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## **The Margins of Significance**

As a professor at Kennesaw State University, I regularly teach statistics and research design. One of the important concepts of statistics is statistical significance and I spend a great deal of time trying to explain the difference between statistical significance and what might be considered real significance, or effect size. In many respects, teaching parallels statistics in our ability to truly detect what is important. For example, we often spend inordinate amounts of time emphasizing the details of a specific statistical test or how to format an APA style research paper, only to discover that students have missed the broader understanding of the course. Similarly, we can be lulled into a false sense of believing that we have really taught the important content of the discipline, only to learn that what really matters is teaching students how to think. Our small actions, often unintended, result in what we might consider real or significant results.

Defining what is important for students to learn did not become an integral part of my teaching until later in my career. Like many of my colleagues, I spent the early years of my teaching focused on learning the content of the discipline in great depth, and spending a great deal of time communicating every excruciating detail. I did not learn until much later in my career that, not only do students have difficulty managing a multitude of statistical details (c.f., Memory 101), but the details are rarely remembered at the conclusion of a students' education. My ability to really become creative in my teaching began after I earned tenure and had an opportunity to reflect on what was important to teach, how I could teach the content, and how students would benefit from their educational experience.

## **My Early Development as a Teacher**

I arrived in the classroom through a rather circuitous route. I would like to say that I always wanted to be a teacher, but in reality my career has been shaped by the realities of life. Mary Catherine Bateson (1999) in her book *Composing a Life* suggests that women's careers are frequently not linear; instead they are shaped by the experiences of family and society. My development as a teacher resembles the Texas two-step; two steps forward and one step back, as personal circumstances allowed.

I grew up in the Midwest as the eldest child in a family of 10 siblings. With eight brothers and one sister, I was constantly on my toes, both literally and figuratively. My siblings continue to provide me with endless opportunities to laugh, understand, and contemplate how learning can be transformative. The experience of sharing, really sharing, a life with many siblings prepared me well for surviving academe. One of the most important things I learned is that relationships are enduring and they are influential for helping each of us to develop as professionals, teachers, and people.

In many respects I have two sets of siblings—those who are related in the traditional sense, and professional colleagues that have provided me with untold support and opportunities. Barney Beins is a gentle, kind, and nurturing mentor. He has provided many of us with opportunities that would not otherwise have been possible. Mary Kite, a mentor for many, possesses balance and wisdom well beyond her years. Charlie Blair-Broeker, the single most talented teacher whom I know, helped me to realize that a big part of teaching is having fun. Jane Halonen has provided many of us with perspective; she helps me to see the broader academic landscape. Dana Dunn is my hero in all matters scholarly. Without my professional siblings, I would not have learned how important it is to contribute to the larger teaching community.

My “real” brothers have also been extremely influential. Two of my brothers provided me with the opportunity to vicariously relive my undergraduate experience, but from a different vantage point. In many respects, they helped me to learn what was really important in teaching. I spent a few semesters tutoring my brothers by helping them to use the principles of psychology (e.g., heuristics, memory techniques) to learn. They seemed amazed that a few simple principles could be so useful and asked why all college faculty do not attend to the art and science of teaching. I dutifully explained the tripartite model of scholarship, teaching, and service. After considerable thought they vehemently argued that if faculty aren’t really concerned about teaching, faculty should not be in the classroom. Although I agree wholeheartedly, the reality is that our educational system continues to emphasize research over teaching and this trend is not likely to change in the near future. More importantly, their observations afforded me an opportunity to reexamine my approach to teaching.

My academic career began in the counseling center at Tulsa Junior College. In my first professional position, I thought that my undergraduate degree in psychology qualified me to save the world. I was simply wrong. Instead, I learned that my job was not to fix people, but as a counselor for students with disabilities, to assist in the learning process. The students with whom I worked generously shared their experiences and in the process I discovered that learning is shared, solitary, and reciprocal; I can only guide students in their quest for knowledge.

My first professional position provided me with my first opportunity to glimpse just a small insight into the role of gratitude in the process of learning. One student in particular provided me with an enduring feeling of gratitude. The student was seriously

injured during a university wrestling match during which he sustained an injury to his spinal column that resulted in complete paralysis including the need for a respirator to assist his breathing. Despite his daily challenges, he was always willing to try new technologies and was among one of the first to use the sip and puff method to drive a wheelchair. My role was to serve as his scribe when he took exams. More importantly, I was humbled by the talents of this student and the experience provided me with insight into one of the truly important elements of life—gratitude.

Although my first professional position offered me the opportunity to gain some initial insights into learning, I continued to labor under the illusion that life was simple. When I realized that life was complicated, rather than pursue a degree in a clinical area of psychology, I instead chose to pursue a degree that would help me to learn how to measure human behavior. Computer technology and statistical software offered endless opportunities for measuring and classifying human behavior. I did not learn until much later that measuring human behavior would prove much more difficult than I ever imagined.

The excitement of learning how to measure behavior led me to begin taking graduate statistics courses as a fun diversion. I quickly reached the credit-hour limit for undeclared graduate students and I had either to formally enter a doctoral program in research and evaluation, or quit taking courses. This meandering approach to pursuing a doctoral degree is not usual for many women. As I continued in my education, I realized that my personal struggles to understand complex material might be useful to others who want to learn: I could use my own experiences to teach students some of the more difficult concepts in a more accessible way. I knew first-hand about the difficulty of

using the building blocks of a discipline to acquire knowledge. I also had a passion to share my knowledge by trying to make things understandable for students. It was only through luck and serendipity that I was able to obtain a tenure track position and so I began my teaching career armed only with my personal insights into learning.

### **Defining Myself as a Teacher**

Without formal training in pedagogy early in my career, I struggled to remain even one day ahead of my students. As I noted earlier, serendipity frequently played a role in my life. I was fortunate to learn about the Society for the Teaching of Psychology (STP) through my attendance at the Mid America Conference on Teaching of Psychology (MACTOP). At MACTOP I learned about activities, demonstrations, and pedagogical techniques that could be used to energize my teaching. I also learned that laughter and humor are important tools to help students learn. In the end, it was the Society, or more accurately the people that comprise the Society, that provided a wealth of material that would serve to enrich my teaching. With tenure I now had the time to be truly creative in my approach to teaching students the basics of statistics and experimental design.

Using the resources that were available through STP (e.g., Buskist, 2003) served as my first step toward developing a personal philosophy of teaching. Later I learned that it was quite possible to merge my personal interests with the content that I was trying to teach. Making information relevant to students was, after all, my ultimate goal. How better to make information accessible than to reference activities of daily life? Neil Lutsky (1999), in his STP presidential address, spoke eloquently about the role that stories can play in teaching. I also delight in finding new and innovative ways to draw students into the learning process before they realize what is happening. Randy Pausch

(2008) described the head fake as teaching people things before they realize they are really learning. I use Neil's storytelling technique and Randy's head fake approach in my own version of making learning relevant. For example, in my Experimental Psychology course, I invite students to join me in a very important experiment. We test cookies. Students rate the taste of two different cookies. We then embark on a process of discovery to determine if the cookies differ significantly in terms of taste. I schedule the tasting near the end of the class period and we begin to conduct the statistical test just prior to the end of the session. Students are so curious about the outcome that they are motivated to finish the analysis before returning to class. Quite frequently they express a desire to answer the question immediately and are excited to return to class to try to find out why the cookies that appear identical are rated as statistically different. This exercise is an example of an innovative demonstration highlighting my belief that learning is inquiry-based. I believe, and cognitive psychologists support the assertion, that students truly learn material when they are personally invested.

### **The Examined Life of a Teacher**

Change is at the heart of the examined life as a teacher. I often question whether people can really change. We, students and teachers, change only in small incremental ways, but I believe that the small changes allow us to ultimately realize meaningful changes in our lives. I began my teaching career with only the most basic of tools—limited knowledge of the discipline and a desire to convey the content to students. As I developed as a teacher, I was able to use pedagogical techniques to enhance my teaching and I have begun to understand that learning entails much more than simply conveying the content of the discipline.

Despite having gained some degree of perspective on teaching, even today I can easily be drawn into the minutiae of detailing my syllabus to account for every possible situation that could possibly occur in the classroom. Although it is important to provide clear policies, maintaining perspective means that I am not lulled into believing that I can craft a policy for every possible scenario. Instead, my goal is to retain balance. I try to provide students with clear criteria that will help them succeed, but at the same time, I try to provide enough flexibility for students to learn in a variety of ways. Remaining flexible, yet balanced is at the heart of good teaching. The need to remain flexible is perhaps best illustrated by my experience of dealing with a student who missed an exam for reasons that were clearly out of her control. In a well publicized newspaper account, her son was seriously injured in a motorcycle accident that left him paralyzed. Clearly, she was unable to attend class for a period of time, yet she remained steadfast in her belief that she could complete the course work. In many respects, school was her only outlet and served as a source of support and accomplishment. If I had been inflexible, I would not have taken these circumstances into account and would have asked her to withdraw from the course. Much to my surprise, by allowing her to continue in the course, she was able to demonstrate her ability to learn and succeed. Ultimately, she completed a Master's program and she is now a successful school psychologist.

In the grand scheme of things; what is really important for student learning? It is difficult to identify the significant influential events in students' lives. Instead, students define what is significant in *their* learning. Quite often we do not fully realize what is important until years after the formal process of education. I believe that a student may not fully realize the merits of learning statistics until they apply them in a work setting.

Similarly, a student may not fully realize the importance of writing until they produce a professional report.

Maintaining perspective requires flexibility. A sense of humor helps me to remain flexible and to enjoy my chosen life as a teacher. I carefully find ways to interject humor into my classes. For example, I discovered that students in an Introductory Psychology course often have difficulty understanding the concept of shaping in the operant conditioning model of learning. Building on a technique that I learned from Charlie Blair-Broeker, I offer my students the opportunity to shape my behavior. Each semester I invite students to identify a behavior that they want me to perform and to apply the principles of operant conditioning to shape my behavior. This activity, grounded in sound principles of learning, helps students to understand the concept while having fun at the same time. My appropriate use of potentially self-deprecating humor allows students the opportunity to engage actively in learning. Not only do students enjoy the exercise, but more importantly, their experience translates into knowledge and understanding.

### **Advice for New Teachers**

It is difficult to craft advice that will resonate with every potential new teacher of psychology. If you have read this far, I hope that you will consider how your personal circumstances provide you with a unique approach to teaching. We are perpetual students, learning, changing, and continuing to develop in our approach to teaching. I have learned that flexibility, humor, and perspective will allow me to continue to develop as a teacher of psychology. Somewhere in the process of my development as a teacher, I also began to merge my professional identity as a “professor” with my personal roles (i.e., colleague, daughter, sister). I hope to use the many facets of my life to enrich my

understanding of the learning process. Here are just a few simple axioms that might be useful in guiding a new teacher toward meaningful teaching.

- It is okay to present information in a humane and pedagogically meaningful way. My goal is to be friendly, but not friends with my students.
- My students are learning to learn, and I am learning to teach. Therefore, research and teaching are not antithetical but complimentary. I try not to create an artificial dichotomy between teaching and research.
- Recognize that there are limits to what you can accomplish. You will have to engage in efficiencies of scale, which may mean that you are using multiple-choice tests so that you can spend more time enriching your teaching and providing feedback on written assignments.
- Read something other than psychology. Dana Dunn (2002), the 2010 STP President, in a keynote address at a SETOP conference, described the benefits of reading outside the discipline. I was (and continue to be) overwhelmed with the many demands on my time. I initially questioned his advice. However, much like physical exercise, paradoxically, even when I don't have time to engage in exercise, it is precisely during these busy times that I should engage in exercise or read something other than psychology. Reading an interesting book can provide perspective.
- I tend to focus on what I want students to know, really know, when they leave my class. They will forget the vast number of details that I teach, but I want them to have the skills to critically examine life's issues.

- How do you want to be remembered? A small action can result in lasting impressions. Academia is fraught with politics. There are skirmishes and there are battles. I have found that it is important to choose wisely.

Although I offer these simple suggestions as guidance, my best guess is that as I continue to develop as a teacher, even these simple suggestions will become more complex. I constantly run the risk of oversimplifying life. Nevertheless, I hope that they provide ideas for creating your approach to teaching.

### **Final Thoughts**

My teaching techniques, approach, and style continue to develop as I strive to improve my teaching. At the beginning of my teaching career, I was focused on the details of structuring a course and defining content-specific information. Although these issues remain important, students have helped me to change my perspective. Today I spend considerable time envisioning broad goals for student learning. I then carefully consider how I can help students successfully demonstrate their competencies. I measure success as change. When students demonstrate their knowledge of content, or when they express value in having learned the material, I believe that I have been successful. My transformation as a teacher is equally important. I am successful when I am able to capture a glimpse of learning from the perspective of the student. It is this insight that allows me to truly learn and grow.

Finally, I want to leave you with one important piece of advice. Although one of the goals of psychology is prediction of behavior, it is difficult to accurately predict how seemingly insignificant actions as a teacher may resonate with a student. An off-hand comment can have significant consequences. We need to remain vigilant in our efforts to

teach students and attentive to our goals for teaching. I was recently reminded of the importance of our role as mentors when I made a comment encouraging a student to pursue her future academic studies. I learned only later that this small, seemingly insignificant comment was influential for the student. The student arrived in my office after the conclusion of the semester with tears of joy because she now had hope. It seems that the small statement of encouragement helped her to believe that she could pursue graduate school. I don't know what her future may bring, but I do know that I do not determine what is significant. Rather, it is the student who defines what is truly significant.

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