DOCUMENT RESUME

ED 421 091 IR 018 810

AUTHOR Taylor, Harriet G.
TITLE Distance Education by Distance Education: Putting Theory to Practice in a Graduate Educational Telecommunications Course.
PUB DATE 1998-00-00
NOTE 6p.; In: "SITE 98: Society for Information Technology & Teacher Education International Conference (9th, Washington, DC, March 10-14, 1998). Proceedings"; see IR 018 794.
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Computer Assisted Instruction; Computer Mediated Communication; *Cooperative Learning; Curriculum Design; *Distance Education; Elementary Secondary Education; Graduate Study; Group Discussion; Higher Education; Mentors; Models; Nontraditional Education; *Teacher Education; *Telecommunications; World Wide Web
IDENTIFIERS *Experts; Web Sites

ABSTRACT

Graduate students in a telecommunications in education class participated in a collaborative project in which they implemented and practiced the curricular models that they studied during the course. The students used distance education to support learning about the field of distance education. They used the World Wide Web and other media for background information and visited distance education centers. To provide in-depth insights on the topic, they participated in e-mail exchanges with online experts, each representing a different model of distance education. The students created a unique Web site containing information gathered from the experts and links to Web pages that are good general resources on distance education. This experience allowed participants to become immersed in a study as a group and to develop their own models of telecommunications-supported collaborative learning. It attained the baseline goals of differentiation of distance education and telecommunications, practical application of K-12 curricular models, practical experience with collaborative and group processes, examination of a variety of resources and media, and application of online strategies to authentic tasks. Through expert mentors and online resources, students were able to explore their research topic in ways not possible if limited to traditional methods using materials at hand on campus. (Contains 24 references.) (AEF)

Distance Education By Distance Education: Putting Theory to Practice in a Graduate Educational Telecommunications Course

Harriet G. Taylor
Louisiana State University

Graduate students in a telecommunications in education class participated in a collaborative project in which they implemented and practiced the curricular models that they studied during the course. The students used distance education to support learning about the field of distance education. They used the Web and other media for background information and visited distance education centers. To provide in-depth insights on the topic, they participated in e-mail exchanges with on-line experts, each representing a different model of distance education. The students created a unique Web site which contains not only the information gathered from the experts but links to Web pages that are good general resources on the topic of distance education.

This experience allowed the educators to become immersed in a study as a group and to develop their own models of collaborative learning supported by telecommunications. Many of the educators themselves had directed their students in such activities, but rarely had they participated in such a project. The project confirmed for the educators the value of such shared experiences and the richness and depth of learning that can occur. They also witnessed the motivational value of a real project with a real audience and the complexities of working as a team. The project clearly illustrated to them the value of distance education both as a vehicle for education and as a field of study.

Related Research

As computers and communications networks have become more common in K-12 schools, a great deal of research has been done on uses and effectiveness of electronic discussions within educational settings. From a teacher education perspective, these often focus on two populations, pre-service teachers practicing in the field or in-service teachers who are geographically distant.

Numerous studies (Hoover, 1994; O'Neill & Coe, 1996; Russett, 1995) have illustrated the value of e-mail based communications involving pre-service teachers. The models include journal writing, mentoring on decision making, and simple social interaction with peers for support. Typical benefits included enhancements in reflective practice and decision making and reduction of feelings of isolation.

Discussion lists and listservs (Anderson & Perry, 1995; Espinoza & McKinzie, 1994) on which participants post e-mail messages to targeted groups of subscribers have also been effective educational tools. Discussions often include pre-service teachers, in-service teachers, and education faculty (Anderson & Perry, 1995). Espinoza & McKinzie (1994) set up discussion lists for graduate students to confer on issue of mutual concern.

Many studies point to common benefits of instructional activities involving electronic mail exchanges in teacher education. Among these are more active participation by students (Wolffe & McMullen, 1995), students taking responsibility for their learning, greater equity of participation (Wizer & Beck, 1996), decreasing feelings of isolation (Casey & Vogt, 1994), building of virtual communities for support and collaboration (Casey & Vogt, 1994; Hoover, 1994), and internalization of the methods into teaching practice.

Participants

The participants in this project were all graduate students in a telecommunications in education course. A prerequisite for the course was a prior technology course or equivalent experience. Therefore, the participants were not novice technology users. There was a wide range of experiences and competency levels in the group, particularly prior experience using telecommunications. The students were typically enrolled in graduate programs in curriculum and instruction or administration or were classroom teachers wanting to learn more about telecommunications.

Course Content

The course included many of the standard instructional activities associated with a dedicated educational telecommunications class. Activities included use of electronic mail, Web searching and research, Web page design and development, Web page evaluation, curricular uses of telecommunications, and exploration of emerging technologies. These topics were taught from a constructivist point using student projects. Research as the focus of class time and the class develops a Web site to display their work (Webcom Project, 1997).

To reinforce many of the curricular concepts of the course, the instructor "taught" the topic of distance education by using the on-line and collaborative techniques the students had studied. The project, Distance Education by Distance Education, provided real experiences that engaged the students in self-directed and collaborative learning and assisted them in clearly differentiating the domains of educational telecommunications and distance education.

Distance Ed By Distance Ed Project

Project Goals

The Distance Education by Distance Education Project had the following goals and outcomes for students:

1. Differentiate distance education and telecommunications as disciplines
2. Identify ways in which telecommunications is used to support distance education
3. Use curricular models found in K-12 schools
4. Practice collaboration and group processes
5. Examine a variety of resources and media
6. Apply on-line strategies to an authentic learning task.

Project Preparation

The preparation for the project included conducting readiness activities for the education students, developing project design and planning materials, locating on-line experts for the group, and locating relevant resources as starting points for the study. The project activities took place during the last six weeks of the course as a culminating experience to reinforce many of the principles and methodologies discussed and evaluated earlier in the semester.

The class component of the project began with a group discussion of the term "distance education" and what it meant to each of the students. This evoked a variety of first, second, and third generation distance education models (Jones, 1996) in which the students had participated.

To prepare for a deeper investigation, students were assigned readings (Hirumi, 1996; Jones, 1995; Jones, 1996; Sherry, 1995) which provided excellent summaries of the evolution of distance education. They were directed to explore selected Web sites (Distance Ed, 1997) that provided good overviews of the field. They were given a broad description of possible project activities and asked to prepare to collaborate on the project in one week.

Project Activities

During the project, the graduate education students participated in a range of activities to support their study of distance education. These included class field trips, group discussions, practical experiments, simple video conferencing, on-line searching, and e-mail exchanges with experts.

A considerable portion of each class during these weeks was allocated to the distance education project. The class visited the new campus distance education facility and engaged in discussions with the Distance Education Coordinator. They experimented with video conferencing. They conducted on-line research and shared results. They also decided as a group to develop a Web site to reflect their learning in this project.

One of the more interesting experiences happened quite early during the project. The students were instructed to locate on-line professional development opportunities appropriate for themselves. By this point in the term, the students fancied themselves as experts in Web searching. They used sophisticated searching techniques often involving elaborate refinements. During the discussion of the resources they located, it became clear that one method had yielded far better results in terms of quantity and usefulness than any other. The student who had been the most successful had simply followed the already-compiled indices of a popular Web search engine to a list of sites. Thus, sometimes the simplest and most obvious approach is quite adequate even for Web research.

Expert Mentors

The graduate students had studied projects in which children engaged in on-line discussions with others about topics of mutual concern, including most of the models of on-line interpersonal exchanges identified by Harris (1995, p. 130). They had located sites for soliciting pen pals and collaborators for students and teachers. To underscore the positive effects that this type of experience can have on learning and motivation, the professor arranged an electronic exchange for the graduate students.

The professor contacted colleagues around the world and asked them to serve as on-line experts for the students. Each of these individuals was involved in a different type of distance education activity or unit. They included a professor at The Open University in the UK (The Open U., 1997; Thomas, 1996) which serves a student population of over 200,000 students totally by distance, the director of a regional service center which offered television courses by satellite to secondary students across the United States (Contreras, 1993; TI-IN, 1997), a computer science professor teaching a course to multiple campuses using com-

pressed video, an Australian instructor using a variety of distance education methods with teachers, a professor in an educational technology doctorate program that included a significant on-line component, and an educational technology doctoral student participating in on-line courses.

Ground rules were set to limit the amount of time each of these busy people was asked to contribute. The dialogue was limited to three exchanges, with students posing a maximum of four specific questions on each exchange. Each expert was asked to reply to the students within one week of the receipt of a message.

The professor matched the students to the mentors, based on the students' backgrounds and professional interests. Each student was given a sheet with contact information and background information for the mentor as well as links to Web pages put out by the institution or entity connected to the mentor and recent research published by the experts describing their activities. They were directed to start by studying these resources and seeing what they could learn from the information at hand before developing interview questions for the experts.

The students discussed their mentors and findings and collaboratively identified topics to focus on with each expert. Each week, the students discussed results and determined where to head next. The major topics of interest included student populations served, recruitment of students, comparison to traditional teaching methods, assessment procedures, charges for the courses, hardware requirements for the students, certification and accreditation issues, materials and class preparation by the instructors, time demands on instructors, and overall appraisal of the distance education experience.

Representations of Learning

Since this project was a component of a real course, some structure had to be established for assessment and documentation of participation. Simple documentation was done in two ways, observation of the contributions by each student to the weekly discussions and summaries by individual students on the progress and nature of their on-line exchanges.

The professor considered the dilemma of capturing the dialogue precisely for research analysis and participation verification versus the freedom of allowing personal discussion that is not monitored. Since the participants in this project were all adults, there were other issues about the privacy of their exchanges and the appropriateness of requiring copies of all messages. The decision was modify the practice used by Broholm and Aust (94) and have the students create personal journals or summaries of their discussions rather than copy the actual messages to the professor.

The students were charged with designing more meaningful, in-depth representations of their learning as individuals and as a group. Their initial ideas included holding international video conferences or creating volumes of printed matter. The final decision was a more moderate form, a Web site (Salcedo, 1997) which could be shared and serve as a resource to others in the future.

The Distance Education by Distance Education Web site (Salcedo, 1997) was designed and constructed by the students, with the students organizing themselves into working teams to develop the site. It includes individual contributions by the student on the interactions with their mentors, group overview and findings sections, and links to other resources. Since this was a course component, the Web site development also had to be completed within the timeframe of the course. The site (Salcedo, 1997) went on-line seven weeks from the date of the beginning of the project.

Professor in the Background

The professor acted as a facilitator of the project as well as a learner herself. She provided the initial vision and structure of the project and a set of foundational resources. She also served as the liaison between the students and the mentors, maintaining contact with both groups electronically to monitor progress and address problems. She rearranged the traditional course structure to include group collaboration and discussion time weekly and provided a framework or stimulus for the discussion each week. She served as a resource and mentor as needed and as an enforcer when necessary for the group to meet schedules. Her main contribution, however, was to stay in the background and watch with delight as the students took ownership of the project.

Results

The project and its experiences allowed the graduate education students to become immersed in study as a group and to internalize their own models of collaborative learning supported by telecommunications. It easily attained the baseline goals of differentiation of distance education and telecommunications, practical application of K-12 curricular models, practical experience with collaborative and group processes, examination of a variety of resources and media, and application of on-line strategies to authentic tasks.

The project allowed the professor to transmit or illustrate concepts and principles that are often difficult to fully explore or appreciate using traditional teaching methods. The students gained an enormous amount of insight into project management from the model of the professor and their experiences in managing their project. They saw first-hand the motivational benefits of active learning that has a real purpose. They also experienced the joys and frustrations of a telecommunications project as

they encountered many of the normal problems that are associated with such projects. For example, the network went down during times planned for on-line activities, Web sites appeared and disappeared, and mentors responded at different rates.

The project also supported the findings of Wizer and Beck (96) and others of greater equity of participation. The graduate student population in this study included two students who were not native speakers. This project gave them an active role and provided direction for their discussion. It also allowed them to communicate on-line at their own speed and illustrate in written form their distinct way of communicating. It connected them to the group and let them share their unique perspective on the topic.

As in other studies (Casey & Vogt, 1994; Hoover, 1994), a camaraderie and support system developed among the students in the course. They continue to support each other in a variety of ways and actively collaborate on curricular projects. One student's project has turned into a major community project (Anderson, 1997b) with students at schools around the city adding educational resources and research to the Web page of a local historical site (Anderson, 1997a).

The project also suffered some of the persistent problems which have been noted in other studies involving on-line educational practices. Those not regularly on campus experienced difficulty with access from their schools and access to facilities at times convenient for them (Broholm & Aust, 1994; Casey & Vogt, 1994; Wolffe & McMullen, 1995). Likewise, equipment problems, technical support, and network down time (Broholm & Aust, 1994; Davis, 1995; O'Neill & Coe, 1996) also proved frustrating for the graduate students.

Issues

While the project was an overwhelming success by most measures, several issues emerged that need further investigation.

1. **The role of the professor.** Do the K-12 models of facilitator/guide work in graduate education? How should they be modified to reflect the maturity and academic level of the students? How can the professor become a learner in the process as well? What are the additional time demands on professors for facilitating such projects, maintaining regular e-mail contact with many students, providing on-going support and feedback on student progress, and preparing project materials and structures? How are these accounted for in terms of academic workload and evaluation?
2. **Location of experts/mentors for graduate students.** While there are numerous sites for locating K-12 collaborators, those directing university level on-line interpersonal communication projects have needed to be more creative in locating appropriate experts and on-line collaborators. It is not reasonable to rely on personal colleagues to support such projects. It may be that university faculty need to use methods such as solicitation from specialized listservs, collaborating with distant colleagues to find compatible groups, as well as developing Web sites for recruiting collaborators at the university level.
3. **Maintenance of confidentiality/privacy of mentors.** What methods need to be used to insure confidentiality of mentors as well as to insulate them from further solicitation by others? How does one illustrate the validity of the research and expert contributions without publicly exposing direct information about the experts? Is this problem more serious in an on-line study involving a widely available Web site than it would be if the final product were a printed article?
4. **Modifications based on class size.** Since the class involved in this project was relatively small, it was not difficult to arrange for a mentor for each student. What models should be used if classes are larger or if only a few experts are available? Should the entire group concentrate on one project or should there be several projects? How are students grouped and organized for projects? Can this approach be modified for any class or are there practical limits to the class size?
5. **Network access outside class.** Technical problems and access to network resources are still major barriers in on-line projects. Is it fair to assign projects that require that students have or find regular access? How do you handle or prepare for network difficulties when classes are planned around on-line activity?
6. **Appropriateness of the experience for graduate students.** Is this type of project appropriate and reasonable for a graduate class? How much class time should be allocated versus outside time? Should graduate credit be given for courses with such practical components? The course and its projects clearly tested the bounds that many have set for graduate scholarship.
7. **Permanence/maintenance of Web site.** How long should this Web site and others created by students be kept on-line? Who should maintain them? Who owns or should control this intellectual property? Is it acceptable for future students to extend the academic product started by others?

Conclusions

The Distance Education by Distance Education project was an excellent vehicle for graduate study and for providing students with an insight into the practical impact of using technology to support instruction. The basic model works well in a graduate setting and can be replicated or modified easily with similar results. Electronic message sharing is a technology that is not new but is still a

fundamentally sound and exciting way to use technology to support learning.

Through expert mentors and on-line resources, the graduate students in this project were able to explore their research topic in ways not possible if limited to traditional methods using materials at hand on campus. They became excited about learning and learning together. They took responsibility for their learning and continue to seek more learning opportunities, courses, and challenges.

References

Anderson, C. (1997a). *Magnolia Mound Plantation.* [On-line]. Available: http://obelix.ednet.lsu.edu/~anderson/magnolia/mmp.html

Anderson, C. (1997b). *Partners in On-line Education at Magnolia Mound (POEMM).* [On-line] Available: http://home.sprynet.com/sprynet/cfanderson/poemmint.htm

Anderson, L., & Perry, J. (1995). PreSTO: Preservice teachers form a global online learning community. In *Proceedings of the Fourth International Conference on Telecommunications in Education* (pp. 6-8). Tallahassee, FL: SERVE.

Broholm, J., & Aust, R. (1994). Teachers and electronic mail: Networking on the network. *Journal of Technology and Teacher Education, 2*(2), 167-182.

Casey, J., & Vogt, M. (1994). TeacherNet: The wave of the future...Toward a national network of educators. In J. Willis, B. Robin, & D. Willis (Eds.) *Technology and Teacher Education Annual 1994* (pp. 677-679). Charlottesville, VA: Association for the Advancement of Computing in Education.

Contreras, F., Reyna, T., Nelson, R., & Nicholls, S. (1993). Highways in the sky: Reaching migrant students through distant education. In *Proceedings of Tel Ed '93* (pp. 121-124). Austin, TX: SEDL.

Davis, N. (1995). Distance education with telematics for distance educators. *International Journal of Educational Telecommunications, 1* (2/3), 199-212.

Distance Education Clearinghouse. (1997). *Distance Education Clearinghouse.* [On-line]. Available: http://www.uwex.edu/disted/programs.html

Espinoza, S., & McKinzie, L. (1994). Internet activities open new worlds for educators. In J. Willis, B. Robin, & D. Willis (Eds.) *Technology and Teacher Education Annual 1994* (pp. 666-670). Charlottesville, VA: Association for the Advancement of Computing in Education.

Harris, J. (1995). *Way of the Ferret.* Eugene, OR: ISTE.

Hirumi, A., & Bernudez, A. (1996). Interactivity, distance education and instructional systems design converge on the information superhighway. *Journal of Research on Computing in Education, 29*(1), 1-16.

Hoover, L. (1994). Use of telecomputing to support group-oriented inquiry during student teaching. In J. Willis, B. Robin, & D. Willis (Eds.) *Technology and Teacher Education Annual 1994* (pp. 652-656). Charlottesville, VA: Association for the Advancement of Computing in Education.

Jones, D. (1996). Computing by distance education: Problems and solutions. *SIGCSE Bulletin, 28* (Special issue), 139-146.

Jones, G., & Knezek, G. (1995). Categorizing distance learning systems: Discovering successful ingredients. In J. Tinsley & T. van Weert (Eds). *Proceedings of the Sixth IFIP World Conference on Computers in Education* (pp. 243-249). London: Chapman & Hall.

O'Neill, A., & Coe, M. (1996). Increasing reflective instructional decision making by clinically supervising teachers using telecommunications. *SIGCUE Outlook, 24*(4), 19-23.

Russett, J. (1995). Using telecommunications with preservice teachers. *Journal of Computers in Mathematics and Science Teaching, 14*(2), 65-75.

Salcedo, C. (1997). *Distance Education By Distance Education.* [On-line]. Available: http://obelix.ednet.lsu.edu/telclass/webcom/disted.html

Sherry, L. (1995). Issues in distance learning. *International Journal of Educational Telecommunications, 1*(4), 337-366.

The Open University. (1997). *The Open University.* [on-line]. Available: http://www.open.ac.uk/

Thomas, P., Carswell, L., Emms, J., Petre, M., Poiniatowska, B., & Price, B. (1996). Distance education over the Internet. *SIGCSE Bulletin, 28* (Special issue), 147-149.

TI-IN Network. (1997). *TI-IN Network.* [On-line]. Available: http://www.tiin.com/

Webcom Project. (1997). *Webcom Project.* [On-line]. Available: http://obelix.ednet.lsu.edu/telclass/webcom/webcom.html

Wizer, D., & Beck, S. (1996). Studying diversity issues in teacher education using online discussion. *Journal of Computing in Teacher Education, 13*(1), 6-11.

Wolffe, R., & McMullen, D. (1995). The constructivist connection: Linking theory, best practice, and technology. *Journal of Computing in Teacher Education, 12*(2), 25-28.

Harriet G. Taylor is Associate Professor of Education at Louisiana State University, ELRC - 111 Peabody Hall, Baton Rouge, LA 70803 USA, Phone: 504 388 1356, E-mail: taylor@asterix.ednet.lsu.edu, Web: http://obelix.ednet.lsu.edu/~taylor/

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

☒ This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☐ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").