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Foundations of College Teaching - A Course for Doctoral Students: Reflections on a case study in College Teaching

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Abstract

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The ability to successfully carry out an independent research project has long been thought of as the primary, and perhaps the sole criterion for obtaining a Ph.D. In recent years, increasingly, candidates for academic employment are being asked about their teaching experience and about their views on education. A report titled *Reshaping the Graduate Education of Scientists and Engineers* (1995) by the National Academies of Sciences and Engineering, recommends changes in doctoral education in the sciences and engineering so as to provide preparation in teaching. More recently, university administrators have been recommending that whether they pursue careers in industry or academia, graduate students with doctoral degrees should know how to teach.

Keywords

Doctoral level education, Doctoral level students, Teaching doctoral students to teach

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Foundations of College Teaching - A Course for Doctoral Students: Reflections on a case study in College Teaching

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Introduction

What should doctoral level education prepare students to do?

The ability to successfully carry out an independent research project has long been thought of as the primary, and perhaps the sole criterion for obtaining a Ph.D. In recent years, increasingly, candidates for academic employment are being asked about their teaching experience and about their views on education. A report titled *Reshaping the Graduate Education of Scientists and Engineers* (1995) by the National Academies of Sciences and Engineering, recommends changes in doctoral education in the sciences and engineering so as to provide preparation in teaching. More recently, university administrators have been recommending that whether they pursue careers in industry or academia, graduate students with doctoral degrees should know how to teach.

Requiring doctoral students to learn how to teach recognizes the concept that doctoral students benefit in many ways from increased competence in teaching, including better job opportunities. There is also a realization that knowledge about teaching is a step towards overcoming the tendency to "teach as we have been taught" among future higher education faculty. Transforming pedagogy in the college classroom requires the content expert college teacher to learn **how** to teach. This means moving away from the old ideas that teaching is a technical activity and knowledge is static and that being prepared to teach is knowing the subject matter.

Learning to teach is a valuable skill and a life-long useful gift that an institution can give its graduate students, an extra tool with which to compete in the "real world" market. It was such thinking that led to the development of *Foundations of College Teaching*, a course offered to graduate students at Drexel University. Thus far, this course has been taught twice. The first time it was offered as an online course only. The second time, it was offered as a hybrid course, entailing weekly in-class meetings combined with online discussions and online posted content.

In this paper, we describe the design of the course and the underpinning theoretical framework that went into the course design, the course content, as well as the response of the students. The major constraint imposed on the design of the course

was the time structure. Busy teaching assistants who are trying to earn a Ph.D. and who teach undergraduate students were to be taught *how to teach* in a weekly one hour time period – the only available time in their schedules.

Hence, the course focused on critical knowledge about *how to teach* within a limited amount of time. In planning such a course, we had to be clear on certain basic issues:

1. The course should convey that teaching is more than lecturing.
2. Teaching is best learned “by doing” and then reflecting upon the “action” of teaching. Hence some of the work would have to be done outside the class.
3. Teaching matters, in that, good teaching inspires the desire to learn.
4. Success in learning opens windows to the world and transforms the learner.
5. Teaching is about sharing one’s love for one’s subject.

Our goal was to incite passion for teaching or passion for learning about teaching. As Paulo Freire (1998) reflects, *can you imagine how painful it is to do anything without passion, to do everything mechanically? Second, it is not possible to be a teacher without loving one’s students, even realizing that love is not enough. It is not possible to be a teacher without loving teaching* (p. 15).

Inspired by the thinking of Freire, about the necessity of passion and love in one’s work, we addressed this idea about passion by inviting various outstanding teachers on the faculty to speak to the students about teaching as they experience the joy of discovering meaning in their teaching. At the same time, we introduced concepts critical to the scholarship of teaching and learning.

Learning about Learning

How do students learn? What strengthens student learning? What are the obstacles to student learning? How can classroom environments increase learning for all students? Understanding the process of student learning—and continuing to grow in that understanding—is part of the professional responsibility of being a teacher. This process of faculty inquiry is the scholarship of teaching and learning theory that framed the nature of the teaching and learning course design. Furthermore, the principle that those who teach others must first learn about learning and about how people learn also guided the formulation of the course content.

Course Structure and Content

In the current literature in higher education, there is a greater focus on learning rather than teaching. The teacher's role is to create an environment to facilitate learning. Providing feedback and assessing student learning are also used to engage the student learner to improve learning. According to Ramsden (2003) expert teachers differ from novices, in that, the expert teacher pays attention to the learner; the novice, to the teaching.

Teaching entails the unique creation of connections among the teacher, the students and the content. Rice (1990) describes three critical elements in the scholarship of teaching.

1. The ability to place knowledge in context.
2. Pedagogical content knowledge – which consists of the unique teaching approaches for each specific discipline.
3. Understanding how students learn.

The course was structured with the goal in mind that students would have both conceptual and practical understanding of the learning and teaching principles presented in the course. Thus, the first session was titled *What is learning and teaching* and students had to reflect on a *personal experience* consisting of a "best teaching experience" and a "best learning experience" and explain why they chose each one of these as the "best one." Most students provided a detailed recall of the experiences they shared, suggesting that both positive and negative experiences may have a strong impact on future learning.

Subsequent class sessions were designed to engage students in understanding the importance of different levels of learning outcomes as defined in Bloom's taxonomy and how teaching and the course content should change as we address lower level learning outcomes, such as learning factual information versus teaching for understanding, analysis and application. The course addressed the concept of learning styles, multiple intelligences and learning disabilities so that teaching assistants understand why all graduate students do not learn in the same manner. We included sessions on how to enhance teaching by including technology and best practices such as feedback and classroom interaction and how to evaluate student learning, including the incorporation of performance-based assessments in the classroom to evaluate student learning.

To provide experiential learning, students engaged in the exercise of developing learning objectives in their own discipline in a subject content that was acceptable to them. Class sessions engaged students in a online learning experience that asked the students to apply the theoretical concept to a classroom situation. Student discussions were designed based on Donald Schon's (1983, 1987) concept of reflection-in-action and action research. Reflection-in-action and action research consist of engaging in self-reflective inquiry undertaken by students who are reflecting upon their practice and thinking of ways to improve it.

Finding Meaning in Teaching

Dewey (1925) said that human beings do not confront their world as a series of brute happenings, but rather as a realm of meanings. Thus, human beings connect with their world by means of “meaning” that they make from their experience, they do not just undergo “events”. The desire for meaning and the perception of meaning makes an experience worthwhile. Thus, inquiry about what one learns results in developing a thinking approach- “a habit of the mind” which requires a person to use their view of the world within which they can go deeper to construct understanding.

In his book *Personal Knowledge*, Polanyi (1958) discusses the essence of mathematical and scientific investigations and provides a powerful means for chipping away the positivist notion that strict objectivity and detachment provide the foundation for all research. Polanyi’s major theme is that the “hard” scientists would be the first to agree that the human element is always present in their work. He

rejects the notion of scientific detachment. He states “Into every act of knowing there enters a passionate contribution of the person knowing what is being known”. This is a vital component of the person’s knowledge. Engagement in the process of “meaning making” allows the teacher to deepen the understanding of the subject matter, connect it to one’s own view of the world and that of the students. Thus, thought is essential to realizing the meaning in teaching and learning.

In an attempt to convey the notion of “finding meaning” two reflective exercises were designed in the course to connect teaching theory with practice and then to engage in reflection upon practice. Reflection is an essential activity that takes place at key points.

Student reflections

Learning is very important. Teachers should learn about learning styles, intelligence, memory so that they can become effective and successful teachers.

When thinking of learning, we as educators need to differentiate ‘in what context’

Understanding the importance of self-directed learning is essential to the understanding of transformational learning.

Although students do exhibit extreme variability in their areas of intelligence and their preferred classroom learning styles, there do seem to be some universal elements to teaching effectively.

I believe that when it comes to education, teaching, and learning, that the correct answer to the question “What is the correct technique?” is that there is no correct answer. Just as every individual is born with a distinct set of fingerprints, each also has a one of a kind profile for learning. It is the responsibility of the educator to help

classify the student’s strengths and preferences, and to in turn make a connection with them. Of course, this takes a lot of hard work, a time commitment, and a great deal of compassion on both sides of the equation, but the payoff of education is well

worth the ingredients put in to achieve it. By learning the process of learning, the nuances of how different people think, and how to administer a lesson can help one to spread their knowledge to students from all kinds of backgrounds, and any walk of life. In the end, the result of hours of hard work and commitment is education, and that has no price.

How students responded to the course

Student reflections generate thoughts about the content to which they related and the connections they made with various aspects of the learning content. We wanted to know if the course influenced teaching assistants in their teaching. Hence, follow-up questionnaires were sent to all students in the course. The response rate was low, only about 28% of the students responded to the pre-test survey and 30% to the posttest survey. Among those who replied, the concepts that were consistently found to be useful in the day-to-day work of teaching were the modules on Learning Styles, Communication Strategies and Instructional feedback. There was also a positive increase on the self-description provided on the statements

listed in Table 1. The statement about being a lifelong learner which shows a decrease may signify a lack of clear understanding about the statement.

Table 1

Statement	Percentage of Positive increase in responses from pretest to posttest
I feel positive about being a TA	5 %
I have an opportunity to be a leader	10.35%
I appreciate other people and their ideas	17.6%
I enjoy working cooperatively with others	5.38%
I feel confident about the work I have to do as a TA	10.56%
I am glad to be in EDUC531 because I will learn what will be useful to me as a TA and as a student	30%
I would like to be a lifelong learner	- 8.69%

The Scholarship of Teaching

Research is an essential part of university life. Teaching that is connected to a researcher's work is inspiring to students as it generates intellectual inquiry emerging from discovery. In his book *Scholarship Reconsidered* (1990), Ernest

Boyer describes the thought processes of discovery, application, integration, as "scholarships," which are mutually dependent and overlapping forms of inquiry. These processes of thought are applied to research as well as to teaching. Led by Lee Shulman, the Carnegie Foundation for the Advancement of Teaching has

mounted a national initiative to promote faculty discussions of the definition and role of the scholarship of teaching. Shulman (2005) asks us to recognize that teaching is scholarly work. Like research, it entails making a discovery, application or integration of ideas. The scholarship of teaching describes a new concept of academic work. In the scholarly classroom, guided by reflective practitioners, students are encouraged to speak, and teaching becomes the object of inquiry generating new ideas. In this situation, scholar and student, and the teacher continue to influence each other in a continuous and creative flow of thought, inspired by the desire to understand teaching.

Reflecting on teaching and learning or *Praxis* – the Greek word for action with reflection- is a process of doing-reflecting-deciding-new doing. Reflective practice is a necessary process of articulating and refining practice towards new understanding. Simply defined as “thinking about thinking”, metacognition is a thinking strategy which one may use to monitor one’s learning and control attention to learning. Students for example, may use this skill to summarize the main points and determine the gaps in their knowledge or comprehension. The concept of metacognition was first coined by Flavell in 1976 to refer to the consciousness of one’s own thought process. An important implication of metacognition for teaching is that students need to learn how to stand back from their subject matter and think about it, thus engaging in reflective thinking as they ask questions about how the idea or concept was constructed and evolved and how it compares to another concept or idea.

Reflections on the Scholarship of Teaching and Learning

Eleanor Duckworth (1986) regards teaching as research arguing that research and teaching both seek to understand learning through observation and inquiry with a goal of clarifying and uncovering assumptions about teaching. She further proposes a vision of teachers as significant participants in theoretical and pedagogical discussions on the nature and development of human learning.

According to Shulman (2005) knowledge about teaching emerges from inquiry into problems of practice, inquiry which is grounded in both theoretical and practical knowledge. If teachers study how students respond to their teaching, what students have learned, they come to realize how their teaching has worked or not worked and what should be changed. As Linda-Darling-Hammond (2000) notes, developing the ability to see beyond one’s own perspective, to put oneself in the shoe of the learner and to understand the meaning of that experience in terms of learning, is a critical role in learning how to teach. One of the great flaws of “the bright person myth” of teaching is that it presumes that anyone can teach. However, people who have never studied teaching or learning realize that when others do not learn by being told, they become resentful of students. The capacity to understand teaching and learning is

not innate; it is developed through extensive understanding of the knowledge bases and reflection that guide this study.

Teaching for Transformative Learning

Transformative learning is clearly different from learning that is "assimilative" in that assimilation of new information takes place which fits in with existing structures of thought. Teaching that transforms represents a radical shift, the embracement of new paradigms in thinking accompanied by new beliefs and assumptions. Examples of transformative teaching are evident in situations when students change their dispositions radically and become learners of content because the teaching awakened interest. This is ultimately the power of teaching. Change from a non-learner student to a learner, from an unmotivated student to a motivated one. It is the continuum of teaching- we strive to achieve towards its top end.

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