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TEACHING AND MENTORING PHILOSOPHY

Before ever taking a course in psychology, students are interested in the factors that influence their own and others' beliefs, feelings, and behaviors. Most students recognize the relevance of psychological phenomena to their lives; thus it is relatively easy to interest them in the topic. So as a social psychologist, I have an advantage over my colleagues in other disciplines who have to work to spark students' interest in the topics being taught. There are also disadvantages that come from having students with a natural affinity for the subject matter you are teaching. Few people believe that they are qualified to be neuroscientists, biochemists, or astrophysicists without years of training yet many people believe that they are qualified to be social psychologists, possessing the ability to identify the factors that influence social behavior. Similarly, students' exposure to television shows such as "CSI" or "Law and Order" lead them to believe that they have a better understanding of our criminal justice system than they do. I must work to correct students naïve assumptions about the predictors of human behavior, so my teaching efforts are generally devoted to convincing students of the value of scientific psychology, especially as it is applied to understanding behaviors related to the law. Although lay and professional social psychologists are interested in the same phenomena, professionals think about social behavior differently than lay people do. I believe that my role is not to tell students what to think, but to provide them with a new method and language to think and communicate about behavior.

People are better able to systematically process new information if they are actively involved in the learning process. Although differing course contents, student populations, and class enrollments have necessitated different teaching strategies for different courses, I always strive to teach my students how to think for themselves. By posing provocative questions, I provide an opportunity for both undergraduate and graduate students to contribute to discussions, and thus to contribute to their own learning experience. By rewarding successive approximations, I shape the way students think and communicate about the material they are mastering. Specifically, students in my classes learn to be critical consumers of science. However, I require that all students learn to be respectfully critical. I ask students to remember what it was like to play in the sandbox or on the beach when they were children. I remind them that it was easy to knock down the castle that someone else had worked hard to build in the sand; it is much more difficult to build a beautiful, sturdy sandcastle of your own. Through this example, I illustrate that finding flaws in others' research is only the first step in constructive criticism. To be constructively critical, students also must conceive of a better way to conduct the research in question. Although this process is much more difficult, it is also more rewarding.

It is difficult for beginning students to know how to improve upon the research conducted by prominent scholars. To assist students, I begin every course, including PSY101, with a discussion of the methodologies typically used by psychologists to study human behavior. I describe not only the proper way to conduct experiments but also provide students with examples of ill-conceived research so that they can learn to recognize flawed research. Through this process, students develop a deep appreciation for the importance of psychological research. This approach is consistent with my attempts to teach students how to think not what to think. Moreover, the revisiting of methodological issues in every class capitalizes on another principle

of learning demonstrated by psychologists. Students are more likely to learn and retain material if I present the material repeatedly and over time than if I present the material only once.

Teaching and learning can occur anywhere. Of course, the classroom is one place that teaching and learning occur but they can also take place while walking across 10th Avenue, during a chance meeting in the hallway, and while working in the laboratory. Research and teaching are inextricably intertwined and mutually enhancing. By sharing my enthusiasm for investigating questions that interest me, I attempt to instill a similar enthusiasm for conducting research in my students. Students can master skills such as conceiving of questions, designing and implementing studies, analyzing data, and interpreting results if they have a chance to practice them. Regular meetings are held with undergraduate and graduate research assistants to discuss the research questions being asked, to elicit their feedback on the development of stimulus materials, and to coordinate efforts at data collection and data management. Undergraduates who work in my laboratory learn how to conduct experimental sessions, work with statistical programs, and manage large data sets. In addition to learning the skills taught to the undergraduates, graduate students learn how to design experiments and stimulus materials, to conduct complex statistical analyses, and to prepare a presentation for a conference and a research article for journal submission. I also teach graduate students to respond to reviewers during the peer-review process and to develop successful grant proposals. Learning these skills requires time-intensive, hands-on mentoring; however, the excitement that these students experience in the lab has always rewarded me for providing them with these opportunities.

EVIDENCE OF PEDAGOGICAL INNOVATION

Even in a class of 300 students, one can pose questions that get students to think and that move them to participate in a class discussion; I certainly encourage students to discuss the material we are covering, not only to get them actively engaged in the learning process but also to help me gauge whether they are mastering the material or whether I need to find a new example to help illustrate the concept that I am introducing. But in a class of 300, there is not enough time for every student to add to the discussion, thus I needed to find an alternative method of assessing whether students comprehended the new concepts. Toward this end, I adopted clicker technology when I developed the new 300-student lecture and recitation method of delivering the PSY 101 General Psychology course this fall. Each student had their own clicker with a unique identifier that they registered with me. With this technology, I could do on-line assessments of learning throughout the lecture, even with 300 students. Interspersed throughout my PowerPoint presentations, I placed slides that queried the students about a concept that we had covered. The students used their clickers to respond to the question and instantaneously, the program graphed the students' answers and displayed them on the PowerPoint slide. Students now have information about how well they understood the material, which sometimes prompted them to ask questions that furthered their understanding. They also had information about how well they were mastering the material in comparison to their fellow students, giving them knowledge that could help them gauge what additional effort they might need to expend in their studies to reach their desired level of competence. And I had information about how well the students have learned a particular concept. If most students answered the question correctly, then I could explain why the incorrect answers were not correct and move on. But if the responses indicated widespread confusion, I knew that I needed to find a new way to explain the material. After

doing so, I could always go back and reassess their understanding by testing them on the question again.

This technology also allowed me to track the daily outcomes for each student, identifying early on students who were having difficulty with learning the material. This early identification allowed me to intervene and suggested new study methods for students who were struggling. I cannot say that they always took my advice but some students did and their learning improved before it was too late in the semester to salvage their final grade. This method of assessment is consistent with the college's movement toward a focus on learning rather than content delivery.

My experiment with the large lecture format appeared to be very popular with my students as evidenced by the positive student evaluations that I received (see attached evaluations—those on the second page with an N of 168 are mine—the first page is for one of the recitation sections). But as student evaluations are an imperfect measure of instructor success, I also engaged in some research to determine how students were faring under the large lecture model paired with recitations, as I knew that some people were concerned that students would have difficulty learning in the larger sections. Specifically I compared the learning that occurred in the large lecture format to the learning that occurred in the recitation sections associated with my large lecture. I coded whether each question on the first exam dealt with material covered in the recitation section (30 students) or in the large lecture (300 students). Then I tested whether there were any differences in student performance as a function of the venue of learning. Class format/size did not affect student learning; if anything, the means favored learning in the large lecture format. This test of whether the large lecture format interferes with student learning is imperfect but it is superior to other tests that have been attempted at John Jay in that student performance was compared within student rather than across students and one instructor prepared the material presented in both classes (as I prepared the PowerPoint presentations used in both formats).

Another new program that I developed at John Jay is the Research Experience Program (REP) for all PSY101 students. Because I strongly believe that to be competent psychologists, students must learn to appreciate the value of scientific methods for understanding human behavior, I believe that research should be infused throughout the psychology curriculum. When I came to John Jay in 2004, it appeared as if many psychology majors had very little exposure to research during their undergraduate careers, most—if not all—of that exposure coming from their PSY311 Research Methods class. As the department curriculum committee recognized the importance of earlier exposure to research methods in the curriculum, I worked with former colleague Jennifer Groscup to develop a course requirement for all PSY101 classes in which those enrolled would participate in research studies conducted in the psychology department. I developed the model language for the requirement to be included in all PSY101 syllabi as well as the policies and procedures that govern the behavior of both the researchers and the students who participate in the program. The policies require that researchers provide an educational debriefing at the end of each study that describes the hypotheses and methods of the research to the students (researchers are required to submit their debriefing plan to the REP administrator prior to enrolling students in their studies). The procedures allow for an alternative method of completing the research experience assignment that has the same pedagogical goal of exposing beginning students to the different types of methodologies that psychologists use. Rather than

gaining this exposure through direct experience, students read short descriptions of landmark studies in psychology and provide a written summary of the hypotheses, methods, and results.

This method of infusing research into the curriculum has several advantages. It can be introduced early into the curriculum so that students realize from the very beginning of their studies that psychology is a science and that its knowledge derives from scientific studies. Students don't need to have much background in psychology to participate in this program and reap its benefits. Moreover, early exposure to research allows for more opportunities for greater research involvement throughout the rest of the curriculum, capitalizing on the principle that repeated exposure facilitates learning and liking. Direct exposure to research methods is more exciting than reading about them in a book and seeing the methods in action facilitates excitement for the field. Finally, the program has connected budding psychologists with those who are actually doing research. More than once a research participant has evolved into an undergraduate research assistant because some students who enjoy participating in a study find that they want to become a part of the action. This research experience program is consistent with the Provost's initiative to involve more undergraduates in research.

REFLECTION ON ACHIEVEMENTS AND INTENDED IMPROVEMENTS

I am proud of my teaching. I continue to work to refine lectures that I have been giving for more than a decade, to find new demonstrations that can illustrate a psychological phenomenon more clearly, and to develop new methods of assessing whether my students are learning what I hope they are. I have had success with my teaching and I suppose I could just continue to do what I have always done. But my students deserve more than that, which is why I continue to seek ways to improve my teaching methods in the hope that it will improve their learning outcomes. I know not everyone was in favor of our large lecture experiment but I believe that my research suggests that large lecture classes do not damage student learning if they are done well and with care for assessing learning outcomes. For me, teaching the large lecture course gives me the opportunity to reach more students than I would ever have had a chance to reach teaching 30 students at a time. There are few moments in my life—with the exception of time spent with my daughter—when I feel I have more value-added than when I am exposing students to the world of scientific psychology. So I am grateful that I had the opportunity this year to participate in this grand experiment. Is there room for improvement? Of course, but there are few things that cannot be improved. I am excited that I get to keep trying.