2007 Scholarship of Teaching and Learning Grant Application

*Does the Participation in MSCI M620 (Pedagogical Methods in Health Sciences) Encourage Graduate Students to Develop a More Scholarly Approach to Classroom Teaching?*

Collaborators:

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**Purpose and Brief Description:**

Whereas the academic program of the Medical Sciences Program is more than adequate to prepare graduates for a variety of research-related positions, it provides no formal course offering in the science or implementation of classroom education. In an effort to remedy this curricular deficiency, two of the Medical Sciences faculty in consultation with Campus Instructional Consulting developed a three hour intensive reading and discussion course designed to further graduate student understanding of educational philosophy, student learning styles, teaching techniques, assessment development and evaluation, and classroom research. Unlike some other pedagogy courses at IU (some of which tend to focus on teaching skills primarily), M620 devotes a significant portion of the course on reflective and scholarly practice. This course is open not only to Medical Sciences graduate students, but also to students in other departments (such as anthropology, HPER and biology). The first offering of this class is in the Spring 2007 semester.

The instructors want to determine if this newly developed course (M620: Pedagogical Methods in the Health Sciences) does, in fact, advance graduate student understanding and practice of educational philosophy, methodology and the overall scholarship of teaching and learning. The ultimate goal of the course is to prepare graduate students to be reflective and scholarly teachers. During this semester we have been collecting multiple forms of data in an effort to test the following hypotheses:

1. As a result of taking M620, graduate students will develop more complex and refined attitudes regarding student learning.
2. As a result of taking M620, graduate students will question and evaluate their current teaching methods and explore alternative teaching strategies.
3. As a result of taking M620, graduate students will explore methods of assessment and evaluation of their own classroom teaching strategies.
4. As a result of taking M620, graduate students will envision themselves becoming involved in a public teaching resource network, such as Indiana University’s Scholarship of Teaching and Learning program.
5. Finally (to be ascertained six months after completion of the course), the experience of taking M620 will have a lasting and ongoing influence on graduate student attitudes about the discipline and practice of teaching and learning.
Graduate courses for AI training or in pedagogical methods are not new. However, there has been little empirical research on the effectiveness of these courses and their impact on the development of the graduate instructor into a more reflective teacher scholar. Assessment of pedagogy courses traditionally has been based on participant satisfaction surveys, but can be based on changes in attitudes, observations of behaviors, perceptions of self-efficacy and measures of undergraduate learning. Abbott et al (1989) reviewed the literature on TA training, and concluded more empirical research on TA training is needed and that such research needs to employ methods that lead to more valid conclusions. In addition, previous research has shown that specific TA training leads to specific behaviors in the short term, but little has been done to examine the permanence of such behaviors or attitudes. Since the publication of this article, there have been few publications in this area that have not been discipline specific (Shannon et al, 1998, is an exception). In the medical arena, recent literature has been devoted to educational fellowship programs for clinicians and faculty (e.g., Gruppen et al, 2006; Searle et al, 2006; Steinert et al, 2006), but literature about graduate education in pedagogical methods is lacking.

Our study should help fill in the literature gap about the effects that graduate student pedagogical training have on forming more reflective and more scholarly future faculty. We are in the process of collecting qualitative and quantitative data to test the hypotheses addressed (see p. 1). If we are awarded a SOTL grant, we will have the funds to hire and pay graduate students in the School of Education to assist us with interpreting our data. We will have individuals in multiple departments and disciplines (Medical Sciences, Campus Instructional Consulting, Education) collaborating on this topic. What is unique about MSCI M620 is that the students not only are learning about teaching methods and classroom research, they also are the participants in this study. The assignments in M620 are also the assessments the faculty will use to examine our hypotheses. We already have received IRB approval to collect data from our students and examine how their thoughts about teaching and pedagogical methods evolve, primarily through evaluation of the materials they prepare in class. (See methodology for a more detailed description). Unlike other TA training assessments, we also plan to examine the permanence of behaviors and attitudes by conducting 6-month follow up surveys with our students. The lessons we learn from this study may provide a foundation for discussion about pedagogy courses across campus and encourage other faculty to reflect on their instruction in these courses.

Methodology

Data for analysis will come from required course assignments and exercises. Listed below are the course assignments we wish to analyze:

1. An early draft and final version of a teaching statement
2. A multi-question survey about teaching and learning opinions – the survey will be given twice; once at the beginning of the semester (“pretest”) and once at the end of the semester (“posttest”). Completion of the questionnaire is part of the syllabus requirements of the class.
3. A syllabus of a ‘sample course’
4. A course or teaching portfolio, or sample educational research grant
5. Two instructor observation forms prepared by the students
6. VARK (Visual, Aural, Read/Write, Kinesthetic) learning inventory score:
7. Short Myers-Briggs personality inventory score:
8. End of the semester, standard Indiana University course and instructor evaluation data.
The consent forms will be kept by a ‘neutral’ third party who is not involved in the grading of the course (Katie Kearns, ISS). Identifying information will be removed from study copies of all classroom assignments and a random ID number will be attached to each item by the neutral third party. At the end of the semester, Katie Kearns will present consent forms for the study (these have been approved by IRB and are attached) and there will be a box to check if a student agrees to be contacted for a follow-up interview 6 months later (November 2007).

Preliminary analysis of the data will begin in summer 2007. The SOTL grant will allow us to hire graduate students from IUB School of Education, who can assist us in analyzing this data. The Education graduate students will be additional “neutral parties” and will ensure that the data we’ve collected remain confidential. We are enthusiastic about collaborating with these students, as we know they will be able to guide us (the Medical Sciences instructors) with respect to qualitative data analysis. Further, these students have the added benefit that they have not participated in the class in some form (whereas all three investigators of this study have), so they should not be swayed by any subjective feelings about the students and their work in this class.

The 6 month follow up interviews will be conducted in November 2007, and will allow us to determine the permanence of changes brought about by participation in M620. The structure and format of these interviews will be determined once we have finished analyzing the data from the summer. These follow up interviews will examine the students’ thoughts about teaching and learning, whether they’ve continued to develop a more scholarly approach to classroom teaching, and to what extent their participation in M620 contribution to their pedagogical “evolution.”

We will present our findings at multiple venues. One investigator (Valerie O’Loughlin) is in the process of organizing a symposium about Preparing Future Anatomy Faculty and advancing scholarship at the American Association of Anatomy/Experimental Biology meetings. We plan on presenting our findings as part of this symposium. We also will present our findings at the HAPS (Human Anatomy and Physiology Society) meetings, as well as at other meetings to be determined. The SOTL grant will help us defray travel and registration costs for these meetings. Future development projects include an M620 Course Portfolio that documents the evolution of the course and our findings from this study, as well as sharing course material with other pedagogy course instructors through the IU pedagogy course website (http://www.indiana.edu/~teaching/allabout/pedagogy.html).

**Timeline**

**December 2006** – Received IRB approval to conduct the study “Does Participation in MSCI M620: Pedagogical methods in the Health Sciences, Encourage Graduate Students to Develop a More Scholarly approach to Classroom teaching?”

**January – May 2007** – MSCI M620 offered for the 1st time and meets Friday afternoons. 10 students (from Medical Sciences, Biology, Anthropology and HPER) are enrolled, as well as 3 students participating via Polycom from Purdue – Lafayette Classroom assignments used for our qualitative and quantitative data.

**May 2007** – posttest on teaching and learning opinions administered, Katie Kearns collects consent forms, determines who would be willing for 6-month interview follow-up
Summer 2007
* work with IUB Education faculty/graduate students in analyzing data (classroom assignments, pre and posttest surveys on teaching and learning opinions). Use data to determine format and questions needed for 6-month follow-up survey.
* go to IRB and submit an amendment to our study, requesting that we interview M620 students (those who grant us permission to do so)

November 2007 – interview/follow-up with M620 students

April 2008 – M620 study findings presented as part of a larger symposium on Preparing Future Faculty at the American Association of Anatomists/Experimental Biology meeting (Valerie O’Loughlin, Chair of the symposium – symposium pending final approval)

May 2008 – presentation of M620 findings at the HAPS (Human Anatomy and Physiology Society) meetings in New Orleans, LA.

Summer 2008 – write up findings, examine data and feedback received at national meetings, and prepare a paper for publication in an educational research journal.

Potential Contribution to SOTL at IUB and the Community at Large

Unlike previous studies in TA training, our study will examine both short term and long-term effects of pedagogical training on graduate student attitudes and behaviors in teaching. We will use graduate students from multiple disciplines and utilize a variety of quantitative and qualitative data to examine the hypotheses we posed. We hope to describe and make more transparent the process from beginner teacher to teacher scholar. It is our intention (see timeline above) to present our findings at multiple national venues, as well as make our findings public to the IUB SOTL community. Our findings may be used so other faculty can explore how their graduate students evolve into more reflective and scholarly future faculty.

References


