

## Scholarship of Teaching and Learning Spring 2007

**Location:** WPI, room TBA

**Time:** Tuesdays, 5-7 pm from 1/16/07 to 2/27/07; or  
by arrangement depending on enrollment

**Instructor:** D. DiBiasio  
ChE Department, WPI

508-831-5372  
[dibiasio@wpi.edu](mailto:dibiasio@wpi.edu)

### Introduction

The scholarship of teaching and learning (SoTL), involves applying research methods and common assessment techniques to investigate questions of teaching or learning. In this course, students will learn how to define, conduct, assess and present a SoTL project that is meaningful to them in the context of their discipline and their teaching. We will explore research rigor in education, research project design, theoretical foundations of various traditions, data collection and analysis, assessment and evaluation principles, and possible funding sources. The course includes lectures, class discussions, individual and group activities. A variety of journal and text readings provide background information.

The course introduces educational research and scholarship related to teaching with application primarily in the sciences and engineering. We will explore research rigor in education, research project design, theoretical foundations of various traditions, data collection and analysis, assessment and evaluation principles, and possible funding sources. The course includes lectures, class discussions, individual and group activities. A variety of journal and text readings provide background information.

*Prerequisite:* Successful completion of IDND 30501: Seminar in College Teaching, or significant prior teaching experience, or permission of the instructor.

### Course Objectives

At course completion:

1. Describe the scholarship of teaching and learning, and its assessment as presented by Boyer.
2. Articulate the various theoretical traditions supporting educational research.
3. Describe general aspects of educational research design.
4. Analyze and critique examples from the literature.
5. For a specific research project:
  - a. Make informed decisions regarding research design
  - b. Formulate research questions
  - c. Identify appropriate frameworks
  - d. Choose valid methodologies
  - e. Analyze qualitative and quantitative data
  - f. Derive appropriate meaning from the results

### Selected References

Boyer, E. *Scholarship Reconsidered: Priorities of the Professoriate*, Carnegie Institute for the Advancement of Teaching, 1990.

Boyer, E., *Scholarship Assessed: Evaluation of the Professoriate*, Carnegie Institute for the Advancement of Teaching, 1997.

Creswell, J.W., *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*, 2<sup>nd</sup> edition, Sage Publications, 2003.

Creswell, J.W., *Educational Research: Planning, Conducting, and Evaluating Qualitative, and Quantitative Research*, 2<sup>nd</sup> edition, Pearson, Ed. Inc., 2005.

Gall, M.D., J.P. Gall, and W.R. Borg, *Educational Research: An Introduction*, 7<sup>th</sup> edition, Pearson Ed. Inc., 2003.

Creswell, J.W., *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*, Sage Publications, 1998.

Shavelson, R.J. and T. Towne, eds., *Scientific Research in Education*, National Research Council, 2002.

Pelligrone, J.W., N. Chudowski, and R. Glaser, eds., *Knowing What Students Know: The Science and Design of Educational Assessment*, National Academy Press, 2003.

Bransford, J.D., A.L. Brown, R.R. Chocking, *How People Learn: Brain, Mind, Experience, and School*, National Academy Press, 2000.

LeCompte, M.D. and J.J. Schensul, *Designing and Conducting Ethnographic Research*, Alta Mira Press, 1999.

### Course Schedule, Assignments, Grading, etc.

To be announced