

# Teaching in Graduate School: Another Avenue for Research

November 02, 2011

In a recent Student Notebook article, Simpson and Varga (2011) stated, “As graduate students, we are indoctrinated to value those three little words: research, teaching, and service”. Wouldn’t it be great if you could combine two of those areas in a “two birds, one stone” kind of way? Actually, you can! Research and teaching don’t have to be compartmentalized — they can be two sides of the same coin.

We all know how important publications are for our future career endeavours, and we often spend hours in the lab gathering data in our primary field of research. But teaching-related research is also important: It promotes student learning and enriches undergraduate education (see Healey, 2000, for a discussion). Moreover, an interest in the scholarship of teaching will be beneficial to those of us contemplating the tenure track, because teaching is an important consideration for obtaining tenure (Cross, 1996).

With this information in mind, I have often wondered — as I sit in front of the computer grading for hours — whether students were actually *learning* what I was teaching. It’s surprisingly easy to begin to answer this question. Teachers are likely already engaging in the bulk of the thinking and data collection needed for research as part of their teaching activities (Cross, 1996), including developing a course, incorporating new activities or teaching styles, grading assignments, and evaluating learning. You just need to start seeing these activities in light of the research question you want to answer.

At some point in your teaching career, you’ve probably identified a problem within a course you’re teaching (e.g., why aren’t students understanding the concept of an independent variable?), and you might have tried to implement a solution. You may have tried changing your delivery method or modality, such as using clips from television to provide students with vivid examples. Or perhaps you changed the assessment method you were using to measure learning. You then formally or informally assessed whether your implemented solution worked (i.e., have students learned the concept of an independent variable?). If not, you probably thought of another solution and continued this process until you found a successful resolution to the problem. This process should remind you of the scientific method, and teaching is, essentially, just another way of collecting usable data.

## Teaching is Hard Enough: Why Do Research Too?

Among the many advantages of teaching research, perhaps the most important is being able to gauge the impact that your teaching efforts are having on your students. This ability may be especially important for your future career, as academic institutions are increasingly expecting instructors to use creative and technologically advanced techniques to promote learning (Adams, 2002). Reflecting on and critically evaluating your teaching may also save you time as an instructor if you discover more efficient and less onerous methods of achieving optimal learning (e.g., using a peer-review activity for a research proposal).

Pedagogical research provides benefits to students and instructors alike. Students may obtain higher

grades, develop increased motivation or an interest in the topic (even in psychology overall), and achieve better learning outcomes. Instructors also benefit from engaging in pedagogical research because it informs practice, leading to better teaching strategies, happier students, and (at least in my experience) higher teaching ratings at the end of the semester. In fact, I have seen firsthand evidence of these changes through student communications and comments on my evaluation forms. Additionally, effective teaching helps make progress within the field of psychology, as it ultimately results in more competent graduates (Cross, 1996; Halpern et al., 1998).

Having pedagogical research in your CV and teaching portfolio is also beneficial for career advancement, as it is appearing more frequently in scholarship requirements for faculty as well as in research activities that are considered for tenure (Adams, 2002; Cross, 1996). You can also use these data as support for your teaching effectiveness and/or as evidence that you've engaged in professional development related to your teaching (Cross, 1996).

Furthermore, this additional line of research could result in you being a more productive researcher, and you could have additional opportunities for funding, awards, conference presentations, and publications. I suspect that my engagement in pedagogical research was a determining factor for many of my teaching awards.

### **Where to Begin?**

Start with the course you're scheduled to teach next semester. You may already be asking yourself which activity to include, so why not design a way to actually evaluate whether your methods truly result in student learning?

You can examine pedagogical topics within a single class or across multiple sections. You can collaborate with another instructor who is teaching a section of the same (or a similar) course and come up with a topic that is of interest to both of you. For example, perhaps you'd like to examine the effects of a peer-review activity you've recently created. You could compare the outcomes of this new activity to a section you've previously taught. Or perhaps you'd like to examine the effect of this activity in both a large lecture class and a smaller laboratory class. As is the case with your primary line of research, there are many possible research designs. Interested readers can refer to Reid (2006) for an outline of pedagogical research designs.

### **Resources to Get You Started**

APA Division 2 is the Society for the Teaching of Psychology. If you're not already a member, you should consider joining, as their quarterly journal, *Teaching of Psychology*, is full of very practical ideas to help you improve. It is not only a good resource for activity ideas and strategies to improve the educational process, but it can also inform you about the newest ways to use technology in the classroom and about novel approaches to teaching and learning. The journal may also give you ideas for your own line of pedagogical research. In addition, the Society's website has a plethora of resources, including example syllabi for just about every possible psychology course, a mentoring service, and other varied teaching-related resources.

### **Final Considerations**

There are important ethical considerations to pedagogical research (Pecorino, Kincaid, & Gironda, 2008); be sure to check with your school's Human Investigation Committee or Institutional Review Board for details. Although you are able to collect this data as an instructor, you typically need to apply for an exemption in order to use it in a way other than to calculate student grades, especially if you plan to publish, present, or use the data in any way.

Remember that when you decide to conduct pedagogical research in your classroom, no student or group of students should have an unfair advantage (especially as it relates to grades), so it's usually a good idea to do some kind of paired design if you're only using one sample. For example, half of the class gets the manipulation on Assignment X while the other half gets the manipulation on Assignment Y. This way, they all experience the manipulation and thus all reap the (potential) benefits.

So what's the take-home message of this article? We all get (at least some) teaching experience in graduate school, so why not make the most of it and fit some research in as well.