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Peer-Reviewed Exploration in Teaching: A Program for Stimulating and Recognizing Innovations in Teaching

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Abstract
In an academic world driven by student ratings and publication counts, faculty members are discouraged from exploring new pedagogical ideas because exploration takes time and often goes unrecognized. The contrast with research is striking: everyone is expected to explore and innovate in research, whereas very few make exploration in teaching their norm. This paper presents a case study illustrating a program, the Peer-Reviewed Exploration in Teaching (PRET) program, designed to encourage and recognize faculty when they implement teaching innovations. The program provides feedback during all stages of a teaching innovation, including outside-classroom activities, and incorporates a rigorous peer review process so that successive such PRETs can accumulate into a record for tenure and promotion. The paper describes the program's rationale, initial implementation, and lessons learned. Perhaps one of the most interesting lessons is that faculty explorations often go beyond a standard inventory of active learning techniques when they are encouraged and supported to explore.

Keywords
Teaching innovations, recognizing teaching excellence

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Peer-Reviewed Exploration in Teaching: A Program for Stimulating and Recognizing Innovations in Teaching

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In an academic world driven by student ratings and publication counts, faculty members are discouraged from exploring new pedagogical ideas because exploration takes time and often goes unrecognized. The contrast with research is striking: everyone is expected to explore and innovate in research, whereas very few make exploration in teaching their norm. This paper presents a case study illustrating a program, the Peer-Reviewed Exploration in Teaching (PRET) program, designed to encourage and recognize faculty when they implement teaching innovations. The program provides feedback during all stages of a teaching innovation, including outside-classroom activities, and incorporates a rigorous peer review process so that successive such PRETs can accumulate into a record for tenure and promotion. The paper describes the program’s rationale, initial implementation, and lessons learned. Perhaps one of the most interesting lessons is that faculty explorations often go beyond a standard inventory of active learning techniques when they are encouraged and supported to explore.

INTRODUCTION

This paper presents the Peer-Reviewed Exploration in Teaching (PRET) Program, a model for a university-wide program appropriate for all disciplines that is designed to: 1) stimulate teaching innovations, 2) support faculty during the innovation process, 3) recognize faculty efforts, and 4) create an environment for teaching explorations that last beyond the program completion.

Why Innovate?

Let us first address a more basic question: why bother to innovate in teaching? Isn’t it be enough to let a few innovate, prove that their techniques work, and offer teaching workshops to the rest of us? We argue that there are at least a few reasons why innovation, or at least curiosity-driven exploration, should be more common. The first relates to the complexity of learning and fostering a collective effort in academia that is equal to the task: if more faculty are engaged in systematically exploring what works and what doesn’t, we are likely to improve student learning outcomes.

Consider, for example, that there are 9,400 physics faculty (White, Ivie, Ephraim, 2012) in the nation, most of whom are engaged in some scholarly activity in physics to understand the complexities of the physical world. Why aren’t as many faculty focused on addressing the complexities of learning? If student learning is as complex as is commonly believed, it invites the participation of more faculty in exploring and understanding how to make it work well. A second reason arises from the need to adapt techniques locally: each one of us has students from different backgrounds, who are in turn taking local flavors of courses. Thus, for example, one does not effectively use clickers in exactly the same way for a mid-morning class of residential undergraduates in chemistry, as for an evening class on health policy for working professionals.

Finally, a culture of constant experimentation strengthens our collective agility in academia to respond to a rapidly changing landscape in higher education.

Relationship to Tenure and Promotion

What is also clear, in addition to the need to stimulate pedagogical exploration, is that standard approaches to evaluating teaching for tenure and promotion are limited in what they evaluate, often relying just on student ratings or isolated classroom visits. Student evaluations of teaching can provide valuable feedback about the instructor’s teaching effectiveness (Svinicki & McKeachie, 2010), but researchers have mixed findings about them (Boring, Ottoboni, Stark 2016; MacNell, Driscoll, Hunt, 2015). This problem has been recently recognized as challenging (Stark & Freishtat, 2014) despite the increasing emphasis on helping faculty develop instructional competence since the 1980s (Ebble & McKeachie 1985; Seldin, 1990). Elton (1998) aimed to define the concept of “teaching excellence” and discovered that it is a complex concept and requires defining excellence at individual, departmental, and institutional levels. At the same time, a full-fledged statistically rigorous learning outcome study may not be practical for everyone, since not everyone has multiple sections for a careful control-and-experiment procedure, nor are there statistically reliable tests of learning in every subtopic of every field. Furthermore, some types of pedagogical experimentation will involve only a part of course, or another goal such as student engagement. Also, it is important to encourage adaptation of technique rather than have the pressure to solely create something new out of whole cloth; for example, a biology professor in our program experimented with case studies in her introductory biology class, a relatively new idea in biology but quite well-established in business schools.

A comparison between teaching and research raises yet another issue. In research, faculty members are accustomed to publishing incremental work that accumulates over time into a strong record of scholarly work. In alignment with this tradition, the
Research realm offers a range of publication outlets from posters at a conference to top archival journals. All of these are well-understood and recognized. Some of the key points to consider include: the list of individually modest contributions that comprise most research CVs. Furthermore, faculty are “trained” in writing up research articles, and there exists a substantial infrastructure (conferences, journals) that supports these endeavors. Yet, in the realm of SoTL, aside from the SOTL that works for a few faculty, all we commonly have are student ratings and the occasional classroom visit. For example, (2009) famously analyzed “what it means to be a scholar” and concluded that authentic scholarship involves discovery, integration, application, and teaching. He explains that “teaching, at its best, shapes both research and practice” and it means “not only transmitting knowledge and expanding it as well.” Inherent conflicts in the messages that come down to faculty are well known, whether it is between research and teaching, or arises from extramural agency (see the writings of Giroux (2006), for example).

What is missing is a structured process for faculty to explore pedagogical ideas in their classroom, receive rigorous peer feedback within their institution, and be able to record the results so that these successful innovations can accumulate into a record for tenure and promotion. This will both help faculty document their efforts and set the stage for administrators to clearly acknowledge faculty teaching efforts in the same way, and with the same respectability in which the research publications acknowledge their research efforts.

Faculty Development and Institutional Transformation

A fundamental change in the way faculty, departments and institutions approach, practice, and evaluate teaching takes time and triggers a process that: 1) faculty start with well-defined learning questions, use disciplinary expertise and based their interventions on learning theories; 2) faculty collaborated during the development and implementations and evaluated their initiatives often; 3) faculty received public support and professional acknowledgment. Finally, in recent years, several professional accreditation associations have identified the association of terms related to the professional development of faculty. For example, the Southern Association of Colleges and Schools (2011) lists the criterion “The institution provides ongoing professional development of faculty as teachers, scholars, and practitioners.” North Central Association of Colleges and Schools (2011) approved the criterion “The organization values and supports effective teaching. Possible evidence: a) The organization provides service to support improved pedagogies, etc.” Western Association of Schools and Colleges (2008) requires that “The institution maintains appropriate and sufficiently supported faculty and staff development activities designed to improve teaching and learning consistent with its institutional objectives.” This problem is particularly difficult at research universities were hard to establish a balance between teaching and research excellence (Dee Fink, 2013). The importance of SoTL is more clearly made constantly argue that the terms are not clear (Pan, 2009) and even the association of terms scholarship and teaching is semantically problematic. New models that emerge call for scholarships that are holistic, including research, teaching, and service. They advocate for recognizing DBER as a field of study (Woodhouse, 2010), while others caution the community of scholars about possible pitfalls that could occur if the different DBERs function in isolation (Weimer, 2008). The development of a new scholarship of teaching is a profound and lengthy process that could lead to deep transformation. No wonder that Weinmer (2003) in the preface of her second edition of Learner-Centered Teaching Five Key Changes to Practice states: “I believe that this edition is stronger because it tackles with more vigor what hasn’t changed since the 2002 edition, and regrettably, according to many of us, is missing in every teaching textbook edition.” While reflecting on her own transformation, Sturges (2013) explained that difficulties arise because faculty often do not have formal training in pedagogy. She identified at least six steps in the process of fostering personal transformation. In the author’s words, they are: “Do I know What SoTL is? Is SoTL for me? What am I trying to improve? Should I go for it? If so, I am ready?” (2013). After reading further, other researcher (Svinicki, 2012), also reflecting on her transformation, suggests that SoTL should be done by research teams and programs should develop from iterations that could lead to failures and should involve longitudinal studies, while Zakarias (2013) explains that a primary condition for success is that faculty get into the habit of consulting the existing literature every time they think about teaching. The complexity of the process, faculty development becomes important.

Yet, some examples show that the institutionalization of successful SoTL is possible. Marketti and colleagues (Marketti, VanDeZande, & Lien, 2015) interviewed 18 faculty from all ranks whom she called SoTL champions. The interviews revealed that, even though initially many of the faculty became interested in SoTL because of personal curiosity, then they realized that, over time they found additional personal and professional benefits beyond the ones related to promotion and tenure. The PRET program tries to strike a middle ground by making exploration and peer-reviewed contributions more accessible to faculty. The PEER-REVIEWED EXPLORATION IN TEACHING (PRET) PROGRAM

Our Peer-Reviewed Exploration in Teaching (PRET) program is a mechanism that, roughly equivalent in effort to producing a research article, allows faculty to demonstrate a peer-reviewed contribution to teaching with real impact in their classroom. In designing the PRET program, we sought to respect several constraints. Ideally, we wanted a program that: lists no longer than a semester but includes innovations that can be continued; encourages collaboration and works for a cohort of faculty from across the disciplines; encourages novel and out-of-the-box ideas and curiosity-driven exploration, while resulting in concrete assessable outcomes; has a direct impact on student learning in the program or course; features multiple forms of rigorous intramural peer-review; it is grounded in the literature on pedagogy, and the scholarship of teaching and learning; and, of course, stimulates exploration beyond the usual established techniques in active learning.

Our program was instated in Spring 2012 and is informed by innovative trends in education (Beichner et al., 2007; DeHaan, 2005; Holdren & Lander, 2012) and encourages both curiosity-driven and problem-based pedagogical experimentation, as well as the adoption of well-established pedagogical techniques that are new to the individual. Many of these elements are embedded in our program described below. During a PRET, a professor spends between 30-50 hours per semester designing, teaching, reflecting, and completing a project. Each project consists of the following elements: 1. writes and revises, based on anonymous peer-review, a proposal that describes specific learning-objectives and a substantial classroom intervention that is grounded in improved research and designed to meet those learning objectives; 2. invites peers to observe and review the intervention as improvements; 3. provides a public and anonymous (review of the proposal and the final package) and partly in person (the review team sent to the classroom). The program evaluates impact on students through a focus-group interview. Finally, because proposed ideas are shared widely within the Pre-T conference to a top archival journal. All of these are well-
a cohort, the program encourages a multi-disciplinary viewpoint. Participants have often remarked about how instructive it is to see the same intervention from different disciplinary perspectives.

The long-term goal of the PRET program is to provide a teaching-focused faculty with a way to develop a strong portfolio of teaching contributions (PRETs) that, in a manner comparable with research contributions, each have been subjected to rigorous peer review and can be reported on CVs and annual reports. We will next describe the lessons learned from three years of offering the program as GWUL and include suggestions for implementing the program at other universities.

Lessons from Study

Although our program has only recently been instituted, we have sought to explore its impact on faculty. Our case study is based on data from two cohorts with a total of N=14 faculty. PRET is offered every Spring semester and it is advertised through all the GW faculty listservs. The instructors who participated in the PRET program self-selected themselves and they ranged from beginners to experienced instructors. The majority of them were teaching-focused faculty. There were no changes in the PRET protocol from one cohort to the other. For the two cohorts we mentioned, we examined two types of data: (1) the products from the PRET program including proposals, comments on proposals, reviews from the peers that visited the classroom, reflections and final reviews and (2) an anonymous survey administered to participants after the completion of the program. The written materials, such as proposals and reviews, were examined by the two authors independently and initially coded according to Amburgh’s scale. Then, we reviewed the more complex interventions to analyze their Bloom level (Anderson et al., 2001). The raw survey data was similarly analyzed.

Given our relatively small sample size, we questioned if a survey was an appropriate tool for collecting feedback, but after analyzing alternative methods like focus groups with faculty or interviews, we decided that the anonymous survey would allow faculty to express their thoughts more freely. The survey was administered online and faculty were invited to participate. No rewards of any kind were offered to the participating faculty.

The lessons we learned can be broadly described through the following questions:

• Does PRET work for all disciplines? The faculty who undertook the course were spread across a variety of disciplines including physics, biology, chemistry, nursing, writing, and political science and they all seemed comfortable innovating according to the PRET protocol.

• Does PRET need administrative support or is it a self-sustaining intervention? The majority of the participants appear to be the ones who were highly motivated to make teaching more meaningful and deeply satisfying, but is challenging to achieve in a teaching climate dominated by student ratings and weak recognition by colleagues and administrators. The PRET program was designed to offset those barriers to innovation by providing a structured process to encourage and support faculty in innovation, while providing rigorous peer review and administrative recognition. In addition, the program allows faculty to accumulate a number of these, each the rough analogue of a classroom innovation in the classes after they complete the PRET, and listed the following as the top three barriers to innovation: (1) Lack of administrative recognition (69%); (2) significant effort needed (62%); (3) lack of recognition from colleagues (54%). Faculty feel strongly that innovation is important (84%). Does PRET offer to the participating faculty. Their thoughts more freely. The survey was administered online and faculty to express their thoughts more freely. The survey was administered online and faculty were invited to participate. No rewards of any kind were offered to the participating faculty.

• How are faculty concerned about student evaluations addressed? It is well-known that faculty perceive that classroom innovation can sometimes bring about weaker student ratings (Michael, 2007). This is one reason why the program explicitly echoes the standard end-of-semester ratings in favor of peer reviews and student focus groups run by faculty.

• Does the Administration recognize PRET? Besides the reasons mentioned at the previous point, it is worth mentioning that the administration of the PRET did not ask the participants to present any related events or in sponsoring PRET faculty to disseminate their PRET experiences at GW’s Teaching Day, an annual event celebrating teaching. Additionally, PRET has its own website and is advertised and supported by the administration. The present paper is about the period in which the faculty continue to use the PRET ideas in their classes. The remaining ones realized through the PRET program that their innovation was either not appropriate for their classes, or too time consuming, or required further modifications that they were on. What is the impact of the program on faculty tenure and promotion? The feedback that we received from the participants led to its recognition by the administration. PRET is now not only a part of the formal university annual report form, but also a part of the tenure and promotion portfolio.

• What do participating faculty think about teaching innovation? Does PRET produce innovation? Does PRET indeed produce innovation? The raw survey data was similarly analyzed. Therefore, we hypothesized that the PRET interventions would allow participants to express their thoughts more freely. Our case study is based on data from two cohorts with a total of N=14 faculty (2 courses). Note that some courses count in several categories. Additionally, we didn’t encounter any situation in which a faculty member wanted to participate in PRET and found it inappropriate for his or her discipline. Thus, we have reasons to believe that PRET works for any discipline.

• Does PRET time consuming? Faculty spend between 30-50 hours over a semester to go through all the PRET steps. Does PRET need to be an active role in advertising? In our question, we examined the proposed interventions, classifying the learning activities using the active learning inventory described in (Van Amburgh, Davis, Krueger, Quillets, 2007). This tool showed us at least two results: (1) instructors choose to implement innovations that are aligned to the student-centered learning techniques and (2) instructors go beyond existing popular innovations. We have been able to map all the learning activities implemented onto the items listed by Van Amburgh’s instrument except some found in 8 (out of 14) courses which were outside the list. This suggests that many faculty were indeed spurred into trying something altogether new. The interventions proposed by most faculty were complex (combinations of elements in Amburgh’s list, or combinations of entirely new activities), with multiple activities spread across various levels of thinking complexity. Figure 1 below illustrates the distribution, which shows that most activities were of medium complexity or higher.

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CONCLUSION

In this paper, we made a case for spreading the wealth of innovation in teaching. Innovating and exploration is fun, stimulating and deeply satisfying, but is challenging to achieve in a teaching climate dominated by student ratings and weak recognition by colleagues and administrators. The PRET program was designed to offset those barriers to innovation by providing a structured process to encourage and support faculty in innovation, while providing rigorous peer review and administrative recognition. In addition, the program allows faculty to accumulate a number of these, each the rough analogue of a classroom innovation in the classes after they complete the PRET, and listed the following as the top three barriers to innovation: (1) Lack of administrative recognition (69%); (2) significant effort needed (62%); (3) lack of recognition from colleagues (54%). Faculty feel strongly that innovation is important (84%). Does PRET offer to the participating faculty. Their thoughts more freely. The survey was administered online and faculty were invited to participate. No rewards of any kind were offered to the participating faculty.

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