

Learner-Centered Education Grants

2004 Final Report

1. Project Name and Project Director's Name. Include mailing address, phone and e-mail address.

Project Name: Video Based Learning Modules

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2. Brief Description of Project:

This project created video based learning scenarios that provided a more realistic curricular framework to enrich teacher preparation courses. Through these scenarios, students became more actively engaged in the culture of the classroom where decisions were made linking practice to theory as students interacted in a virtual classroom. By enhancing our curriculum with interactive video streaming, we have built a learner-centered environment that allows the pre-service teacher to experience some of the pressures, constraints, and systems of support that can influence curriculum construction and delivery.

3. Goals, Outcomes and Assessments

a. Goals and Primary Accomplishments:

b. Outcomes and Assessment for each Goal:

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3.

Goals	Status	Assessments and Outcomes
Design Interactive videos <ul style="list-style-type: none"> • Meet with Practicing teachers • Establish Resource List • Create Story Boards for Class Magt. 	Completed Spring 04	Practicing teachers reported from their experiences that set procedures in the classroom minimized discipline problems. An on line references list was created for management. Scenes were written based on suggestions from teachers.
Information Gathering Trip to SITE Conference	Completed Spring 04	After visiting with experts in the field of video streaming and interactive web enhancement, we learned that our initial vision for the project was too complex and costly.
Live Video Filming #1 Cast, rehearse, shoot scenes using local H.S. students	Students from Flagstaff High were gathered to rehearse and film scenes. Completed Spring 04	Including students and teachers from the community proved to be supportive and productive.
Pilot Scenarios in a Methods course	Scenes were shown to a classroom of pre-service secondary students Completed Fall 04	Students responded to the scenes and supplied data on how scenarios could be improved for the next filming session.
Live Video Filming #2 Cast, rehearse, shoot scenes using local H.S. and middle school students	New scenes were filmed and produced. Completed Fall 04	The production was improved in terms of sound, action, props, and filming.
Curriculum Application Working with Ed. Technology department a web based Problem Based Learning project was created that integrated the filmed scenarios.	Completed Fall 04	The web based PBL allowed students to work with the scenes and apply theory to the classroom management problems viewed through the scenarios. Students worked collaboratively to suggest and present solutions to the problem.
Collect Student Product and Survey Evaluation	Completed Fall 04	Students presented solutions to the PBL assignment with products including a classroom management plan, procedures board and newsletter. Students also filled out an evaluation survey.
Present at National Technology Conference	Proposal for presentation at SITTE Completed Spring 05	See paper Attached
Evaluation & Application	Completed Spring 05	The PBL was refined and included the more recently filmed video. This version was presented to a new class of Secondary and Elementary pre-service teachers.

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4. Problems or Issues Encountered:

Initially we intended to create interactive video modules that allowed students to watch the video and then make choices regarding problem solving by clicking on choices listed on a menu. The selections would then be linked to websites that discussed the theoretical research associated with that choice as well as suggested outcomes if that solution were applied to the scenario. However, after attending the Society for Technology in Education conference in Spring 2004 for the purpose of gathering more information on the project, we found that our original idea was technologically complex as well as beyond the scope of our grant financially. Therefore, we sought help from the educational technology and developed a web based problem based learning assignment that embedded the filmed scenarios.

5. Conclusions, Recommendations and Future Directions:

Conclusions: We found that by producing our own video with the goal to digitize it and place the scenario on discs for the students, the project was simplified and more accessible to both students and teachers. Interviewing practicing teachers for script ideas provided an excellent forum for discussing classroom management. Creating a script based on real experience, seemed much less threatening to the teachers than using their information for writing a paper about the subject. The results of the first attempt at filming the scenarios were quite successful and usable to be piloted in the classroom for the fall semester 2004.

The response of the NAU students in the fall semester Methods course for secondary teaching was very favorable. They requested to watch the video several times and found new issues in classroom management each time they viewed the scene. The students were asked to write down their initial responses to the video in terms of classroom management issues that they could identify. Based on their reactions, we re-wrote the scenarios for the high school students and wrote new scenarios for a middle school population.

Recommendations: With any filming project, it is recommended that the producers have a trial run and then implement changes and re-shoot the scenes. We enhanced the sound so that students could use the C.D.'s on individual lap top computers. Also in response to student comments, we added set pieces and props that made the classroom look more real and communicated change in environment that applied classroom management techniques.

Another recommendation is to recruit faculty from technology to become an integral part of the project. We approached a professor in the educational technology department to collaborate on creating a web based problem based learning project that would enhance a learner-centered approach to teacher preparation that could add authenticity and reality to the learning context. By joining with the technology faculty, we were able to augment the original project by embedding the video in a Problem Based Learning assignment that would require students to problem solve and generate classroom management products that included a classroom management plan, procedures guide, and newsletter to communicate the classroom management system to parents.

Future Plans: Currently we are writing a proposal to the Problem Based Learning Special Interest Group (S.I.G.) for the American Educational Research Association to be presented at the A.E.R.A. national conference to be held in San Francisco in Spring 2006. We are collecting data each semester related to student use of the video embedded in the PBL. We are also looking into creating video scenes to accompany the other Problem Based Learning assignments in other curriculum and instruction courses.

6. Has this project led to sustainable change in your department/college? Describe:

Each course in the secondary teacher preparation program includes a Problem Based Learning Assignment. Since we have developed this PBL using video for the classroom management curriculum, it has been given to three other instructors to be used in the Secondary Methods course.

Video is a very inviting mode of technology. Having a video available that depicts a classroom issue has created interest from professors who are typically not highly interested in technology.

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6. Impact:

a. Have other faculty been affected by this project? X Yes No. If so, describe:
Now that the video scenario is on the web and embedded in a problem based learning assignment, faculty find it easy to implement in their classroom. They can use a little or the entire assignment.

b. Number of courses affected/involved. 3 courses.

c. Number of students affected. 120 Students

7. Significant Outcome:

What was the most significant outcome based on learner-centered principles that occurred through your project?

Through collaborating with faculty from educational technology we were able to combine two learning strategies, video based scenarios and problem based learning that produced several significant outcomes based on learner-centered principles.

1. Students were engaged with individual student research and discovery. The PBL enhanced the video scenario by requiring the students to play the role of peer coach for a new teacher who was having difficulty in her classroom due to management issues. Students had to define the problem and then approach its solution through a classroom management plan, procedures board, and newsletter for the parents. Information for addressing the problem was found through student research.
2. Students were required to present their results to a panel composed of the principal, superintendent, a parent, and a student from the simulated class.
3. By embedding the video in a Problem Based Learning assignment, students had more opportunity for independent thinking within a small group setting. The teacher acted as guide rather than expert by supplying the students with resources.
4. The video scenario project encouraged and motivated additional technology application to be integrated into the secondary pre-service curriculum in the form of learner centered education. Also, the students developed a website called First Aid For Teachers where they created annotated links to areas of concern including: Classroom management, Special Needs, Accountability, and Technology.

The problem Based Learning project can be viewed on the URL:

<https://webmail.nau.edu/redirect?http://pt3.cce.nau.edu/~les4/PBL/>

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Classroom Management Brought to Life Through Technology-Supported Problem-Based Learning

Presented at the Society for Information Technology and Teacher Education national conference in April 2005. (SITTE)

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Abstract: This paper explores the use of video streamed classroom management scenarios as a tool for teacher preparation instruction. With limited access to site based programs where pre-service teachers are able to “try out” teaching strategies and discipline techniques, there is a need to develop curricular materials that can provoke engaged learning through a sense of realism and simulated urgency. Through the support of a Learner Centered Education grant and PT3, instructors from educational technology and curriculum and instruction collaborated on a Problem Based Learning web-enhanced module that included a digital scenario that was filmed and produced on their campus. The paper documents the filming process, the PBL composition, professor collaboration, and student evaluation of the project.

Introduction

Classroom Management is frequently cited as the most difficult challenge for first year teachers. Although there is a rich knowledge base on classroom management strategies and discipline theories (Walker, Shea, & Bauer, 2004, Charles, 2002, Manning & Bucher, 2003, Martella, Nelson, & Marchand-Martella, 2003, McLeod, Fisher & Hoover, 2003, Thorson, 2003, Wong & Wong, 1998), pre-service teachers rarely have an opportunity to apply these skills and theories in a simulated “real world” environment. The goal of this project was to use technology, in particular video streaming and web enhanced Problem Based Learning, to create an assignment that would make the study of classroom management more meaningful. Problem Based Learning was chosen as a teaching strategy because it is curriculum that is “focused, experiential learning (minds-on, hands-on), organized around the investigation and resolution of messy, real-world problems” (Torp & Sage, 2002, p. 15). In this experience, technology provided a digitized scenario that offered an enhanced learner-centered approach to teacher preparation that could add authenticity and reality to the learning context and could bring it alive (Thornhill, Asensio, & Young, 2002).

The literature suggests a broad range of definitions for Problem Based Learning (PBL), from a simple teaching and learning technique to a complex teaching and learning strategy that requires a particular educational paradigm shift (Boud and Feletti 1991, Savin-Baden, 2000, Jones, Rasmussen, and Moffitt, 1997, Delisle 1999, Torp and Sage, 2002, Kain, 2003, Glasgow, 1997). The definition used for this project acknowledges the complexity of the teaching method and applies it for the purpose of simulating real classroom problems. The focus for the PBL was to use “stimulus material to engage students in considering a problem, which, as far as possible, is presented in the same context as they would find it in ‘real-life’” (Boud and Feletti, 1991, p 15).

The Study

The course chosen to pilot the project was a pre-service Secondary Methods course that used resources from a Learner-Centered Education and a PT3 grant. There were 20 students in the class. For most of the students, the

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methods course is the final education course to be taken before student teaching. In a class focus group discussion on 'What are your major concerns as you begin student teaching?', classroom management was ranked as one of the top two major concerns. Students expressed unease about successfully managing their classroom so they could implement effective teaching methods. Within our discussions of classroom management, the concept of consistently implementing thoughtful and engaged lessons was frequently suggested as a dependable method for securing a safe and focused classroom. However, after practicing some of their prepared lessons before a video camera and observing an ESL middle school classroom, the perfect lesson plan began to fade as the silver bullet for classroom management. Listed below are the specific objectives and anticipated outcomes we hoped to achieve in the pilot study.

Objectives

The Project will:

- Design a Problem Based Learning assignment that utilizes video streaming scenarios
- Foster collaboration among two different faculty groups in the Teaching and Learning Department
- Use technology as a tool for student-centered education
- Promote self directed and independent learning through PBL curriculum

Anticipated Outcomes

Students will:

- Apply theory to video scenarios
- Develop a classroom management plan
- Develop team building skills
- Become more confident and efficacious as a teacher
- Enhance concept retention through using multiple channels of instruction
- Develop skills for classroom management

The instructional resources used in the classroom management unit included, Harry Wong video tape from the Effective Teacher series, Chapter 5: *Classroom Management* and Chapter 11: *Problem-Based Learning* (Arends, 2004), and the Problem-Based Learning assignment <http://pt3.cce.nau.edu/~les4PBL/> . The required student products for the assignment consisted of: 1) a classroom management plan, 2) a parent newsletter, 3) a classroom procedures poster and, 4) a Power Point presentation to a mock panel made up of a parent, the principal, assistant principal, and a student. The primary objective for the assignment was for the students to understand that clear, concise classroom procedures that are communicated to parents and students can have a positive impact on classroom management.

Each of the assignments was explained through the materials presented in the PBL. As with any inquiry-based unit, the lead class professor facilitated student learning through student questions and clarifications. Once the students were presented with the scenario and given the tasks, they were divided into teams of two. The two professors involved in this study (the lead class professor and the educational technology professor) were pleased to see how focused the students were on researching classroom management and on producing the assignments. Although there were never concerns of discipline or lack of learning in the future teachers college class, the PBL unit engaged the students in a way that actually became the silver bullet that the students had identified as an extremely useful and vital classroom management strategy.

A team effort that involved collaboration among a high school teacher and students, university departments, and technology resources resulted in the production of the digitized scenario used to anchor the PBL unit. The digitized video depicted a young teacher in a high school classroom and the classroom management problems she was having as a consequence of her classroom disorganization. With money previously secured from a Learner-Centered Education grant, the local high school marching band organization received a donation in exchange for their participation as "the students" filmed in the scenario. The "teacher" in the scene is a clinical instructor at the university, and the director and scriptwriter is the first author of this paper. Once the scene was video taped using two cameras, the scene was digitized, edited, and situated within the web based Problem Based Learning assignment. The technical resources and assistance to produce the video were provided by the university PT3 grant team.

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The partnership between the educational technology and the teaching and learning departments generated a supportive environment for creativity and confidence for trying something new in the classroom. With two professors introducing the project and requesting feedback from the students on its effectiveness, students were exposed to a model of how to introduce a new project into the classroom, giving them the opportunity to become partners in the research study rather than subjects of the same. Students and professors alike were attempting to discover more effective ways of teaching and learning about classroom management. The next section will discuss the results from this pilot study.

Results and Discussion

The evaluation of the study consisted of the student products and student surveys collected at the end of the unit. As mentioned above, the students produced a classroom management procedures poster, a classroom management plan, a newsletter to communicate the plan to students' parents, and a presentation to a mock panel. In general, most of the anticipated outcomes for the project were met. For example, based on the products and classroom discussion, students were able to apply classroom management theory to the video scenarios. Students used the information from the Harry Wong video on classroom procedures and their individual research on sorting the problem based learning issues to create classroom management solutions. In terms of student products evaluation, the lead professor created a rubric to grade the Power Point assignment used to present the classroom management plan to the mock panel. Besides the professor, class members not participating in the presentation or in the mock panel were asked to also grade the assignment. Final grade of all the products was given by the class lead professor. At the end of the presentations, the students were asked to complete a simple survey to collect their impressions on the PBL unit and the learning that took place. The survey used a Likert-type scale of 1 to 4 with the following values: (1) Not at all, (2) Somewhat, (3) Effective and, (4) Very Effective. Following is a discussion of the survey results.

In terms of the format and materials of the PBL unit, the students found "effective" and "very effective" the PBL materials to understand the problem with a total of 94% of students selecting these responses. These results speak of the importance of carefully constructing the materials to set up the stage of the problem. In terms of learning, as mentioned above, the primary objective was for the students to understand that clear, concise classroom procedures that are communicated to parents and students can have a positive impact on classroom management. This objective can be mapped to the following assignments:

- Poster procedures and a classroom management plan correspond to "understand that clear, concise classroom management procedures..."
- Poster procedures, newsletter and Power Point presentation correspond to "are communicated to parents and students..."

From these assignments, 94% of the students found that creating a classroom management plan was "effective" or "very effective" for their learning. On the contrary, the creation of a Poster Procedures resulted on 88% of the students responding that the activity was "somewhat" or "effective" to learn about classroom management. It is pertinent to mention that research to create the classroom management plan was conducted using the Internet, while the poster procedures was created by hand, that is, no computer technology was used for this assignment. On the other hand, assignments that required the use of computer technology were the newsletter and the Power Point presentation. To the question of the effectiveness of the newsletter, 82% of the students found the activity to be "effective" or "very effective." However, 12% of students found the activity "not at all" effective. The use of Power Point to present to the mock panel also caused the students to split their responses. That is, 29% of the students found the activity to be "somewhat," 41% found it to be "effective," and 29% found it to be "very effective." Finally, 88% of the students found that working with a classmate was "effective" or "very effective" to learn about classroom management.

Unfortunately for these students, the secondary teacher preparation program does not include a class dedicated to educational technology. Faculty in the program attempt to integrate technology into their courses as much as possible, but there is not a class that clearly discusses the strategies of effective technology integration into teaching. Based on that, it is unclear if the students' response to the technology-based assignments was influenced more by the lack of students' technology knowledge than by the effectiveness of the assignments. The classroom management research conducted on the Internet obviously included computer technology but it did not yield the same results as the other two technology assignments. An explanation to this may be that the use of Internet has been adopted as another way of doing research and the knowledge of specific software programs is not required to use it. Although

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there is no doubt that technology proficient secondary teachers are very much needed in our secondary schools, more research is necessary to sort out the responses to this simple survey.

Significance of the Study and Further Research

Computer based or web-based classrooms have been viewed by some as an elixir that will solve university financial woes, extend learning to those who are geographically dispersed, and more effectively transmit information to students (Weigel, 2002). Colleges of Education are also turning to web- based learning frameworks to offer courses and even whole degrees. Researchers, administrators, policy makers, and educators have increasingly stressed the need for preservice teachers to gain more experiences with children prior to their taking on their own classroom. Unfortunately, many preservice programs are not based at school sites or the number of school sites available may be limited.

Virtual or web-based Problem Based Learning assignments may be an effective teaching strategy for preservice teacher learning because it offers the potential for each student to apply theoretical knowledge, to practice decision making, and to foster collaborative skills. Most of the research has focused on specific virtual or case-based scenarios in which preservice teachers interact and make decisions around one or two situations (i.e., Strang, 1989; Zuckerman, 1979). This paper presented an examination of the question: Will a virtual learning environment in the form of a web-enhanced PBL provide a useful and valuable context for preparing effective teachers in classroom management?

For the next implementation of the project, the professors will use a pre and post teacher efficacy survey to determine influence of the project on creating more confidence and efficacy as a teacher. Also, further research is necessary to understand the impact of using PBL to teach classroom management, and the interaction between the web-based PBL materials and the user of those materials for effective teaching and learning.

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