindling time and monetary resources. Each year, we are required to develop an assessment plan for the following year and write a report detailing how we assessed the program during the previous year. One resource from which we never really considered seeking help was our students. That changed a few years ago. It started as a casual conversation that a group of faculty had with several students who were interested in finding out more about the policies that we use to override students into classes that are full. That term had been a particularly bad one. Our classes were packed, and several classes were moved to different locations all across campus to fit the number of students needing the courses to graduate. One issue that was brought up was the override process – a procedure that over the years had become more and more complicated. To be honest, I was the one who had made it a lot more complicated but my objective had been to try to make it easier on our department head who had the unpleasant job of deciding which students should be overridden into a class. How should the process be fixed? The problem was that I was not sure what was wrong with the system, at least from the students' perspective. The students volunteered to collect data on this topic.

A group of faculty members and the Psychology Club developed a survey that not only addressed this issue but also student perceptions of research opportunities with faculty members. The students collected data in our classes and analyzed the results. The results showed that students in general had a number of misconceptions about the override process. One misconception was that many students were having their graduation delayed because they were not being overridden into courses. We were able to provide data to the students to show that a very small percentage of students (2% at most) did not graduate on time for that reason. Typically, these were students who had failed a class previously and were trying to retake it. We also had students who would fill out override sheets, but then not check to see if they were added to a course. Students at VSU are only allowed 5 Withdraws and, if a professor removes a student for nonattendance, that counts as one of the Withdraws a student can have. We are now in the process of revising the override policies, taking into account the information provided by students. We were also able to correct some of the misinformation that students had about the procedure. In addition, students were unclear about research possibilities with faculty members. To address this issue, we added a link to our homepage describing different faculty members' research activities and how students could get involved. We also included a comments section. Many of the students' remarks mirrored what we as a department have

been asking of the administration for years – more faculty, better resources, improvement of our facilities, and so on. We included these comments in our program evaluation. We have since received approval to expand our faculty, and our new psychology building is under construction.

What came out of this process? Did the new building occur just because of the students' comments? Probably not, but they did help make a more powerful argument. As we assessed our program, we not only had additional help with the process but students also identified issues that we did not consider. We had never assessed the override system – it had simply never occurred to us that it might be an issue that we should address. The students themselves learned about the assessment process -- a valuable skill to have in today's society. They created a survey, collected and analyzed the data, and helped report the results. Because the process was so successful, we are now having students help us develop a senior exit survey. In the future, we plan to have students create an undergraduate psychology student handbook and assist in the collection of data using an alumni survey.

It seems odd to me now that we do not actively utilize our students more in administrative procedures where they may have unique and constructive perspectives to contribute. My literature search on this topic produced few hits. Many resources talked about using student data or making sure students understood the importance of assessment (e.g. Dunn, Mehrotra, & Halonen, 2004). Others described student self assessment, such as using portfolios. I did not find anything on having students help at the department or program level. After all, program assessment is based on the idea that our students are meeting our outcomes or objectives. We are collecting data from them in some way. What better way to get them to understand the importance of assessment than bringing them into the assessment process? Students who understand why we are collecting these data seem to be more likely to take it seriously. They report that they are more likely to fill out surveys sent out from the campus, whereas before they saw such questionnaires as “white noise” with the results going to some mythical place and never being used. Students in Psychology Clubs, Psi Chi or Psi Beta are interested in psychological issues and are motivated to help. On this project, our students had completed Statistics, Experimental Psychology, and Test and Measurements, and while this coursework was useful, it is not absolutely necessary. Most psychology students have had at least basic training in the research process and could help out in a variety of ways given appropriate faculty supervision. Many of them would like to be involved in research, but may not have the time to commit to a large research study. And based on comments that I have had from students, few seem to understand how statistics and research can be useful to them. This is how!

So, how can your students help you? You do not need to start with as big a project as we did. Go to your Psychology Club students and ask for volunteers. Ask them what concerns they have about the program. Ask them how they would address the issues. How should those variables be operationalized? How should questions be framed? Who is the population? How does the sample get tested? What should be done with these results? What would be the best way to write up the information? You will be amazed at the energy the students can bring to the process – and that's another bonus. Think about how nice it would be to have a group of people you are working with who are excited to be part of the assessment process as compared to a group of individuals who may be complaining about the increased workload.

So, in summary, if you have an assessment project, go to your Psychology Club, Psi Chi and ask your students for help!

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Faculty Writing Lockdowns

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The Center for Faculty Innovation at James Madison University sponsors scholarly writers' groups (www.jmu.edu/cfi/programs/writers/index.html) to support faculty in their writing endeavors. As early career faculty, we were both interested in finishing up some writing projects. We signed up for the Scholarly Writers' Group in spring 2010 with some goals for our writing that semester. Krisztina hoped that she could get her dissertation in a form that would be ready to send to a journal. Matt needed help paring down results from a huge dataset into a manuscript-sized format to be able to submit it to a journal by that summer. As we did not know what to expect from the group, we had few other objectives planned. Eight of us showed up to the first of five weekly meetings, with our ideas in mind and drafts of our papers in hand. We split into two groups based on the type of paper we were working on. Our group consisted of two psychologists from different fields working on manuscripts, a geologist working on a grant proposal, a professor from the Center for Instructional Technology writing a journal article about online communication, and our group facilitator, who was from Communication Sciences and Disorders. This group consisted of early career and seasoned faculty. As younger faculty, we appreciated hearing from more seasoned faculty about the tribulations associated with the publication process, and it was helpful to learn that even well-known tenured faculty members receive rejections.

We decided that for subsequent meetings we would read each other's work in advance and provide feedback during our meetings. Initially, we weren't sure how this group would work with each of us having such different backgrounds, especially when it came to giving feedback to a geologist on a grant! It turned out that not having a background in the others' fields was beneficial. We were able to provide each other with perspectives that the writers hadn't thought of previously. The regular meeting times helped keep us to our own independent writing deadlines so that we would also have enough time to read one another's work prior to the next meeting. Both of us were able to edit our manuscripts to submit them for publication within a few months from the conclusion of the writing group. This was a great success!

After realizing the benefits of having set aside regular writing and review times, we decided to continue with our own writing group, just the two of us. Our writing group now has two components. First, we set up one to two hour "writing lockdowns" during which we reserve a conference room and just write. Second, we set deadlines for ourselves a couple of times a month when we exchange papers and give each other feedback.

Writing Lockdowns

Krisztina already has a few hours of dedicated writing time a week and Matt tends to schedule his writing times around other commitments. Because we both plan much of our writing times while at the office, our writing times often get interrupted (e.g., students stop by, other work seems more important at the moment). Our writing lockdowns came about as a result of needing dedicated, uninterrupted writing time. So we decided to hold writing lockdowns on a regular basis. Depending on our schedules, we meet to write every week or two.

The nice thing about these lockdowns is that we both know we have scheduled times set aside for the week to devote purely to writing, during which time we will keep each other accountable for producing something. The “something” aspect is important for us, because during any given lockdown at any time point of the semester, we have very different goals regarding our product for that session. They vary from creating an outline for a paper, organizing and analyzing data, or setting a goal to write a particular number of pages or words. We recommend that those of you starting your own writing groups to have specific objectives in mind for each lockdown session.

Our writing lockdowns were different from the scholarly writers group because the original group had people at a similar stage in the process of developing a specific product. For our paired writing lockdowns, the goal is not always to “get a manuscript ready for submission,” but rather a time to advance different components of our scholarship, share with each other what we accomplished, and help keep each other mindful of future goals of our work. We are always conscious of setting manageable goals for the particular time slots that we have allotted.

It has now been an entire year since we started this regular writing process and it has been mutually beneficial to our work. We are both more motivated to keep our individual designated writing times, in addition to our lockdowns, because we very clearly see the productivity we can achieve during dedicated writing times. Since we first joined the scholarly writers group, and as a result of individual and group writing times, Krisztina has written and submitted 8 manuscripts including journal articles, book chapters, and newsletter articles, and Matt has also produced and submitted 5 manuscripts. Since the group started, we have both had several manuscripts accepted for publication in a number of peer-reviewed outlets.

Feedback

In addition to the lockdowns, we provide each other feedback on our papers. This gives both of us an opportunity to talk to another scholar about APA style, how to write about threats to validity of research design, how to communicate tactfully to an editor, and how to streamline a paper so that it fits the expectations for a particular outlet. As we learned from the scholarly writers group, it is extremely beneficial to have someone outside your field review your papers, as they can provide a different perspective and offer great suggestions. Krisztina’s area of research is cognitive development in infants and children and the scholarship of teaching and learning, whereas Matt’s research areas include pedagogy for teaching about diversity and psychology of ethnic minority students. Nonetheless, we share similarities in

approach to reading, evaluating, and preparing a manuscript, so it is helpful to provide and receive feedback from a peer in the department. Moreover, the fact that we are both early career faculty motivates us to use our time wisely in the lockdowns, and the feedback we give each other helps to improve our writing. Our writing is improved in two ways – one is that we can adopt the feedback we receive immediately, and the second is that we commit to the regular practice of writing.

Tips for Success

1. We think it is a good idea to pair up with someone who is just as motivated as you to work on writing, and not someone who will let you slide with delayed deadlines. Although our initial exposure to the scholarly writers group was successful within a group of five, we decided to continue our group with just the two of us. We all have other responsibilities, and finding someone with a compatible schedule makes the lockdowns more manageable. In addition, we also share accountability toward one another with serious goals in mind for the hour.
2. We highly recommend that you have the writing lockdown in a location where students can't find you, which we have also been able to accomplish! Doing so allows us to focus solely on the task of writing and giving feedback, rather than multitasking with emails and students knocking on our doors, which we are wont to respond to while we write in the office. Having dedicated writing time in a "clandestine" location can help increase your productivity!
3. In addition to finding a "secret" location, selecting a time that is optimal for both writing partners is another key for success. For example, we both tend to write best in the morning and on days when we do not also have to teach. We recommend that you find a partner with whom you have a compatible schedule and times of day when you are typically productive.
4. Set reasonable goals for both the writing lockdowns and the feedback process. When you set attainable goals and can reach them, you'll be motivated to keep going. If you set goals that you can't keep, you'll feel defeated and will likely want to give up. For example, Matt used to begin the lockdowns by saying he would "work on his Methods section," but after a few weeks with Krisztina, realized that it would be more productive to have more specific and concrete goals. For example, he now sets goals such as "write three paragraphs for the methods section" or "edit the APA style in the last 8 pages" – these are more concrete, and this strategy enables him to solicit more specific feedback.

While finding time to write and writing itself pose a challenge to many of us, finding a support system can greatly increase your productivity and even make the process enjoyable.

This edition of E-xcellence is brought to you courtesy of our eighth writing lockdown of the semester.

Suggested Readings

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Bolstering Student Response Rates for Online Evaluation of Faculty

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In the first teaching philosophy I ever wrote, I included a segment that read, “Every teaching method needs to be evaluated for effectiveness, and I am a strong believer in monitoring my progress with the students. I think it is important to consider feedback and to modify courses to continuously improve delivery.” Now, in my sixth year as a college educator, I realize how naïve my beliefs were at that time. My biggest assumption was that I would have detailed and complete data regarding student evaluation upon which to base future class decisions. When I attended college, both at the undergraduate and graduate levels, professors always had paper-and-pencil evaluations for the course. Given this common evaluation practice, I always thought that I would have detailed information regarding my classroom successes and failures. Ever idealistic, I also felt that end-of-course evaluations were not enough and vowed that I would gauge my teaching effectiveness as the course progressed, not just at the end.

The reality is I came to an institution that had moved from a paper-based evaluation system to an online evaluation system. My first year of teaching, I received completed evaluations from 34% of my students. I am not sure, however, that all 34% of the responses were actual evaluations of **my** teaching effectiveness, as one student indicated “Dr. Smith is a great professor.” Whether the student was unsure who was being evaluated or was indicating that, unlike me, Dr. Smith was a great professor, I will never know. I would like to think it was the former.

The recent change in evaluation administration from paper to online has been beneficial in several respects. The cost is reduced as paper forms are no longer necessary, and class time is no longer taken up by classroom administration. A third, and very important, benefit is that students are more likely to leave comments for their professors because they a) are not worried about their handwriting being recognized and b) are able to type rather than write their opinions which is viewed as an easier response (Bullock, 2003; Dommeyer, Baum, Chapman, & Hanna, 2002; Layne, Decristoforo, & McGinty, 2002). Finally, feedback is instantaneous and does not require a college employee to aggregate results or type comments to protect student anonymity. The speed of receiving results is especially useful if professors wish to gauge classroom feedback mid-term rather than at the end of the semester (Angelo & Cross, 1994). All of these reasons support the move from paper-based to online-based evaluations of faculty.

However, as beneficial as the change may be, many professors are facing the same issue as me – dismally low response rates. When administered in class, course evaluations produce a decent response rate as the professor often has a captive audience; however, when course

evaluations are administered online response rates fall sharply. Layne, Decristoforo, and McGinty (1999) compared in-class and online evaluation surveys. While the survey results for courses were similar across administration modality, the response rates for the online forms were significantly lower. In order for evaluations to have any validity and any real utility for professors they need to be completed by a majority of students (66% or higher, Centra, 1979). Part of the problem with online evaluation tools is that the burden of action is on the student. Students often fail to complete the forms due to simple forgetfulness, technical difficulties, or the prevailing opinion that their ratings and comments do not matter.

Some faculty members believe a low response rate on an online evaluation form represents a polarized portion of the class (Donmeyer et al., 2002). If the sample of responses is largely comprised of students who hate the class or instructor, then the instructor would receive low ratings that may not accurately reflect the instructor's teaching skills. Contrary to this belief, findings suggest evaluations with low response rates are not necessarily negative (Johnson, 2002). However, it does beg the question – if an instructor receives a 25% response rate, how reliable is this data? According to Thorpe (2002), females, individuals with higher GPAs, and students earning higher grades in the course are more likely to complete an online evaluation form. Therefore, the data suggest that online faculty evaluations may be more positively than negatively biased based on who is more likely to complete the evaluation process. However, if these evaluations are being used to make class improvements, how beneficial are they if the responses are comprised of the students who are doing well? A skewed sample of participants results in skewed data which may or may not be an accurate representation of the instructor's skill in the classroom.

To overcome low response rates, some institutions have made grades unavailable until evaluation surveys have been completed. However, not all institutions are willing to set this standard, leaving instructors to determine how best to bolster student response rates. Some of the ways instructors have attempted to improve response rates include reminding students to complete the surveys, emphasizing the importance of the surveys and their anonymous nature, and offering incentives (Anderson, Brown, & Spaeth, 2006). Dommeyer, Baum, Hanna, and Chapman (2004) compared three different incentives (extra credit, in-class demo, and early course feedback). Only extra credit resulted in response rates that were comparable to in-class administration.

In my own experience, simply offering an extra credit assignment in class sometimes results in low response rates on the assignment itself. Students who tend to complete the assignment are those who really need the extra points or, conversely, are those whose scores are already so high that they do not need the points. I realized simply making the end-of-course evaluation worth extra credit was not going to give me the response rates I wanted. I needed something more. In 2010, I informed my students that they would earn extra credit for **the entire class** if they reached an 80% response rate. The extra credit that was offered amounted to a 1% overall grade increase. Students were informed that I would not know who completed the survey, only the response rate which I was able to monitor via Moodle. In addition, I reminded them that I would be unable to see the actual ratings until 9 days after grades were due and classes were done for the semester. This procedure meant some students could potentially socially loaf and garner the benefits of the extra credit without actually having

completed the evaluation. Students were reminded how to access the evaluation and told the closing date. The rest was left up to the students.

The aftermath of my announcement was completely different than other times that I reminded students about the end-of-semester evaluations. In past semesters, I would usually receive a blank stare or vague promises of “I’ll be sure to fill that out, Dr. Prunty.” Now, however, a student’s extra credit depended on the other students. As a result, students sent each other email reminders, brought laptops to class to allow students without internet access to complete the survey, and reminded each other every class period in order to reach the 80% response rate. Anecdotally, students expressed that they took the evaluation more seriously because it was obvious I cared about their responses and many indicated they were more likely to complete the open-ended comment section.

The extra credit intervention significantly increased overall student response rate. However, some instructors may not feel comfortable offering extra credit for fear that this practice will result in grade inflation. Dommeyer, Baum, Hanna, and Chapman (2004) conducted a study comparing the effect of extra credit, in-class evaluation demonstrations, and early course feedback on student response rates. They found that extra credit was the most effective strategy for increasing student response rates on online evaluations to the level of in-class evaluations. It is important to note that the extra credit offered in the Dommeyer et al. study was a quarter of a percentage point. This minimal extra credit incentive had tremendous impact on the number of student responses. To bolster my response rates, I offered students a 1% grade increase, another minimal increase. These combined results suggest that professors can tailor the amount of extra credit to a comfortable level so completion of course evaluations does not excessively inflate course grades.

In addition, other rewards can be used instead of extra credit, such as dropping a homework grade or giving an external reward not related to class. It is my belief that the more important aspect of this process is that the students police themselves to obtain the desired response rate. If the students want the incentive, whether it is extra credit, a dropped assignment, or a pizza party, they will police each other to ensure the response rate is reached.

Since implementing this system, I have achieved 80 to 100% response rates in every class I have taught. I now have confidence the student opinions I receive actually reflect the opinions of the class as a whole and not just one or two students who love or hate me and my methods. All that is required to implement this system is a desired incentive and a method of monitoring student response rates, whether that be utilizing the online system itself or requiring students to print completion certificates as proof.

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Honor Systems: How Do They Impact Pedagogy?

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Educators from grammar school through graduate school are well aware of the critical problem of academic dishonesty (Davis, Drinnan, & Gallant, 2009). We would venture to guess that almost everyone reading this essay has experienced first-hand the issue of academic dishonesty, either as a student or as a faculty member. Despite the prevalence of academic dishonesty, when questionable student behavior occurs, faculty are often hesitant to address it. This is not surprising given that faculty rate dealing with student cheating as one of the most negative aspects of their role as instructor. Nadelson (2007) found that only 38% of suspected cases of academic dishonesty are reported by faculty. Reasons cited for not reporting suspected cases include the stress involved in confronting a student, fear of retaliation or legal action, lack of clear evidence, and the time commitment involved in the process (Keith-Spiegel, Tabachnick, Whitley, & Washburne, 1998). Instructors may also be discouraged from following through due to a lack of effective integrity policies in place at their institutions. Failure to address cases of cheating or plagiarism sends the wrong message to students, allowing them to continue engaging in academically dishonest behavior. How can we cultivate academic integrity in our students? Davis and colleagues (2009) discuss strategies, including the use of an honor system, that are typically in place to confront cheating behaviors.

Honor systems emerged in the late 18th century to address issues of academic dishonesty. Some of these systems are still in place today. The question is whether or not these honor systems decrease the prevalence of behaviors such as cheating or plagiarism and/or provide effective measures to handle instances of academic dishonesty. One indication of the effectiveness of honor systems is the finding that faculty are more likely to report academic dishonesty when an honor code is present (McCabe, 1993). Given the recent reports of the high prevalence of cheating, many institutions of higher education have considered reinstating, or creating for the first time, a system to handle the problem.

Some institutions consider implementation of a more traditional honor system, while others develop a modified version (McCabe & Pavela, 2000). Though different from one institution to the next, traditional honor systems typically include the use of a signed pledge for student work, a judicial process that is student-run, and a report system in which students report themselves and others for honor violations (i.e., dual responsibility). In contrast, modified systems typically do not include dual responsibility, feature a system run by both students and administrators, and allow faculty to work outside the modified honor system and create sanctions for behaviors of their own students.

Findings from a number of empirical studies provide evidence that honor systems influence student attitudes and behaviors (Schwartz, Tatum, & Wells, in press). Self-report data

indicate that a smaller percentage of students admit cheating at institutions with an honor code (45%), compared to institutions without an honor code (56%) (McCabe & Pavela, 2000). At institutions with an honor code, researchers found fewer incidents of cheating on both written work as well as tests, ranging from one-third to one-half (Dodd, 2007). It is possible that students who choose an institution with an honor system are different from those who choose an institution without an honor system. We are in the midst of examining (a) the degree to which the honor system is considered by students when choosing which college to attend, (b) how this might factor into the differences in academic integrity attitudes and behaviors of students, and (c) the relationship between these attitudes and the cultural differences of each institution with respect to honor systems, codes, and pledges.

What the research does indicate is clear. The presence of an honor system is not enough to effectively impact academic honesty. The issue of academic integrity and how an institution's honor system applies to student work must be part of the ongoing discussion among students, faculty, and administrators in order for an honor system to effectively reduce academically dishonest behavior (McCabe & Trevino, 1993). Best practices would indicate the need to not only implement an honor system but also to embed that system within the academic culture of the institution. An ongoing discussion creates an academic climate that makes it clear to all students that academic dishonesty will not be tolerated. Cheating is more prevalent when there is belief that one's peers tolerate cheating. When students believe that others around them are cheating, they feel justification for engaging in academically dishonest behaviors themselves (Vandehey, Diekhoff, & LaBeff, 2007). However, when an institution promotes continued discussion of an honor system and the importance of academic integrity, students are less likely to feel that their peers are engaging in behaviors such as cheating on tests or plagiarizing material for class assignments.

Promotion of academic integrity can be effective not just at the institutional level, but also at the classroom level. Each course has different requirements, assignments, and expectations. Instructors need to provide clear guidance on assignments, not only in terms of the type of work expected, but also how an institution's honor code applies to each assignment. Instructors should not assume that students know how an honor code applies to work in their course. Clear policies need to be provided to students when working on assignments that might create questions as to how the honor code applies to their work (e.g., collaborative work, appropriate citations) and references. An instructor can do his or her part by providing clear policies in cases, for example, when students are asked to work collaboratively on assignments, or are required to appropriately cite and reference the work of others. This additional discussion will provide more evidence for the cultural disapproval of academic dishonesty and will also provide clear guidelines for students when approaching each assignment. These discussions will remove the ambiguity for most students. Including information on a syllabus that clearly states policies and encourages students to ask questions concerning issues of academic honor is another step that instructors can take.

If your institution does not function under an honor system, you may think that a discussion of honor systems does not apply to you. However, faculty have successfully created honor codes in their own classrooms. A simple classroom honor code signed by students can lead to a greater sense of trust and respect among students resulting in fewer dishonest behaviors (Kohneim-Kalkstein, 2006). Gurung (2010) also found that simply having students

sign a formally stated honor pledge and discussing the consequences of dishonest behavior decreases the likelihood that students will cheat.

The literature clearly supports the effectiveness of an honor code, whether as part of an institution-wide system or an honor pledge put in place by instructors in their classrooms. The most evident outcome is an increase in students' understanding of academic integrity and the importance of that integrity in all academic achievements. An honor system provides a number of privileges for both students and faculty that go beyond a reduction in cheating and plagiarism. Honor systems also create an environment that potentially enhances the student-faculty relationship. As we already discussed, under an honor system faculty are not required to make judgments of guilt or innocence, but instead are required to follow the procedures in place. Therefore, faculty are never placed in a situation in which they need to judge student behaviors beyond simply recognizing that a questionable behavior occurred (McCabe, Butterfield, & Trevino, 2003). Sanctions are recommended by a jury of the student's peers. With such a system in place, the student-faculty relationship maintains its focus on learning and not on policing student behavior.

Most obvious to those visiting an institution with a traditional honor system is the privilege of self-scheduled exams for all students. In other words, all students are able to schedule the days on which they choose to take each of their finals and often the time on each day they wish to take that final. This privilege provides students with the ability to create a schedule that they believe will lead to greater performance on what is typically a high stakes exam at the end of the semester. The privileges associated with an honor system are not limited to final exam week. Under an honor system, faculty can feel confident when giving take home tests during the semester, or even giving students a drop-in period during which to take and complete a test on a particular day or series of days. Once again students are given flexibility that allows for testing situations that are best suited with their own test taking preferences. You might be wondering how these tests are proctored or monitored. This is one advantage experienced by faculty who teach at institutions with honor systems. Proctoring is not only unnecessary, it is considered disrespectful. If an honor system is in place, faculty members should assume that students will follow the honor code and therefore faculty are not required to monitor student behavior.

The evidence is clear. A continued discussion of an honor system in place either at an institution or in the classroom can promote academic integrity. When we follow empirically-based recommendations on the impact of honor systems and incorporate those practices in our classrooms, both students and faculty benefit.

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