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## Riding the Third Wave of SoTL

Regan A. R. Gurung

*University of Wisconsin-Green Bay, gurungr@uwgb.edu*

Beth M. Schwartz

*Randolph College, bschwartz@randolphcollege.edu*

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Taking stock of an enterprise can be a stimulating exercise. It is also an essential one that allows for assessment of what one has while facilitating the planning of what one wants. In this piece, we take stock of the scholarship of teaching and learning (SoTL), mapping out what we see as the first two waves of the movement, and then identifying a 'third wave.' We believe it is time to think bigger. Specifically, those practicing SoTL need to: infiltrate the mainstream, run interference and catalyze the use of SoTL, and work towards a grand picture of learning.

## **Keywords**

Scholarship of teaching and learning, SoTL

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## Riding the Third Wave of SoTL

**Regan A. R. Gurung** University of  
Wisconsin-Green Bay Green Bay,  
Wisconsin, USA  
[gurungr@uwgb.edu](mailto:gurungr@uwgb.edu)

**Beth M. Schwartz**  
Randolph College  
Lynchburg, Virginia, USA  
[bschwartz@randolphcollege.edu](mailto:bschwartz@randolphcollege.edu)

### Abstract

Taking stock of an enterprise can be a stimulating exercise. It is also an essential one that allows for assessment of what one has while facilitating the planning of what one wants. In this piece, we take stock of the scholarship of teaching and learning (SoTL), mapping out what we see as the first two waves of the movement, and then identifying a 'third wave.' We believe it is time to think bigger. Specifically, those practicing SoTL need to: infiltrate the mainstream, run interference and catalyze the use of SoTL, and work towards a grand picture of learning.

### The First Wave: Beginnings of a Movement

Our working definition of SoTL is intentional, systematic reflections on teaching and learning resulting in peer-reviewed products made public (see Pan, 2009). We also use the more general term, pedagogical research, which captures the essence of what we all really should be caring about: methodologically rigorous scholarly work conducted to enhance teaching and advance learning (Gurung & Schwartz, 2009). The term and scholarly movement hit the big time with Boyer's (1990) *Scholarship Reconsidered*. Today enough universities and colleges pay attention to SoTL that books document how the scholarship of teaching and pedagogical research is fostered nationwide and numerous international conferences convene yearly to advance the field. The first 10 years following Boyer's publication encapsulate a clean first wave. As Hutchins and Schulman (1999) noted, a lot happened in the first wave. A number of essential resources were published and AAHE's National Conference featured a special Campus Colloquium on the scholarship of teaching.

### The Second Wave: The Rise of Interdisciplinary Pedagogical Research

The last 10 years saw two major trends. First, resources fostering pedagogical research multiplied (Gurung & Schwartz, 2009; McKinney, 2007; Richlin, 2006; Savory, Burnett, & Goodburn, 2007; Weimer, 2006). Second, and more importantly from a theoretical level, there was an increase in scholarship examining how different disciplines vary in thinking.

Nicely kicking off the second wave, Donald (2000) took into account the different ways learning occurs in various academic disciplines, starting a trend looking at one's discipline in the light of other disciplines and refining one's pedagogies based on how one's discipline is unique. This trend was boosted by Shulman's (2005) discussion of different 'signature

pedagogies,' the way each discipline teaches students to think like the professionals in that discipline. This approach was extended from the professional programs to the liberal arts and sciences where authors described the unique content and characteristic pedagogies in their disciplines and identified what pedagogies are most often used in the classrooms of the field (Gurung, Chick, & Haynie, 2009).

A more thorough look at student learning within a discipline is seen in two other related efforts. Pace and Middendorf (2004), like Donald (2000), noted that what students have to do to learn differs significantly across disciplines. They realized that these ways of thinking are rarely presented to students explicitly. They identified the key 'bottlenecks,' problems and impediments to learning (whether concepts or processes), illustrated how experts would work on these impediments and then modeled the thinking for students. Meyer and Land (2005) similarly worked to identify the different concepts within disciplines which prevent students from learning additional information in the discipline. These threshold concepts, though similar to bottlenecks (all threshold concepts are bottlenecks, not all bottlenecks are threshold concepts) serve as portals that, once opened, provide the student with new and previously inaccessible ways of thinking (2005). Finding bottlenecks and threshold concepts and working to help students work through them has been a significant part of much of the second wave beyond the testing of new assignments and techniques made possible by the new awareness of methods and practices of pedagogical research.

### **The Third Wave of SoTL: The Road Ahead**

As we move into the third decade since Boyer reconsidered scholarship, there are a number of key directions we could go. We see three specific directions.

#### **Infiltrate the Mainstream**

Whereas it is useful and makes good sense for faculty to publish in discipline-specific outlets and even more specifically, area-specific outlets, pedagogical researchers should also foray into venues that will give pedagogical research a wider audience. Unfortunately, few if any disciplines have journals that include on a regular basis pedagogical research (research on teaching that discipline) together with general disciplinary research. In psychology you will sometimes see a teaching related article in non-teaching outlet. This distinction of where one publishes SoTL vs. where one publishes other discipline-specific research only maintains the barriers between the supposedly 'serious' research and 'that SoTL stuff.' It is time that those who can (passionate teachers on editorial boards of journals) consider having regular sections on pedagogy (theory driven, empirical assessments of modifications to classroom techniques and assignments) in standard journals.

There is another mainstream to infiltrate: higher education in general. A psychologist may want to publish in the pedagogical journal for psychology, but will this ensure faculty outside psychology can benefit? Weimer (2008) argued that much is 'lost when the preference is for pedagogical scholarship owned by the disciplines' (p.1). Indeed there are many outlets (e.g., this one) that span disciplines and publishing in such outlets may do more of a service to the field. We need SoTL to be more visible all over, and need more interdisciplinary outlets, journals and books publishing findings of SoTL (e.g., Schwartz & Gurung, in press), not just showing how SoTL is done (that wave has crested).

### **Run interference and Catalyze SoTL Use**

To be fair, it is difficult to get manuscripts accepted outside of one's area or discipline. Worse, there may not be suitable outlets within one's discipline for pedagogical work. This does not mean the work should be relegated to a file drawer or not even conducted. Disciplinary and interdisciplinary teaching organizations, together with organizations dedicated to SoTL, need to lead the charge to create more venues (e.g., journals) to both give SoTL a wider audience and to enhance the visibility and credibility of pedagogical research. Clearly, *The SoTL Commons*, *IJ-SOTL*, ISSOTL conferences, and the *Journal for the Scholarship of Teaching and Learning* represent a good start, but much more is needed. Researchers doing translational research applying basic theory to their classrooms should not be wary of publishing in interdisciplinary SoTL outlets or presenting at SoTL conferences for fear that 'it does not count as much.' Those of us in positions to make a difference (whether this be tenured or Full professors, Deans, Provosts, or Chancellors and Presidents) need to advocate vocally for our untenured colleagues who may not feel like they can do pedagogical research as it will not count as much. Are such thoughts warranted?

A task force of the Society for the Teaching of Psychology (Division 2 of the American Psychological Association) conducted a survey to ascertain the degree to which psychology departments and the institutions of higher education that house them have enacted the scholarship of teaching (Gurung et al., 2008). Findings regarding departmental and institutional support for SoTL presented a mixed picture. The field of psychology seems to recognize SoTL better than higher education as a whole (i.e., when compared to the results seen in a survey of higher education, Huber & Hutchings, 2005). For example, 60% of the survey respondents reported having colleagues involved in SoTL, and 78% reported that departmental policies encourage SoTL. Both the psychology study (Gurung et al., 2008) and the general survey (Huber & Hutchins, 2005) did find that SoTL was being considered in department tenure and promotion although there is still a long way to go.

One of our priorities is to get teaching-sensitive administrators and full professors among us to be stronger advocates for pedagogical research. A large part of this is providing faculty with ways and models of how to use SoTL. SoTL is a wonderful way to document good teaching. Some U.S. states try to rate teachers using the standardized testing scores of students, but why not have teachers use SoTL to provide evidence on the effectiveness of their teaching? We need to show more faculty how to use SoTL and specifically classroom assessment tools and research methods and designs to demonstrate how effective they are in the classroom. What are the best ways to use the pedagogical literature? What are the ethical constraints on using pedagogical research? We are only beginning to produce explicit answers to these questions (Gurung, in press). Scholars in the field need to be better at getting the results of SoTL out to more individuals in a digestible form.

### **Look at the Big Picture**

The final issue relates to the need for better, more integrated, theoretical work. Hutchins (2007) noted that 'the role of theory in the scholarship of teaching and learning as the elephant in the room' (p. 1).' Reflecting on the 2007 ISSOTL annual meeting, Hutchins noted how many presentations lacked a theoretical base. We need to work harder to take basic research in relevant areas and apply it to teaching and learning. For example, cognitive psychologists and social psychologists are nicely taking theoretically driven lab work and are applying it to the classroom (Bjork & Bjork, 2011; Gurung & Burns, in press). Going beyond this call for theory is the need to situate all the myriad studies of pedagogical research in a common context. We are all trying to understand how students learn best.

Whereas tests of individual class activities and techniques are important, it is now time for us to look at the big picture. What are the different factors that influence learning? How do the results of a smaller scale study contribute to the bigger pictures of learning?

We have some helpful models for guidance. In perhaps one of the largest meta-analyses conducted in pedagogical research, Hattie (2009) analyzed over 800 meta-analyses of studies relating to achievement and lists 131 factors that influence learning. Hattie partitions out the variance in predicting learning. It is important to know that the teacher accounts for approximately 30% of the variance in learning, the student for close to 50% (Hattie, 2009). What we do matters but what students are doing matters more. There is now a growing body of literature integrating different variables into a picture of learning. Most recently, Bernstein et al., (2010) and Chew et al., (2010) provide comprehensive pictures of what is known about the processes surrounding teaching and learning and provide general models that can guide future pedagogical research. Similarly, Shell, Brooks, Trainin, Wilson, Kauffman, and Herr (2010) take concepts from the cognitive, motivation, and neurobiological sciences and use them to set out a unique theory of learning. These are exactly the types of endeavors that more pedagogical researchers need to be aware of and use to position their own research.

In closing, it is clear that pedagogical research is a vibrant area of study. The scholarship of teaching and learning has come a long way from the work of Plato, James, and the coining of the phrase by Boyer. SoTL can be seen to have three major waves. Each wave has brought with it insights into teaching and learning, but there is much to be accomplished. We hope you will join in the discussion, invite others to see the value of coming along, and ride the third wave with us.

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