

Good to Great Teaching: What Does it Take?

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Since Fall, 1969 my applied experimental research at Virginia Tech has enabled me to develop, evaluate, and publish principles and interventions for improving behaviors and attitudes related to public health, industrial safety, and environmental protection. University teaching has empowered me to share profound knowledge from intervention research and to inspire many students to contribute to the welfare of others. I hope to continue for several more years this integration of research, teaching, and outreach aimed at making a real-world difference. This vision fits the motto of Virginia Tech—*ut prosim* (“That I may serve”), as well as the mission of a training and consulting company I incorporated in 1987—Make-A-Difference, Inc.

Born and raised in Allentown, PA, I graduated from Allentown High School in 1960, subsequently received a BA with a major in psychology and pre-med from The College of Wooster, Wooster, Ohio, and then an MA and PhD in experimental psychology from Southern Illinois University, Carbondale, IL. In 1969, I joined the psychology faculty at Virginia Polytechnic Institute, Blacksburg, VA., later renamed Virginia Polytechnic Institute and State University, and now known as Virginia Tech.

I was tenured and promoted to Associate Professor in 1976, and received Professor status in 1979. My integration of teaching, research, and outreach has achieved recognition through multiple university-wide teaching awards and various University Alumni Awards. Specially, in 1983, I received The University Alumni Award for Teaching Excellence and elected to the University Academy of Teaching Excellence. In 1990, I was recognized with the University “Sporn Award” for distinguished teaching of freshmen-level classes. In 1999, I was honored with the coveted University “W.E. Wine Award” for outstanding teaching. Subsequently, I received the three additional University Alumni Awards: the Alumni Award for Research in 2001, the Alumni Award for Outreach in 2002, and the Alumni Award for Graduate Student Advising in 2003. Recently, in 2005, I was given the special status of Alumni Distinguished Professor.

My teaching awards beyond the university include the Robert S. Daniel Teaching Excellence award from the Society for the Teaching of Psychology of the American Psychological Association (APA) in 1982, and the Virginia Outstanding Faculty Award from the State Council of Higher Education in 2005. I am a Fellow of APA, the American

Psychological Society, The American Association of Applied and Preventive Psychology, and the World Academy of Productivity and Quality Sciences.

My university research has been documented in more than 350 journal articles, 40 chapters in edited books, and 25 books, most addressing the development and evaluation of behavior change interventions to improve quality of life. My most recent books address occupational health and safety, and include: *The Psychology of Safety* (Geller, 1996); *Understanding Behavior-Based Safety* (Geller, 1998); *Beyond Safety Accountability* (Geller, 2001a); *Building Successful Safety Teams* (Geller, 2001b); *The Psychology of Safety Handbook* (Geller, 2001c); *Working Safe* (Geller, 2001d); *Keys to Behavior-Based Safety* (Geller & Williams, 2001); *The Participation Factor* (Geller, 2002), and *People-Based Safety: The Source* (Geller, 2005). This latest book is accompanied by five video CD/DVDs, five workbooks, and five leader guides for industrial applications.

I am past Editor of the *Journal of Applied Behavior Analysis* (1989-1992), current Associate Editor of *Environment and Behavior* (since 1982), and current Consulting Editor for *Behavior and Social Issues*, the *Behavior Analyst Digest*, the *Journal of Safety Research*, and the *Journal of Organizational Behavior Management*.

I have written more than 150 articles for a “Psychology of Safety” column in *Industrial Safety and Hygiene News*, a trade magazine disseminated to more than 75,000 companies. I also have collaborated with a number of media companies in the development of industrial training series, including videotapes, workbooks, and facilitators’ guides. For these widely-disseminated products, beginning with a 1995 nationally renowned seminar series—“Actively Caring for Safety”—the Society for the Advancement of Behavior Analysis honored me in 1998 with an award for “Effective Presentation of Behavior Analysis in the Mass Media.”

I have been the Principal Investigator for more than 75 research grants, enabling more than \$5 million in financial support that made it possible to educate and train numerous graduate and undergraduate students to conduct rigorous field research and produce useful scholarship. Most of this research studied the application of behavioral science to benefit corporations, institutions, government agencies, or communities. Both government agencies and corporations have funded this research, including the National Science Foundation; the National Institute for Occupational Safety and Health; the U.S. Department of Health, Education, and Welfare; the U.S. Department of Energy; the U.S. Department of Transportation; the National Institute on Alcohol Abuse and Alcoholism; the Centers for Disease Control and Prevention; General Motors Research Laboratories; and the Virginia Departments of Energy, Transportation, Litter Control, Agriculture and Commerce, and Welfare and Institutions.

My Early Development as a Teacher

Summarizing my development as a teacher requires the realization that teaching occurs in many forms. For example, my work at the university includes (a) lecturing daily to 500-600 students in my Introduction to Psychology class; (b) reviewing scholarship, relating consulting experiences, and facilitating group discussion in my advanced graduate course on Applying Behavioral Science for Large-Scale Change; (c) providing relevant ideas and activating critical thinking and participant involvement among 10-15 research leaders, including 6 to 8 graduate students; (d) advising graduate and undergraduate students in one-to-one conversations about their research directions, professional talks, and career opportunities; (e) helping students prepare paper or poster presentations for a professional convention; (f) lecturing and supporting group discussion at a weekly research meeting of 60-70 undergraduate psychology majors and 6-8 graduate students, g) delivering a keynote address at a campus function or special group celebration; (h) communicating with former students via telephone and e-mail about their research, teaching, or career issues; and (i) reviewing journal submissions.

Given these varied operational definitions of “teaching,” it is difficult to identify preparatory experiences or to name a particular “teaching mentor.” Actually, most of my undergraduate education at the College of Wooster and graduate education at Southern Illinois University prepared me for the variety of teaching experiences I enjoy today. I listened to exciting lecturers and boring lecturers, experienced skilled group facilitators and unskilled facilitators, and observed caring student advisors and aloof advisors. Thus, I have observed teaching behaviors to emulate and others to avoid. Moreover, over the years I have studied thousands of evaluations of my own lectures, keynote addresses, and audio conferences. In addition, I have seen myself teach numerous times on videotape, sometimes with an unbiased observer or instructional coach.

All of these experiences enabled me to improve continuously as a “teacher,” in the broadest sense of the term. Most instructive has been the specific corrective feedback on teacher-evaluation forms from university classes and professional workshops. I also honed my presentation skills during the development of several videotape programs. At these sessions, a talented coach gave me ongoing feedback regarding my ability to make a point clearly, concisely, and with appropriate body language. Subsequently, I saw my performance on videotape and gave myself direction for subsequent presentations.

Defining Myself as a Teacher

The focus of my teaching at Virginia Tech is reflected in the Mission Statement posted in the Department of Psychology's Center for Applied Behavior Systems, which I have directed since 1987. It reads as follows:

The Center for Applied Behavior Systems was developed to:

1. help students, undergraduate and graduate, learn how to conduct research that combines the technology of applied behavior analysis with theories from experimental, social, and applied psychology,
2. give students real-world, hands-on research experience, from designing methodology and data analysis strategies to documenting findings in professional publications,
3. teach community-based research and intervention techniques and approaches,
4. give students the opportunity to participate in leading-edge professional activities,
5. improve quality of life in the community, and
6. teach and demonstrate the value of “actively caring.”

I started my teaching career at Virginia Tech believing the best teachers get students actively engaged in the course content. I believe the wise Confucian principle, “Tell them and they will forget, demonstrate and they will remember, involve them and they will understand.” At the same time, I began my research career with the vision to conduct “make-a-difference” research. More specifically, I wanted my behavior-focused research results to be applicable to the real-world improvement of quality of life—and the larger the scale the better. Thus, as reflected in the mission statement, I have had the fortunate opportunity at Virginia Tech to integrate my visions for good teaching and useful research. That is the main reason I have been at the same university for my entire professional career.

The 50 or more undergraduate students who conduct research in our Center for Applied Behavior Systems each semester understand the true meaning of our university motto— “that I may serve.” They learn the methodology of rigorous psychological research by doing, and their doing in turn contributes to community health, safety, or environmental protection. Thus, in addition to learning the principles and methods of psychology through personal involvement, they learn the value of actively caring—or going beyond the call of duty for others. This experience makes them change agents for community service and thereby expands their concept of personal responsibility.

Involving students in community service research that puts knowledge to work enables them to experience the value of helping others. My sincere hope is that this experience is

reinforcing and memorable enough to generalize to their other life experiences, and starts a spiral of actively caring behavior feeding personal responsibility, feeding more actively caring behavior, and so on. Thus, I expect the lessons students experience when putting knowledge to work for community service to be the start of a lifetime of actively caring behaviors and attitudes.

Advice for New Teachers

I believe it is important to understand the diverse forms of teaching, some of which I specified earlier with regard to my own development as a teacher. I suggest new teachers make a list of the various types of teaching they experience in a typical week, and assess which types they feel most talented at doing and enjoy most. Chances are they enjoy most the type of teaching they do best. Some teachers, for example, are most competent at involving participants in group discussion, whereas other teachers excel at the large classroom lecture. Some teachers are stimulated by directing students in research projects, while others enjoy the challenges of academic and career advising.

Most people cannot be their best at every type of teaching. For example, I am not effective at academic advising, and thus compensate others to conduct this aspect of my university responsibilities. Face the brutal facts of your teaching interests and talents, and attempt to optimize the number of teaching opportunities you can perform best. These are the teaching experiences that provide you the most intrinsic reinforcement, motivating you to improve continuously.

Regardless of the match between your particular teaching assignment and your talents, you can always improve. So how can you improve your teaching competence? Here are five suggestions I have verified through personal experience.

Benefit From Observational Learning

I am amazed how few professors take the time to observe the teaching of other instructors. They miss so many opportunities to learn through observation. My 1982 STP award gave me an early reputation as a competent teacher, yet only once has a colleague asked to observe one of my classes. Interestingly, at that time, this individual was our department's only other award-winning teacher.

As a graduate student, I sat in the back of many classrooms to benefit from observational learning; upon joining the faculty at Virginia Tech, I did the same. Later, as a member of our departmental teaching excellence committee (every year since 1982), I have regularly observed the teaching of non-tenured faculty in order to offer mentoring advice and contribute to annual evaluations. I also observe the classrooms of our top teachers in order to select candidates for university teaching awards.

Almost every classroom observation has been a useful learning experience for me. By sitting in the back of the classroom, I not only note the instructors' unique style and instructional techniques, but I also see the students' reactions to specific aspects of the class. For example, I have noted that students ask more questions when instructors ask, "Can I clarify anything?", as opposed to the more common antecedent, "Does anyone have a question?"

Embrace the Power of Feedback

The research literature is replete with objective evidence that behavior-based feedback improves competence (e.g., Balcazar, Hopkins, & Suarez, 1985/86; Chhokar & Wallin, 1984; Parsons, 1974). In fact, it is the only sure way to improve behavior. Outcome-feedback alone, though, is not enough. The athlete, for example, gets outcome feedback when noting the destination of the golf ball, tennis ball, or baseball. Teachers estimate their competence from students' end-of-the-semester teaching evaluations. However, professional athletes rely on behavioral observation from coaches to learn what adjustments they need to make in their behaviors to achieve better outcomes. Likewise, teachers need to learn what they should do differently to improve the teaching/learning climate of their classrooms.

At the start of my teaching career, I passed out feedback forms periodically throughout the semester. I asked three questions: (a) What do I do in this class to benefit your learning?, (b) What do I do that inhibits your learning?, and (c) What can I do differently to enhance your learning experience in this course?

Although I no longer distribute these open-ended evaluation forms, I do encourage students to give me anonymous feedback anytime about their opinions of the class and what I could do to improve their learning. This invitation results in students handing me notes at the end class, and sending me substantial e-mail. With my smaller graduate classes, I frequently ask students in one-on-one conversations, "How do you feel the class is going?" or "Is there something I could do to improve the teaching/learning climate of our class?" I always acknowledge appreciation for feedback, and at times I can pinpoint changes I made as a result of specific feedback.

Apply the Motivating Advantage of Choice

A variety of research studies have shown increases in human involvement and participation following the perception of personal control and choice (e.g., Geller, 1996; Langer, 1993; Monty & Perlmutter, 1975). Asking students for periodic feedback gives them a sense of control and choice, but I have also used other strategies, including (a) asking students to suggest guest speakers; (b) encouraging students to submit questions for exams; (c) giving extra-credit points for participating in campus activities related to course content; (d) guiding students in their design, implementation, evaluation, and documentation of course-related

research; (e) allowing students to select one quiz grade to drop in the calculation of a final course grade; (f) asking students for the relative weight (within defined limits) their various class activities should count toward their final grade; and (g) soliciting self-evaluations from students, including a rationale for why they deserve a particular grade.

Moreover, in my 35 years of university teaching, I have never taken class attendance, even when the administration recommended such accountability. On the first day of every class, I clarify that coming to class is a personal choice. My challenge is to make each session so interesting and informative that no student would dare choose to skip class. Some do skip class, especially in my 600-student course in Introduction to Psychology. Those who attend choose that opportunity, and I periodically remind them of that, and thank them for deciding to attend class.

Think Outside the Box

Consider this commonsense cliché when designing classroom experiences. Going beyond the norm has led to my most engaging and provocative classes. Some of the opportunities for choice listed above reflect nonconventional thinking. Here are a few more examples: In my social psychology class, I often have gay students field questions from the class. When I first used this tactic 20 years ago, it was unprecedented, provocative, and enlightening. Today, it is not a big deal.

Once I arranged for a colleague to barge into my class and fire a blank gun three times in my direction. After squeezing a Ketchup container concealed in my pocket, I fell to the floor and waited for student assistance. After counting to three, I stood up and initiated a discussion of the bystander intervention effect (Latane & Darley, 1970). Then, I solicited descriptions of the person who fired the gun. When my colleague returned to the classroom, we discovered dramatic discrepancies between perception and reality, which led to a lively discussion of stress and eye-witness testimony (Loftus, 1993).

To demonstrate the integral role of verbal communication in teamwork, I split a 60-student class into two groups and instructed one team not to talk during the next exercise. Then, I released 20 quail in the classroom and challenged each team to catch the most quail and place them safely in their assigned team cage.

I do not advocate unconventional practices just to be different or original. Rather, use techniques that work best for you. For example, I am one of few professors at my university who still uses traditional transparencies in large classes instead of the now standard PowerPoint presentation. I dart between two overhead projectors on stage, displaying transparencies to illustrate lecture points. Frequently, I put aside the next transparency in a stack, and pull another out of the middle. In this age of high-tech, computer-facilitated instruction, this dated overhead approach is unusual, but it works for me, and that is my point.

Use Relevant Personal Stories

As a student, I remember how my interest peaked when a teacher related the lesson to a personal story. Listeners readily relate to real-life examples, often visualizing themselves in the same situation, which facilitates both involvement and understanding. Indeed, the most talented teachers I have observed seem to have a knack for bringing theories and concepts to life by connecting them to real-world events.

I hasten to add, however, the personal story must be relevant. From my experience as a student and an observer of university professors, teachers often reveal life events unrelated to the course material. Why? Because it's rewarding for both the speaker and the listener. People like to talk about themselves, and students like to hear about their professors' personal lives. Plus, the less pertinent information given in a lecture, the less material students need to study for an exam. Indeed, I found years ago that many, if not most, students appreciate the break from a teaching and learning process provided by a teacher's extraneous information (Geller, Chaffee, & Farris, 1975). I urge teachers to fight the intrinsically-reinforcing behavior of telling lesson-remote stories.

Final Thoughts

Emergencies attract the most attention and resources from our society, and those who react and help people handle a crisis are considered "heroes" including doctors, scientists, police officers, firefighters, plumbers, and lawyers. Proactive behavior that prevents crises attract relatively few resources, and those who address this critical prevention issue receive comparably meager extrinsic rewards for their efforts. Teachers head this list of unsung heroes. In other words, teachers do not receive the financial compensation they deserve for their vital contributions to society.

So what keeps a good teacher going? The quick answer is "intrinsic motivation," or the "joy of teaching." What does this mean? Perhaps it is the personal satisfaction of sharing profound knowledge and receiving gratifying reactions from students who learn. However, the make-a-difference impact of a competent teacher is more profound and far-reaching than one person can possibly fathom. Teachers need to think about this reality and internalize it for ongoing self-motivation and to be the best they can be.

The effective teacher leaves an enviable legacy, as depicted in Mitch Albom's (1997) bestselling book "Tuesdays with Morrie." Read this book and watch the DVD starring Jack Lemmon and Hank Azaria. You will be inspired and filled with pride that you are a teacher, learning to be the best you can be.

Epilogue

A few weeks ago, I explained the *Teaching in Autobiography* book project to the members of our University Academy of Teaching Excellence, and I challenged the group to prepare a similar volume for our university. I suggested every Virginia Tech student and faculty member should receive a copy of this proposed text. Students could use it as a standard for selecting and evaluating their teachers, and faculty and graduate students could use this book to gain insights and motivation for improving their teaching. Recently I requested support for this project from our University Provost and got it. I am reminded of the expression, “Be careful what you ask for, because you might get it.”

Now I need advice from the editors of this book. They have surely set an exemplary precedent for all universities and academic disciplines worldwide. It is likely most contributors and readers of this book have opportunities to replicate this project at their college or university. Consider the invaluable and priceless benefits of recognizing special teachers and offering techniques and inspiration for the countless numbers of both new and experienced teachers who can use the guidance and motivation. I hope some readers of this book will attempt to replicate the process exemplified by this publication.

Thank you Trish Benson, Caroline Burke, Ana Amstadter, Ryan Siney, Vinny Hevern, Barney Beins, and Bill Buskist for starting a series of books on the “art of teaching excellence.” Of course, we now need your advice for leading these replications of your exemplar. Teaching and its benefits never end.

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