SOCIETY FOR THE TEACHING OF PSYCHOLOGY

Teaching of Psychology
2018, Vol. 45(3) 239-245

DOI: 10.1177/0098628318779264
journals.sagepub.com/home/top
SAGE

Practice What We Teach: Improving Teaching and Learning in Psychology

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Abstract

In traditional research areas within psychology, effective researchers stay up-to-date with the latest advances and new methodologies within a specialty area. Failure to do so limits one's effectiveness and potential impact on advancing that field of study. In our view, teachers of psychology possess the same responsibilities to stay current and incur the same risks if they fail to do so. Psychology educators should not only employ scientifically validated principles of learning and evidence-based pedagogies but should use the methods of psychological science to test the effectiveness of their teaching practices empirically. We articulate and document these complex issues in this manifesto and urge more psychology educators to become leaders in innovative and effective teaching by leveraging our disciplinary understanding of the fundamentals of teaching and learning. We provide pragmatic steps and resources to aid more faculty, especially early career instructors, in becoming scientist-educators.

Keywords

teaching of psychology, undergraduates, scientist-educator model, assessment, continuous improvement

> The standard view of the classroom is that the teacher provides students with a set of activities . . . The assumption seems to be that all students experience essentially the same activities and perform them according to their motivation or ability . . . If students do what the teacher expects of them, follow the instructions carefully, complete all aspects of the tasks, then the student will learn what the teacher expects. However, our research shows that almost none of this is true.
>
> Nuthall (2007, p. 103)

Despite the long, productive, and helpful traditions of scholarship of teaching and learning (SoTL), the simplistic view of teaching described by Nuthall in the above quote characterizes the dominant view of teaching in psychology. Teachers of psychology who are cognizant of developments in pedagogical research know better. These teachers not only employ scientifically validated principles of learning and evidence-based pedagogies but use the methods of psychological science to test the effectiveness of their teaching practices empirically. Perhaps more than any other discipline, the content and research methods of psychology are directly relevant to the teaching of psychology.

Psychologists should know more about areas such as attention, motivation, attitude change, and assessment than faculty in most any other field, yet many faculty fail to leverage their knowledge to shape their teaching practices. Psychologists know many factors that enhance or hamper learning, but instead of using that knowledge to optimize learning, teachers too rarely design their pedagogy to promote student learning using evidence-based or evidence-informed strategies. The teaching of psychology should be more innovative, sophisticated, and demonstrably effective than teaching in other fields. Instead, our teaching follows the same fads and trends as other disciplines. Despite some progress in teacher training in graduate schools and the number of outlets for dissemination of pedagogical research, we argue that psychology as a discipline continues neither to prioritize nor to value the development of effective teachers and the advancement of effective teaching as it should. Work that is critical of the current state and status of teaching has reached a critical mass. The developments in pedagogical research and theory require a change in the status quo.

In July 2016, a group of psychology educators convened in Austin, TX, for a 2-day meeting funded in part by the

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Association for Psychological Science (APS) Fund for Teaching and Public Understanding of Psychological Science and by the Dean of the College of Arts and Sciences at Boise State University. Reflecting on pedagogical issues, we realized a clarion call was needed to transform the way the field as a whole views teaching. We contend that psychology as a field has failed, to date, to realize its potential in developing effective teachers and promoting student learning. We know there are many psychology teachers who already support our view of teaching, but we are calling for a sea change within the discipline in how teachers are trained, how teaching is viewed, and how pedagogical research is valued. Those who support and use evidence-based practices and psychological science to teach psychology need to make an effort to inform the many who do not. Our purpose here is to make explicit the key issues and urge psychologists to become the leaders in teaching innovation and effectiveness that we are uniquely qualified to be. We describe what we see as major issues our field must address, we offer suggestions for foundational principles to foster appropriate changes, and we identify actions needed to advance the teaching and learning of psychology.

The Issues

We Tend to Underestimate the Complexity of and Rigor Needed for Effective Teaching

The generally accepted model of teaching in higher education is simplistic, and the generally accepted norm for quality of teaching is unjustifiably low. The standard model of teaching views teaching as an exercise in information transmission with the key factor being the subject expertise of the teacher. The teacher's task is to explain information in a clear, organized, and accurate manner and provide opportunities for the student to hear and try to learn it. The student's responsibility is to receive the information and study it in such a way that the information can be recalled later. In this model, teaching is easy; no skills beyond knowing and delivering the content are necessary (e.g., see Katopes, 2009). As a consequence of this model, the general norm for what constitutes acceptable teaching preparation and practice is unduly low. Barr and Tagg (1995) characterized this approach as "content-centered" and also argued that it was time for a paradigm shift to "learning-centered." An abundance of research on teaching and learning has clearly refuted the standard model of teaching and demands a complete paradigm change (American Psychological Association [APA], 2015; Benassi, Overson, & Hakala, 2014; Bransford, Brown, & Cocking, 1999; Deans for Impact, 2015; Nuthall, 2007).

We Tend to Neglect to Apply the Findings and Methods of Our Discipline to Our Craft

In the normal course of training, psychologists learn about many content areas that are integral to teaching, such as attention, learning, memory, and measurement (cf. APA, 2015). We are also trained in methods that are directly relevant to conducting empirical research that informs good teaching. However, so little effort is made to translate findings from the laboratory to teaching practice that the APS Fund for Teaching and Public Understanding of Psychological Science recently established a new grant program to promote this effort.

For example, basic research in cognitive psychology supports structuring activities to increase intrinsic motivation, reduce multitasking, and minimize cognitive load to improve learning (Dunlosky & Rawson, 2015; Putnam, Sungkhasettee, & Roediger, 2016; Svinicki, 2002). We have also found that teachers can be more effective if they promote schema development, improve long-term recall, and facilitate transfer beyond the classroom context (Nilson, 2016). If we adopt these basic principles, we should give students frequent, low-stakes feedback to engender self-efficacy and self-regulation.

We Often Fail to Stay Current in Best Practice

Teachers often base their teaching on untested assumptions, misconceptions, and intuitions. The APA's (2010) *Ethical Principles of Psychologists and Code of Conduct* requires psychologists in human service to keep current with new developments to maintain a high level of competence; this too should be the goal of those who aspire to the scientist-educator model (Bernstein et al., 2010). Yet, when it comes to teaching, we too often remain content to disregard (or remain uninformed of) the extant research on effective teaching, basing our pedagogy on untested assumptions and intuition instead. Many educators are simply unaware of the large body of literature in higher education (e.g., Boysen, Richmond, & Gurung, 2015; Forsyth, 2016; Groccia, Alsudairi, & Buskist, 2012; Richmond, Boysen, & Gurung, 2016) that addresses high-quality and empirically validated teaching practices. In the absence of such information, many are inclined to teach in the way they were taught without questioning the wisdom of those practices.

We Tend to Hold Teaching to Lower Standards Than Research

Faculty members should be embarrassed by the reduced expectations we hold regarding teaching. We do not balk if researchers spend entire careers exploring how rats learn; we expect research psychologists to review the relevant literature, test rival hypotheses, and generate evidence using a rigorous process. In contrast, many teachers of psychology assume that student learning is so simple that no special training for teaching is needed; however, understanding student success is a complicated research area of its own (Kuh, Kinzie, Schuh, Whitt, & Associates, 2010; Willingham, 2009). Many faculty remain curiously incurious about teaching. Professors view research as difficult and highly prized; teaching, in comparison, is thought to be less difficult and is not as highly prized.

To be generous, it is possible the lack of focus on teaching is a function of the incentive system of higher education—an instructor's publication will count more toward a strong annual

review than teaching the introductory psychology class exceptionally. If teaching were valued more and held to higher standards, better incentives need follow. Worse, there are some disincentives built into our systems that inhibit the transition to effective teaching. If an instructor decides to move away from lecturing and flip the classroom in order to adopt more active learning during class sessions, it is likely that one's teaching evaluations will suffer because the instructor is trying something new even if learning outcomes improve. Without proper administrator support, encouragement, or incentives, the instructor might not take the chance to change their teaching to adopt an evidence-based technique. Sometimes there can be little reward for high-quality teaching (or even attempting it).

Holding teaching to lower standards also explains why we tend to ignore, resist, or disdain rigorous assessment practices. The basic premise of assessment is to evaluate and improve teaching and learning in the spirit of continuous improvement (Dunn, Baker, Mehrotra, Landrum, & McCarthy, 2013; Dunn, McCarthy, Baker, & Halonen, 2011; Shavelson, 2010). Yet many reject outright the value of this practice or respond with recalcitrance to assessment as a "necessary evil" rather than as a tool to improve our effectiveness. This perspective is particularly ironic for psychologists who should prize sound evidence as part of deciding what to believe.

We Tend to Ascribe Lower Value to SoTL Research Than Traditional Research

Psychologists have made significant contributions to educational research and practice including historical work by James and Dewey and modern-day researchers such as Halpern, Bjork, Roediger, and McDaniel, among others (see Gurung & Schwartz, 2013, for a review). These contributions, however, are not widely applied in the everyday practice of teaching, in the training graduate students, or in the professional development of faculty. Clearly, we need to advance the *science of learning* (e.g., Benassi et al., 2014), a phrase we use intentionally because higher education practices have traditionally minimized the contributions of psychologists who are deemed educational researchers. In other words, we believe that relegating teaching and pedagogical research to a secondary status has limited the advancement of sound pedagogical practice and ultimately student learning.

We Tend to Provide Insufficient Training for Those Entering Academic Careers

The diminution of teaching begins in graduate school. If teacher training is included in graduate preparation at all, it usually involves brief workshops or one or two courses before students are expected to assume the full responsibility of teaching. There are no standards and little consistency across graduate programs for teacher training and development (Beers, Hill, & Thompson, 2012; Buskist, 2013). Mentors of graduate students both implicitly and explicitly make research a priority, whereas they may devalue and often actively discourage teaching. Lack of training contributes to both a supercilious attitude toward teaching and acceptance of a norm of teaching mediocrity.

Imagine the improvements to teaching and learning if graduate programs were to emphasize evidence-based teaching during their graduate training as much as they focused on their programs of research or practice. In failing to provide training and support for teaching as part of the faculty role, we leave our graduate students underprepared for a challenging job market in which teaching is, in reality, an important responsibility. Assuming graduate students untrained for and inexperienced in teaching do get academic positions, they are likely to struggle with developing teaching competency or worse and remain in a state that Kruger and Dunning (1999) described as "unskilled and unaware of it" (p. 1121). The current lack of preparation for teaching at the graduate level will only perpetuate more of the same uninformed teaching that occurs in many college classrooms today.

We Often Do Not Provide Adequate Professional Development for Those Already in the Profession

Many colleges and universities do not recognize the need for providing training opportunities and incentives to develop effective teaching. Colleges and universities that do provide high-quality professional development through local centers for teaching and learning often lack any means to identify, engage, and involve the faculty who need developmental assistance. For example, although there were 4,583 colleges and universities in the 2015–2016 academic year in the United States (National Center for Education Statistics, 2017), there are only 565 centers for teaching and learning nationally (POD Network, 2017). For faculty members who do seek to improve their teaching, all too often professional development is focused on the newest fad or technology rather than grounded in the science of learning. Ironically, this situation exists during a time when research-based resources for professional development have never been more freely available. For example, teachers who want a comprehensive introduction to learning science applied to teaching can start with a free e-book by Benassi et al. (2014). For a concise summary of principles of learning, teachers can consult online documents by APA (2015) or Deans for Impact (2015). For guidance on how to structure graduate training programs on teaching, one can start with Beers et al. (2012) or review Busler, Beins, and Buskist (2014), which not only provides a review of model programs but also provides guidance for making the transition from graduate teaching to a faculty position. These are all open-source resources.

We Experience Little External Reward for High-Quality Teaching

With little emphasis placed on teaching training in graduate programs, it is no surprise that consequently high-quality teaching is not sufficiently recognized or rewarded at many colleges

and universities, especially research-intensive universities. Most universities, regardless of Carnegie status, prioritize research as a primary mission. Prestigious institutions tout the discoveries of their most promising researchers. These faculty receive rewards of release time from teaching, which is intended to allow them to engage more heavily in basic research which will result in continuing grant funding and a smooth pathway for promotion to the hallowed status of full professor. Even at smaller institutions, administrators increasingly promote the importance of tenure-track faculty to engage in high-profile research that will bring recognition to the institution. Higher research profiles result in reduced teaching responsibility, even though high-quality teaching and high-quality research can coexist (Figlio & Schapiro, 2017). Researchers often "buy out" of their teaching responsibilities to pursue research opportunities, but how often do teachers "buy out" of their research responsibilities in order to pursue teaching opportunities? At many institutions, research demands and teaching responsibilities simply work at cross purposes.

One serious consequence of these priorities is that administrators assign heavy teaching loads to nontenure-track adjunct or contingent faculty who have little or no job security, opportunities for advancement, nor resources for professional development. Adjunct faculty often persevere successfully in spite of less-than-ideal conditions (Landrum, 2009). These contingent faculty bear considerable responsibility for undergraduate teaching but rarely receive any formal recognition for high-quality work.

In general, where awards or recognition for teaching exist, traditional practices tend to honor only one or a few teachers, even in well-established organizations such as the Society for the Teaching of Psychology (STP), the Association for Psychological Science, and the American Psychological Foundation. All faculty can pursue research publications in their areas of specialization simultaneously, with the recognition that brings, but all faculty must vie for only one or a few teaching awards. Limited recognition practices sometimes foster unhealthy and unjustified competition. The award selection process may either lack explicit criteria or rely on criteria that are subjective in nature rather than objective evidence or learning outcomes.

We Have Not Articulated a Teaching Model That Reasonably Describes Effective Teaching

In the absence of a well-articulated model for what constitutes classroom effectiveness, it is understandable that our progress has been limited. Some models do exist, such as the Teaching as a Contextual Outcome of Multiple Agents (TACOMA) model (Chew et al., 2010) and model teacher competencies (Boysen, et al., 2015; Richmond et al., 2016); however, if we do not have a clear vision of what makes teachers effective, how can we adequately recognize, defend, or celebrate accomplished teaching? Part of the issue is a lack of exploration across disciplinary boundaries. For example, a large body of research documents effective K–12 teacher preparation (Cochran-Smith et al., 2016) and there is extensive research on teaching in general in the field of education (Gitomer & Bell, 2016), yet next to no SoTL in psychology makes reference to it. Putting more effort into an interdisciplinary exploration of effective teaching is a top priority for our field. There are potentially many excellent, tested, and well-articulated works that could be recommended with little effort beyond the will to find and use them.

Principles for Change

We propose a model of teaching that builds on the science of learning, that requires the application of these principles in the classroom and online, and that incorporates the sound measurement of learning outcomes. We begin with a set of foundational principles grounded in empirical research and theory to guide practice, assessment, and scholarship:

- Teaching and learning are complex; these processes defy easy, universal solutions.
- Teachers have a huge impact, for better or for worse, on what students learn and how likely they are to remember and use that knowledge appropriately.
- Learning is the primary responsibility of the student, facilitated by the faculty.
- We should measure the evidence of teaching effectiveness directly through student learning and indirectly through changes in student attitudes and increases in student retention.
- Teachers, especially teachers of psychology, should be encouraged to examine their own teaching using empirically based methods, viewing their classrooms as laboratories for applied psychology (cf. the scientist-educator model).
- Ongoing effective assessment is essential to teaching and learning; both teachers and students need opportunities to use feedback to improve.
- Effective assessment practices involve matching assessment formats to intended measurement goals. Measuring what students know (content knowledge) and what they can do (skills) are both essential and both emphases involve different assessment methods.
- Student evaluations can provide a perspective on effective teacher qualities but should not be used as the only measure of teaching effectiveness.
- Effective teachers understand how the courses they teach fit into the overall curriculum for the major and work collaboratively with departmental colleagues to ensure students achieve desired learning outcomes.
- All undergraduate psychology majors deserve attention, guidance, support, and career-specific resources, not just the graduate school bound.
- The undergraduate curriculum should ensure that those who go into the workforce have relevant and adequate preparation to do so.
- Technology can enhance learning experiences but must be judiciously incorporated and skillfully delivered in course architecture to produce increments in learning.

- Teachers must have a better understanding of individual and cultural differences to create the most favorable learning climate.
- Because of its critical role in shaping public impressions of the discipline and in promoting psychological literacy, the introductory psychology course nationwide plays a pivotal role and improving the teaching of this course is especially important.

Potential Solutions and Strategies

Fundamental change must occur in the paradigm of teaching and learning. It is unlikely that teaching will supplant research as the most valued activity of the academy. However, we recommend bold changes that result in improved student learning that can be documented with measurable outcomes:

- Pedagogies found effective by educators should be studied systematically (e.g., Hattie, 2009), and learning principles successful in the laboratory (e.g., Bransford et al., 1999) should be translated to the classroom.
- Faculty at all levels of their career must be provided with professional development that will help them to teach more effectively (e.g., Gurung & Schwartz, 2012; Richmond et al., 2016). Professional development must be grounded in the science of learning (e.g., Benassi et al., 2014; Schwartz & Gurung, 2012).
- We must work to remove barriers to SoTL research (e.g., Boshier, 2009) and accelerate progress through targeted research grants and conferences.
- We must establish basic teaching competencies for graduate students (e.g., Beers et al., 2012; Buskist, 2013) and promote the importance of training and continuous improvement for all teachers in higher education (e.g., Fink, 2003; Finkel, 2000; Pacansky-Brock, 2013).
- Finally, incentives to reward exceptional teaching must be grounded in objective, evidence-based criteria and high-quality educational research validating pedagogies that enhance learning (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010; Forsyth, 2016).

Miller (1969) captured the urgency of all of these issues with his charge to "give psychology away" (p. 1071). Teachers give psychology away every day. No group is better situated to improve psychological literacy, change the public perception of psychology, explain its scientific basis, and correct common misconceptions than teachers of psychology. These issues are formidable. The cost of mediocre teaching in psychology extends well beyond the classroom. Scholars of the psychology curriculum have argued for the importance of creating *psychological literacy* (Cranney & Dunn, 2011; McGovern et al., 2010) among the general population to improve people's lives, for example, by helping them to cope with stressors, change unhealthy behaviors, reduce the stigma of mental illness, and improve the resilience of children. In addition, many scholars such as Cacioppo (2007) have championed the viewpoint that psychology should be categorized as a STEM discipline and a hub science. This conclusion contrasts with the widespread public view of psychology as primarily a helping profession with little scientific foundation and questionable utility to society. Finally, misconceptions about psychological phenomena are common, damaging, and difficult to correct. Teaching psychology effectively is critical to the field's status and future.

Change is often daunting, and it is rarely easy. The changes proposed herein represent a fundamental shift in higher education that will require a sustained and broad-based effort to achieve. It is our hope to positively challenge the status quo and inspire action to enhance psychology's role in teaching and learning, starting from within. We have presented 9 significant barriers that must be addressed and five proposed solutions for positive change. As a reader of these arguments, what change do you most wish to see and what action are you willing to take? Engage your institutional leadership, your institution's teaching center, your professional organizations, and your colleagues to take action by circulating this piece. Address at least one barrier or work toward one solution.

Whereas most *Teaching of Psychology* (*ToP*) readers undoubtedly resonate with the solutions we propose, we urge you to share this article, electronically or in hard copy, with colleagues who are not STP members or *ToP* readers. Share this on social media. We urge readers to practice SoTL themselves. A first step is attending the SoTL workshop at the STP Annual Conference Teaching, reviewing the plethora of resources available to all at http://teachpsych.org, or exploring resources such as the *Hub for Introductory Psychology and Pedagogical Research* (hippr.uwgb.org) that features reviews of pedagogical research, scales for use in SoTL, and a community of collaborators and participant pools. We also direct the motivated reader to resources we cited that summarize learning science (e.g., Benassi et al., 2014; Richmond et al., 2016).

For a field that has made such impressive advances in the science of human behavior, it is clearly possible for us to achieve such changes. We simply have to want to do so, and we have to begin.

Authors' Note

The views expressed here do not necessarily reflect the respective beliefs of Association for Psychological Science (APS) and Dean Tony Roark nor serve as an endorsement of our beliefs. We also particularly value the APA Committee on Associate and Baccalaureate Education (CABE) and the Society for the Teaching of Psychology (APA Division Two), organizations that are acting on many of these ideas addressed here and serve as advocates for high quality education.

Acknowledgements

We are grateful for and wish to acknowledge the financial support of the Association for Psychological Science (APS) Fund for Teaching and Public Understanding of Psychological Science and Dr. Tony Roark, Dean of the College of Arts and Sciences at Boise State University.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Association for Psychological Science (APS) Fund for Teaching and Public Understanding of Psychological Science and Dr. Tony Roark, Dean of the College of Arts and Sciences at Boise State University.

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