Using Emerging Technology to Integrate Learning Strategies within an Introductory History Course

Abstract
Financial support for the applicant would continue their professional development. The area selected is effective use of emerging Internet technologies. The specific application is facilitating student mastery of learning strategies and increasing positive academic outcomes in a rigorous entry-level college history course. While there is increasing use of emerging technologies in education, little rigorous evaluation has occurred regarding their effectiveness for academic development and support. More than just using these technology tools, this proposal focuses on employing them as a means to discuss and have students practice use of various learning strategies directly with the academic content material. This research and pilot testing may provide a potential model for adoption by other colleagues in the profession as well as by traditional core curriculum instructors. A collaborative effort through in-kind contributions by the institution and a grant of $999 from NCLCA would fund this proposal.

The Problem
The emerging field of Web 2.0 applications, as exemplified by this grant application, are new and in desperate need of thoughtful pilot studies and careful program evaluation which may lead to identification of best teaching and learning practices. Traditional Internet tools have been used for several years with students (*e.g., web pages, email, online chat rooms, online tutoring*).

A new set of Internet applications are now emerging. They are called the "Web 2.0 applications." While active learning has been a strong theme in the recent era, these Internet tools provide new venues that appeal to today's students. Some examples of these Web 2.0 technologies are blog pages, wiki pages, web conferencing, and podcasting. A unifying feature of these new application is the opportunity for collaboration of both the developers and users/consumers. Blog pages are web sites where people can post messages and others can reply to them. Wiki pages, as best known by the Wikipedia online encyclopedia, are web pages which a group can co-create and co-edit. Web conferencing permits two-way communication among the presenters and the learners. Podcasting allows a group to create a "radio show" series on a topic and then download from the Internet the shows for listening on either a desktop computer or download to an iPod or similar MP3 player.

While the grant applicant has read extensively the professional literature and attended training workshops, equipment is needed to implement the technologies within the class. This equipment is not available from the institution. This proposal has been reviewed by a focus group of students who strongly support the pilot study and potential for usefulness from their perspective.

Objectives for Students:
The following are the primary objectives for students enrolled in the grant applicant's introductory college course in history during fall 2006.

- Increase engagement of students with the learning process through direct involvement with producing and sharing new information related to the course
- Stimulate learning through use of emerging technology-based learning venues
- Build a sense of community by involving students in teaching one another
- Empowering students to become co-producers of the learning process and the outcomes
- Increase student motivation for listening to the podcast show by integrating music and its selection by students into the learning process
- Increase measurable student outcomes such as lower rates of course withdrawal and higher final course grades

Technology Tools:
The following are the Web 2.0 emerging learning technologies that will be used in the introductory course in history. The course instructor and other student paraprofessionals will assist students in the class with use of the technology tools.

- Course blog page (*open for contributions by all students*). An ongoing conversation of topics raised during class lectures among the course instructor and students in the class.
- Course wiki web page (*open for contributions and editing by all students*). A study guide for the course will be co-created that includes chapter summaries, key vocabulary definitions, potential exam question samples, and web links to other sites that provide enrichment learning opportunities.
- Course podcast series (*open for students who volunteer*). Please see Exhibit A for an example of the purpose, format, and show content of the weekly and special podcast shows.
- Narrated Power Point presentations (*presented for students as alternative when course instructor is out-of-town attending a professional conference*). Web links to these on-line presentations will be announced through the course blog page.
- Virtual office hour in addition to traditional office hours (*Instructor uses one-way video and audio with student interaction through on-line chat one evening weekly. Other traditional meetings held in the instructor's office throughout the week*)
- Course management website (*provided by course faculty member*). These are static information resources provided by the course instructor to support learning activities in the course (*e.g., incomplete outlines of PowerPoint slides displayed during class*)

Grant Program Evaluation
Students in the grant applicant's introductory history course will be the subjects of the research study. After gaining approval through the Institutional Review Board, a research study will study the potential effects of independent variables of the selected technology tools (*described in the above section*) with dependent variables of student outcomes (*course withdrawal rates, final course grades, student course satisfaction ratings*). The regression analysis would include preentry attribute variables (*high school rank, composite admission test scores*) as controlling variables. Preentry student data and final course data would be obtained from the Registrar's Office. Student usage rates and reactions to the different Internet learning tools would be collected through a student survey that would be collected by a third party and held until after course grades are submitted. This would ensure that there was no potential bias by the course instructor regarding assigning of grades due to student use of the Internet tools. The analysis of the data will occur during spring 2007 resulting in a report by May 2007.

Grant Knowledge Dissemination
The results of the pilot study will be presented at the NCLCA conference and other national venues in the field. A manuscript that describes the pilot test and the results will be submitted to several professional journals including *The Learning Assistance Review*.

Significance of the Grant Application
While institutional funds and personnel are being increasingly devoted to use of instructional technology, as exemplified by blogs, wikis, podcasts, and the like, there are few evaluation studies of their effectiveness with increasing student outcomes. This grant proposal seeks to conduct a pilot study of these technologies and report their effectiveness for a wider audience. This may lead to both encouraging others to conduct confirmatory studies of the initial pilot study findings as well as lead to identification of best practices for adoption by other professionals in the field.

Budget Request
The institution provides support for the project through providing the needed computer software, computer hardware, and hosting services for the blogs, wikis, PowerPoint narrated presentations, and podcasts. There are several pieces of equipment needed to support the podcast component of the project.

I. Equipment for Podcasting Component of the Pilot Project
A. The following equipment is needed for the mini-studio to record the podcast.
$249   Podcast Starter Package (*audio mixer, microphone, cables*)
     $89   Studio Microphone Boom
     $38   (2) Microphone Pop Filter
     $79   USB Audio Interface
     $50   Audio Monitor

B. The following equipment is needed for the students to use in field work and recording of interviews with others related to the podcast.
$80   Condenser microphone with USB connection
$180   Portable audio recorder (MP3 Player/Recorder)

II. Equipment for the Virtual Office Hours Component of the Pilot Project. One hour is scheduled during the evening for students to interact with course instructor via the Internet using the institution's Macromedia Breeze Conference software system. The instructor provides both visual image and audio sound. Students interact through chat. Additional hours of traditional face-to-face office hours occur in the instructor's office throughout the week.
$130   Video camera
$65   Microphone/headset
III. Shipping and Handling
$39
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$999   Total Equipment Investment Cost

In-Kind Contribution of the Institution
- Apple G-4 Laptop Computer for editing of podcasts
- iLife'06 computer software for editing of podcasts
- Web Conference distance learning software for support of narrated PowerPoint presentations and virtual office hours
- Movable Type software for blog page and podcast hosting
- Computer software for wiki page creation and hosting
- Technical assistance from departmental instructional technology support unit