

**UM-Morris:
Engaging Students by Teaching to Multiple Learning Styles**

The Issue To Be Addressed:

The UMM continuation grant proposal grows directly from experiences during the current grant. The first three years allowed a broad cross-section of the faculty to sample technology-enhanced learning (TEL) and aroused wide interest in it. Grant efforts, however, have not led to curricular transformation nor have they led to developing on-going support for TEL. In the next three years, the proposed project will involve fewer faculty but support more comprehensive course-revision projects. The supported projects will address multiple learning styles and aim to create diverse learning communities. Priority will be given to proposals that have wide applicability. The project will initially identify instructional issues of most salience on campus and TEL approaches that have the most potential for serving these needs. Next, the project will provide a support system – a Consulting Group of faculty, professional support staff, and Student Technology Assistants [STAs] – to work with the individual projects. That support system will include a specialist in instructional design to keep the learning issues at the forefront. The implementation and review of the support system's efficacy will shape the on-going campus structure for supporting TEL.

This project seeks to create a dynamic and responsive environment where technological changes are used to address institutional needs. The project aims to more fully engage students by offering varied technology strategies and innovative teaching strategies to address diverse learning styles and create diverse learning communities. The substance for this approach stems from the seventh principal of effective learning, "respect for diverse talents and ways of learning" (Chickering and Gamson, 1999 and Graham *et al.*, 2000, 2001). Instructional technology will help address the needs of diverse learners and enhance student performance in liberal arts undergraduate courses. Technology will be integrated into courses where it is anticipated that learning outcomes can be significantly advanced through instructional design and technology. Use of instructional technologies will improve communication and build better teamwork, critical thinking and problem solving skills.

The proposed project organizational structure aims to eliminate isolated efforts and outcomes by creating core and consulting groups. This will lead to greater project impact, more efficient, coordinated use of the IT resources of the institution, and improved integration of the project with UMM's curriculum. UMM's curriculum requires all majors to have courses that help students use computers productively to enhance their knowledge and skills in a chosen field of interest. The project implementation would be a substantial element of achieving this general education learning objective.

The proposed project will:

1. Design activities or processes that address multiple learning styles, such as visual, kinesthetic, and auditory (Summers, 2003).
2. Offer choices in the learning process.
3. Allow for different sequencing of information.
4. Encourage the expansion of preferences by developing multiple strengths.
5. Provide good support services when there are "gaps in learning".
6. Provide motivation and multistage training to faculty. Since "use of technology is only as good as the people and content behind them" and "good teaching is good teaching and bad teaching is even worse in a technology-based environment" (Foshee, 1999), this implication is crucial for substantial impact on student learning.
7. Provide enhanced and innovative learning activities by the application of instructional technologies such as simulations, interactivity, collaborative projects, interviews with experts and virtual learning teams. "Using technology to replicate the traditional face-to-face classrooms is a waste of time, energy and money. Technology is and should be used as a vehicle to assist institutions in reaching students who might not be otherwise reached because of distance or learning style. It is also a vehicle to assist instructors in achieving learning objectives in new ways"(Pahloff & Pratt, 2001).
8. Create a collaborative environment that encourages sharing individual evaluation/assessment of various IT tools on student learning. "Large investments in technology-based teaching can be justified only if it leads to significant changes in the way we teach." Bates (2000)

Project Description

The over-arching goals for the next three years are to:

1. increase the number and quality of IT-supported diverse learning experiences available to students;
2. increase student sense of engagement in learning by addressing multiple learning styles
3. create an integrated, efficient, and responsive system for technology enhanced learning.
 - a. integrated : assuring coordination among the support staff and users.
 - b. efficient: an effective way to balance between variety of options and available support resources; minimize duplication of effort.
 - c. responsive: multi-level support for faculty innovations.

Toward these ends, the grant activities will focus on creating a three-component program for developing best practices with Instructional Technology. The program will include:

1. Dissemination of basic information via:
 - webpage of FAQ and list of colleagues as well as other resources.
 - identification of exemplary approaches,
 - demonstration sessions.
 - formation of a TEL consulting group – faculty, staff, students.

The CORE GROUP will be responsible for achieving these goals.

2. Instructional Development
 - Identify priority issues and create an instructional development system to address them.
 - Train student tutors for desk-side coaching.
 - Work with faculty teams who have identified a particular focus.

The CONSULTING GROUP will be responsible for achieving these goals.

3. Evaluation and Assessment
 - The TEL Consulting Group and support staff will help users of TEL to assess the efficacy of new practices.
 - Results of this work will feed into both the Dissemination and the Instructional Development initiatives.

The CORE, CONSULTING GROUPS AND PARTICIPANTS will participate in these efforts.

In this project, the Core Group will work on institutional integration, filtration, and dissemination of information related to the use of technology to address diverse learning styles. The Consulting Group will provide help to the campus with related pedagogical, technological, and evaluative issues; they will specifically provide expert knowledge, training, consulting, and desk-side coaching. Faculty participants will handle instruction-driven development, implementation, and evaluation and assessment. This process is illustrated in the following diagram:

needs that become apparent during the implementation of the project; the group will consist of the individuals that possess experience in the area and trained students. Faculty participants will come from the four academic divisions of the campus.

Evaluation Plan

The evaluation/assessment of the project will be done at three levels and each will produce and provide input to the other. These levels are (a) individual projects, (b) general area of IT tools, and (c) overall implementation. The Core Group will create base information to use for developing benchmarks for the evaluation/assessment process. The Consulting Group will provide support to faculty participants on the design of their assessment methods and tools that will lead to comparable results across the projects.

UMM's Assessment Reporting System will be used to measure the improvement on student learning and provide another aspect of the integration of the project with the rest of the campus.

The expected outcomes of the project, the evaluation/assessment tool that will be used and the unit that will be responsible are given below:

Outcome 1. All of the designed learning processes will address multiple learning styles and offer choices in learning process.

Evaluation Tool: Analysis of the implemented processes

Unit In-charge: Core Group

Outcome 2. Project outcomes will provide learners different sequencing of information and help them develop multiple strengths.

Evaluation Tool: Student and Participant surveys

Unit In-charge: Consulting group and faculty participants

Outcome 3. The project will lead to innovative uses of IT tools and provide scientific evidence on their impact on the students' learning.

Evaluation Tool: Student survey and knowledge-based evaluative tools (areas: cognitive, behavioral change and performance, and attitudes and values), and UMM's Assessment Reporting System

Unit In-charge: Faculty participants and consulting group

Outcome 4. At least ten disciplines will incorporate TEL techniques in their courses in ways that improve student learning.

Evaluation Tool: Analysis of the project outcomes

Unit In-charge: Core group

Outcome 5. Faculty will demonstrate an increased awareness of recent TEL developments and their implications for student learning.

Evaluation Tool: Faculty pre and post surveys

Unit In-charge: Core group and consulting group

Outcome 6. Faculty members will demonstrate improved understanding of effective instructional design.

Evaluation Tool: Faculty pre and post surveys

Unit In-charge: Core group and consulting group

Outcome 7. Students reporting satisfaction with active learning supported by TEL will increase significantly.

Evaluation Tool: Student opinion survey

Unit In-charge: Faculty participant and consulting group

Outcome 8. Faculty will report improved support for their TEL efforts

Evaluation Tool: Faculty survey and interview.

Unit In-charge: Core group and consulting group

Outcome 9. The system for delivering TEL support will reflect revisions and restructuring in line with assessment of the experiences of the grant period.

Evaluation Tool: Project impact analysis

Unit In-charge: Core group

In addition to the aforementioned, wherever possible faculty reflection logs will be used for faculty to document ongoing effects on student learning, accomplishments, challenges, and outcomes.

Campus coordinator reflections logs and surveys will also be used to track accomplishments, challenges, lessons learned and outcomes campus wide.

Dissemination and Assessment of Sustainability

The Core Group will update the campus website with the training tools developed by the Consulting Group and the assessment of the individual projects.

The results of the individual projects will be shared with the campus community through seminars and reports.

The final assessment with recommendations for instructional improvement to enhance student learning will be shared with the University community and with a broader audience as feasible.

The proposal for improvements in the support structure for TEL will assure sustainability of the improvements and a system that allows further innovations

UM-Morris Three Year Budget

The Morris campus requests \$114,375 over a three year period to (1) support the efforts of a leadership team (the project coordinator and the Core Group), (2) facilitate the emergence of a Consulting Group, (3) develop a system for training student tutors, and (4) finance faculty instructional experiments. Additional funding is requested to sponsor campus workshops and to support attendance at conferences.

UM-Morris Expenses	Year One	Year Two	Year Three
Project Coordinator - <ul style="list-style-type: none"> • Responsible for report-writing, chair Core Group, • oversee/implement assessment/evaluation (salary and benefits) 	\$5000	\$5000	\$5000
Support staff (salary and benefits)	\$3000	\$3000	\$3000
Core Group <ul style="list-style-type: none"> • Spring/summer 2004 from old grant(2 faculty members, 2 professional staff @ \$500) (salary and benefits)	\$2000	\$2000	\$2000
Consulting Group <ul style="list-style-type: none"> • Student stipends 4 @ \$2000 • Faculty - 3x\$1500 (salary and benefits) • Professional staff – 2x\$500 (salary and benefits) 	\$13500	\$13500	\$13500

Workshop on Instructional Design and Assessment <ul style="list-style-type: none"> All-campus draws central funds 2d yr fall retreat - \$5000		\$5000	
Conference attendance (2 national mtgs per yr) <ul style="list-style-type: none"> Core Group Dissemination of results 	\$2500	\$2500	\$2500
Faculty Participants [5@2000] <ul style="list-style-type: none"> Faculty grants (salary and benefits)	\$10000	\$10000	\$10000
Supplies (phone, duplicating, etc.)	\$450	\$475	\$450
Subtotal for each year	\$36450	\$41475	\$36450
Total request for 3 years			\$114375