

IUSB Faculty Research Grant Final Report 10/20/02
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The Learning and Teaching Experiences in Problem-Based Learning, Awarded Spring, 2001

This report serves to describe progress and products developed from the IUSB Faculty Research Grant I was awarded in Spring, 2001. In my original grant application, I made the following plans for research:

The purpose for re-examining previously collected data and for collecting additional data is to synthesize findings into a multi-dimensional model or typology for PBL. Toward this end, I have plans for several products, leading up to the eventual goal of developing a comprehensive model:

1. *A detailed course portfolio for my S512 Problem-Based Learning Workshop course, to be submitted to Samford University's Center for Problem-Based Learning as part of their National Peer Review Process (PBL-PR) of PBL course portfolios (http://www.samford.edu/pbl/pbl_main.html). This portfolio will eventually be published online with other course portfolios as exemplars of the scholarship of teaching.*
2. *Data collection during Fall, 2001 in my F201 and M310 courses examining undergraduate education students' learning experiences during PBL units. During the 2001-2002 school year I will be analyzing this data and writing a manuscript.*
3. *Writing work on an article or book chapter of a PBL model.*

As with many plans, mine did not go exactly as expected. Here I will report on the progress for each of the three expected products above.

1. The problem-based learning course portfolio for Samford University's National Peer Review Process **has been accepted for publication** (Sage, in press). I submitted the initial draft of the course portfolio in Spring of 2002. I have received back the blind peer reviews, and the editor from Samford University has accepted the proposal with the revisions suggested. I am currently working on the final revisions and will submit the final version next month (November, 2002).

In addition, I presented **two national conference sessions** about the portfolio with a colleague from Samford University, Carol Dean (the American Association of Colleges of Teacher Education annual meeting in February, 2002 and the American Educational Research Association annual meeting in April, 2002). The focus of each session was to highlight how the development of a peer-reviewed course portfolio could serve as documentation for both excellence in teaching and as an exemplar of the scholarship of teaching as defined by Ernest Boyer (1990). In each session, I presented my portfolio and discussed the process of development as an example of conducting action research upon one's own course(s).

I believe this work exemplifying the scholarship of teaching dovetails beautifully with the leadership the IUSB faculty and the University Center for Excellence in Teaching has provided in this area. I have been involved for several years with the annual conference on the scholarship of teaching as a member of the UCET Board.

2. Here is one area where my plans have changed. I was not able to develop the intense problem-based learning section of the Education M310, General Methods class. I unexpectedly had a course release during the 2001-2002 school year for the major curriculum reform effort in my department, Secondary Education, as we worked to revise all our secondary education content programs to meet new state standards. In addition, the M310 class is now being phased out in favor of two new general methods classes, one for elementary education and one for secondary education.

However, I have continued to use several small problem-based learning experiences in my Education F201 course, *Exploring the Personal Demands of Teaching*. One experience, which involves placing students in the role of a team of middle school teachers who must create a letter to introduce the team to families at the beginning of the school year, has been taught multiple times with a high degree of success. Several other IUSB faculty have been involved as reviewers of student products – they come into the class and give feedback directly to students on the letter each team develops. These faculty – including Anne Brown from Mathematics, Meryl Domina, Melinda Butler, Denise Smith, Susan Cress and Karen Clark from Education, and Gretchen Anderson from Chemistry – have given extremely positive feedback about this experience for students. This experience also served as the basis for an extended set of peer review visits by Randy Isaacson from Education.

Although I have not submitted a manuscript for publication about this course, I have included information about how I designed and implemented PBL in this course and my graduate S512 course in a presentation, *Designing Problems for Teacher Education*, at the **international PBL2002 Conference** sponsored by the University of Delaware in June, 2002.

I plan to continue using problem-based learning throughout my teaching. I have learned the importance of preparing action research on my own courses well in advance, or in the rush of beginning a semester and particularly in times of accompanying heavy service, the appropriate planning just doesn't happen. Additionally, in the future, I might compare my section of the F201 course to another section that does not use problem-based learning, and assess student learning with regard to the specific content I incorporate – working effectively with families – to see if the PBL approach is as effective or more effective than other approaches for learning this content.

3. While I am still lagging behind my expectations in synthesizing a number of PBL studies I have conducted into a multi-dimensional model about the critical elements of PBL, I have incorporated my increased knowledge about problem-based learning gained through this faculty research grant into the **revised edition of my co-authored book, *Problems as Possibilities: Problem-Based Learning for K-16 Education* (Torp & Sage, 2002)**. The first edition of the book focused exclusively on K-12 education. In the second edition, I incorporated research results from my own teacher education classes as well as from other undergraduate level classes in which I had interviewed instructors from one of the chapters for which I was solely responsible.

I am currently the program chair for the Problem-Based Learning Special Interest Group (SIG) for the American Educational Research Association. I am currently planning a panel discussion for the SIG business meeting in April, 2003, in which I, among others, will present my emerging model of the critical components of PBL. Other PBL researchers will discuss their own methodologies for examining the various components of PBL and how the

effects of PBL upon student learning may best be measured. It is very possible that a co-authored journal article or perhaps even an edited book may result from this collaboration.

I appreciate the generosity of the IUSB Research and Development Committee in awarding me two faculty research grants in 2000 and 2001. These monies have allowed me several opportunities to conduct and publish scholarship that not only increases knowledge about problem-based learning, but also helped me build a strong case for scholarship in the dossier I recently submitted for promotion and tenure.

References

My publications and presentations partially supported by this grant:

Torp, L.T. & Sage, S.M. (2002). *Problems as possibilities: Problem-based learning for K-16 education* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Sage, S.M. (in press). *Problem-based learning course portfolio*. Prepared for the National Peer Review Project (PBL-PR). Birmingham, AL: Samford University.

Sage, S.M. (2002, June). *Designing Problems for Teacher Education Courses*. Paper presented at the PBL2002 International Conference, Baltimore, MD.

Sage, S.M. (2002, April). *The Course Portfolio: Documenting Classroom Action Research*. Paper presented at the annual meeting of the American Educational Research Association (AERA), New Orleans.

Sage, S.M. (2002, February). *Demonstrating Teaching as Scholarship: The Course Portfolio as a Model*. Paper presented at the annual meeting of the American Association of Colleges of Teacher Education (AACTE), New York.

Other references:

Boyer, E.L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. San Francisco: Jossey-Bass.