

## Project Abstract

A study of the University of Wisconsin at Milwaukee (UWM) atmospheric sciences undergraduate program (a major available within the UWM Department of Mathematical Sciences) was conducted. The study was framed in the form of a series of “what is” questions, with an eye towards assessing the need for future changes in pedagogy. What do the faculty do in their classes and what has been their experience in this aspect of their professional lives? What do the faculty know about the relative strengths and weaknesses of various teaching approaches? What is the faculty attitude towards “new” approaches? If changes are needed, what are the roadblocks to making such changes? The objective of this study was to conduct a systematic rather than idiosyncratic evaluation of the current conditions in our program, and to raise faculty awareness concerning some of the issues involved in teaching and learning.

The objective was addressed by conducting a survey of UWM atmospheric science faculty. The faculty were then provided with a carefully documented, yet concise literature review, containing a summary of work that address lessons learned regarding teaching and learning. This was followed with a second (identical) survey, in order to measure attitudinal changes in response to the literature review. Triangulation of faculty results were obtained through parallel interviews with graduating seniors.

Learning styles of faculty and students are divergent, with the former being knowledge-seeking, using reflective and global learning strategies compared to the goal-seeking, active learning modes of most undergraduates. The survey reveals that the predominant teaching mode is traditional, with an emphasis on lectures, written exams and problem-set type assignments. The data are still being analyzed, with more results to come in the future.

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