Work in Progress – Transforming College Teaching Courses into More Authentic Experiences

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Abstract - Authentic achievement requires learners to engage in disciplined inquiry to produce knowledge that has value in their lives beyond simply proving their competence. While college teaching courses provide an important role in preparing future faculty in STEM disciplines, a more authentic experience was the goal of one already successful course at the University of Wisconsin-Madison. Similar to other courses across the nation, students write a teaching philosophy, design a syllabus and learning plans, and complete a micro-teaching experience. The micro-teaching experience is continually ranked as the most valuable. In so doing, they are piloting a “micro-course” in which students identify real students, rather than their peers, to teach. This “work-in-progress” describes the authentic microcourse, the experience of students in the pilot of this innovation, results from this “teaching as research” experiment, and the current situation of this evolving learning experience for both students and teachers.

AUTHENTIC ASSESSMENT

Authentic assessment has been the norm for the course since its beginning as a central component in the Delta Program [2]; however, the introduction of the micro-course is an “experiment” to make the traditional micro-teaching experience even more “real” or more authentic. For example, since its beginning, students have written and reviewed learning plans, assessment strategies, and a teaching and learning philosophy. In fall, 2004, we piloted the micro-course as an authentic assessment experience. Our hypothesis was that a microcourse would give students a more authentic teaching experience and, therefore, be more effective than a traditional micro-teaching experience. We invited students to define the microcourse. For example, they could establish an undergraduate “boot camp” for undergraduates who are motivated to either learn material at greater depth in their discipline or undergraduates who wanted more experience in applying the fundamentals of a course to their discipline. Whatever direction they chose, it must provide an opportunity to try out different teaching and learning strategies and gain first hand experience with how to structure an active learning environment. In keeping with the Teaching as Research philosophy, their microteaching
strategies must include the perspective of the research literature for teaching in your discipline. The strategies must include assessment methods that provide formative and summative assessment of the group’s learning as well as feedback for individuals in their group about their command of the material.

**TEACHING-AS-RESEARCH**

Just as research should be a collaborative activity, so should teaching as research. It was important to have someone with whom to collaborate as students planned and implemented their microcourse. Students were paired as peer partners and faculty partners. The entire microcourse experience was designed to replicate a genuine research experience. Students were encouraged to identify a course and its relevant concepts and apply research methods from their STEM discipline to examine a real course with real students. In a similar way, we as faculty for the course followed the same process. This process serves as an example of the teaching-as-research (TAR) process:

Step one is to frame and define the problem. The context was the Delta College Classroom Course. The problem was how to build confidence in designing and implementing a learning plan. The research question followed: What learning experience will help strengthen students’ confidence in designing and implementing a learning plan?

Step two is to explore and construct a knowledge base including conducting a literature search, reflecting on past experiences, and investigating peers’ and students’ perspectives. Step three is to hypothesize and design learning experience: An authentic teaching experience will help strengthen students’ confidence in designing and implementing a learning plan including multiple assessment strategies. Step four is to implement and adapt teaching practice as outlined in the learning plan.

Step five is to test the hypothesis by gathering data as identified in learning plan. Data gathering instruments included

- Pre and post surveys
- Authentic assessment (teaching and learning philosophy and micro-course)
- Focus group discussion
- SALGains on-line survey

Finally, step six is to reflect and improve continuously (use data). This “closes the loop” and fosters “teaching-for-learning.”

The syllabus outlined formative assessment measures to answer a variety of questions. For example, what strategy would be most effective for helping students learn a specific concept in your discipline? How will you know? Have others had success with specific methods? If so, under what conditions? With what kinds of students? What research exists to demonstrate these results? What assessment technique(s) would help you know that your students understand the concepts? What worked? What didn’t? What revisions are appropriate? How successful was the re-design? What questions will you ask your peers as they observe your microteaching experience? The hope was to view classrooms as sites for ongoing research into teaching and to improve teaching to increase students’ opportunities and potential for learning.

Summative assessment measures included a pre and post survey, observations, a focus group discussion with outside facilitators, and the on-line survey through the Student Assessment of Learning Gains (SALG). Data analysis is in process. Results and conclusions will expand the knowledge base for future endeavors as well as inform the design for the fall, 2005 course.

Designing learning experiences is at the heart of the TAR process. Preliminary conclusions include returning to a basic micro-teaching experience, reserving an authentic experience for after the basics, and being more explicit about building learning community.

Learning outcomes are key! The continuous nature of TAR challenges us to reflect, invites us to become learners, and helps us claim continuous responsibility for the learning of all our students. This work-in-progress allows us to collaborate with others interested in preparing future and current STEM faculty.

**REFERENCES**


[2] Delta Program in Research, Teaching and Learning is the implementation of the Center for the Integration of Research, Teaching, and Learning (CIRTL) on the University of Wisconsin-Madison campus.