
Designing and Administering a Collaborative International Course Using Distance Technology

*Dr. Ann Summers
Professor of Nursing
Department of Nursing
North Georgia College & State University
Dahlonega, Ga, 30533
asummers@ngcsu.edu*

*Barbara Ann Tronsgard, RN, MS, CNS, DLC,
Assistant Professor
Department of Nursing
North Georgia College & State University
Dahlonega, Ga, 30533
btronsgard@ngcsu.edu*

Abstract

This paper describes the design of a collaborative international course between two universities using distance learning technologies. Desktop videoconferencing and WebCT technologies are used to address a module on Women's Healthy Aging. Constructivism theory supplies the framework for the course design. The development of the course and methods of evaluations are presented.

Introduction

Communication technology impacts everyone's life at such a rapid pace that it is difficult to envision the potential for education. The introduction of online web-based instruction, synchronous plus asynchronous instruction, and digital video conferencing affords both students and faculty the opportunity to tap onto technology's educational potential with the click of a mouse. Students clicking on the Internet can find volumes of information; communicate globally via email, and chat. Through the expansion of technology, distance education has emerged as one of the driving forces for change in higher education.

Distance education has been defined in numerous ways. Moore (1990) characterizes distance education to include instruction through any form of electronic communication. Nursing has used distance learning to provide education in the United States and Europe. In the review of literature there are limited international experiences reported in nursing education. Nursing faculty from two international universities: University of Northumbria (UNN) at England and North Georgia College & State University (NGCSU) in United States initiated a collaborative project using desktop videoconferencing (DTV) (Waddell, Tronsgard, Smith & Smith 1999). The eight-week project was designed to investigate Women's Family Centered Healthcare Systems in both countries. The student's enthusiasm and positive faculty evaluations suggested a similar project be designed and offered in the future (Waddell, et.al. 1999). Another course entitled Women's Healthy Aging has been designed for implementation in the spring of 2000.

Women's Healthy Aging will build on the successful aspects of the previous course but will differ in several ways. The differences in this course will include the configuration of the course

content, faculty and the addition of WebCT software. WebCT is an online teaching and learning software program (Goldberg 1999). Other technologies used to implement the course will be Georgia Statewide Academic Medical Services (GSAMS), DTV, and for connection purposes Atlanta Gateway (Fleischman1999). This paper will address the various components of this course.

Theoretical Framework

The traditional Skinnerian pedagogical approach to education is not the most effective method for teaching technology-based education (Boettcher 1998; Hazari 1998). A review of the literature on technology based learning yields several theoretical approaches for designing courses or units of instruction. Minimalist theory (Vgotsky 1962), Cognitive theory (Bruner 1961) and Adult Learning theory (Knowles 1980) principles provide guidance for the design of a theoretical approach for the teaching - learning process in technology. The major differences in the traditional education approach and the web based learning approach are the focus on the learner, the learning process and teaching strategies, which are addressed by the constructivist theory (Boettcher 1997).

The constructivist theory focuses on the student constructing knowledge and being pro-active, rather than passive, in the learning process (Boettcher 1997). Using this approach the student is confronted with a problem from real life and drawing upon resources and research (cognitive) will construct a preliminary solution to the problem. At this juncture the student will collaborate through technology with peers to compare solutions. Online communication provides the students a mechanism to compare solutions, which will be reaffirmed or reassessed (Miyake, 1986). The collaborative nature of the web supports the second Constructivist principle, which is that learning, is embedded in social interactions (Laurillard 1996 ; Brunner 1997).

One of the most crucial aspects of nursing education is the development of a lifelong learner (Mastrian & McGonigle 1998). The constructivist framework incorporates reflective feedback, which encourages the learner to be actively involved in the learning process with a sense of ownership in the problem solving process (Jackson 1996, Bensusan 1995). The "three C's", collaboration, communication and cognition as identified by the constructivist theory are the concepts for the design of this course.

Course Description

The demographics of nursing students for Woman's Healthy Aging will be similar to the first group of students that participated in the international desktop videoconference course (Waddell , et.al. 1999). Students will register and pay for tuition at their own universities. This is a modular unit infused for seven weeks within a semester-required course. The seven-week modular unit eliminates problems with tuition, course credits, and accreditation standards with each university and nursing education.

The virtual learning module will examine the issues in promoting healthy aging for Women across the life span. Emphasis will be placed on the bio-psycho-social-spiritual-cultural factors which impact women's health care needs. The roles of the nurse will be examined from an international perspective.

Learning Objectives

1. Identify similar patterns of maternal/child health care factors that effect women's healthy aging

across the lifespan in UK and US.

2. Examine health care resources provided for women within the international community by discussing case studies and critical incidents.
3. Evaluate environmental and societal influences that effect older women's position on the wellness-illness continuum using the virtual classroom.
4. Differentiate fact and fiction in reference to aged women in the international population.
5. Compare and contrast common theoretical perspectives of women's healthy aging across the life span.

Evaluate the effect of communication technology as resources for a international nursing module.

Course Design

The constructivist framework of communication, collaboration and cognition (Three C's) serves as the structure for the design of the course. It is hopeful that the design will suggest a "seamless interface between the classroom and the learning technology" with each component adding educational value to the other (Wood, 1999). The format of the design will follow Schuman's (1999) model for developing instruction using analysis, objectives, evaluation, and learning events.

Communication

Analysis - Boettcher (1999) defines Web-enhanced courses as using Web technology and services to support distribution of course materials and students having access to the resources on the Web. The NGCSU software for providing online teaching is WebCT. WebCT is a teaching module that works within a web browser such as Explorer or Netscape Navigator (Merron, 1999). WebCT provides faculty and students the options of communication through content materials, document files, e-mail and bulletin boards. Desktop videoconferencing systems, according to Fleishman (1999), can heighten motivation and improve communication. In research of information regarding implementation of modules in learning technology and analysis of methods for design the faculty selected the above tools.

Objective - Provide students and faculty with technology tools and methods to communicate in learning environments.

Learning events - It is crucial that the nursing students have an understanding of WebCT (O'Neill, 1999). The students from both universities and faculty from UNN will complete the NGCSU online tutorial "Guide to Using WebCT" before the beginning of the module.

The course syllabus and calendar will be used for information regarding the course schedule and assignments. The calendar serves as a communication tool to summarize information regarding various course activities (Partow-Navid, P., & Slusky, L., 1995).

The faculty will communicate one time per week with the students through private

e-mail using a designated format. The students will also communicate through private e-mail to faculty or fellow students. The fact that e-mail is private provides the students and faculty safety in communication of feedback (Goldberg, 1997).

The students will post a minimum of two times a week to the bulletin board. One of the postings will be specific to a question posted by the faculty and the second will be in response to another student's posting. The student asking a question to the group from the content assignment of the week will initiate an additional posting. Clear and specific guidelines for the amount of interactions are needed to facilitate success of the dialog (Merron, 1999).

The instructional materials will be organized by topics and placed in WebCT. Students will have access to all assignments to complete each week. WebCT software provides links within the course and also to the World Wide Web (Goldberg, 1996). WebCT software makes the learning module available to the student at anytime and anywhere.

Desktop videoconferencing will be scheduled for four times throughout the course. The assignment for the DTV will be listed on the calendar in Webs. The benefits of using this communication technology allows the students and faculty a feeling of "being there" by seeing, hearing and communicating (Fleishman, J., 1999 p1) face - to -face. The students in the previous course enjoyed the interaction between each other having a sense of getting to know and understand someone else in another culture (Waddell, et.al. 1999)

Instruction - The faculty at each university will assist in the education of the students regarding WebCT and DTV. The students will be introduced to DTV through an information page within WebCT. This instruction will assist in introducing the students to the learning technology environment.

The faculty from both universities will monitor the e-mail, bulletin board and course content. The students will be assigned to groups to facilitate communication throughout the seven weeks of the module. Collaborative group learning creates environments involving those students who may otherwise not be engaged (Bonell, & Edison 1991).

The method of instruction will be the use of case studies, resources from the Internet specific to content and communication from the students. As the course progresses the faculty will review and reorganize learning strategies (Stoner 1999).

Evaluation - The evaluation will be based on the communication performance of the students. The WebCT offers a summary of student postings for the course.

Collaboration

Analysis - Gokhale (1995) defines collaborative learning as an instructional method in which students at varying levels work together in small groups towards a common goal.

In review of an international joint venture between two universities using DTV Acker, Slaa, & Bouwman, (1993) contend that the effectiveness of collaboration in learning is dependent on the selection of partners. Students will have an input in the

selection of the groups. The students and faculty within this module will interact together in small groups using technology to develop collaborative learning experiences (Stoner, 1999)

Objectives- Develop collaborative learning environments for students and faculty using various technologies.

Learning Events - Each week throughout the module varied teaching learning tools, such as case studies and discussion of assignments through the bulletin board and DTV, will be used as group activities. The faculty will be a resource for the students in the groups by directing and responding in a timely manner to the learning activities (Boettcher, 1999).

Evaluation - Evaluation will be based on the collaborative interactions within the groups.

Instruction - Collaborative learning will be facilitated through the design of group activities within the module. There will be three groups within each learning environment. Each group will have a total of six students, three from each country. In the first collaborative DTV project the students formed their own groups. They established their groups by continuing to interact with the same group of students that they had formed a relationship with in the first session. (Waddell, 1999) In this course the students will select groups in the same manner and will remain in the same group throughout the course. Should difficulties occur within the group the faculty and students will problem solve through private e-mail. Participation by students through group activities assists the students in developing an interactive learning community (Stoner 1999).

Cognitive

Analysis - Cognitive tasks will be used to provide collaborative learning activities. Cognitive collaboration becomes operational when two or more people work interactively building a joint solution to a problem (Dillenbourg & Schneiger 1995) The faculty and student will build together cognitive learning tasks through the use of learning technology.

Objectives - To promote critical thinking, students and faculty will develop real life problems to enhance skills of cognitive collaboration.

Learning Events - The design of the case studies will focus on cognitive learning skills needed to problem solve the situation. Through research on the Internet the students will be linked to programs demonstrating cognitive learning. The Internet provides students with new ways to "hone" their communication skills and offer them insights from people all over the world (Pickering-Carlson, 1999).

Evaluation - The evaluation of the cognitive learning skills will be criterion based. The learner must identify for themselves what knowledge is needed and how to approach a solution.

Instruction - There will be four case studies / critical incidents written by the faculty and/or students simulating real life situations. The students and faculty will problem solve the situations through the use of the interactive learning technology.

Collaborative learning that is characterized by student activity, face - to face interaction, and personal responsibility within the group will enhance learning (Pickering-Carlson. 1999).

Evaluation - The evaluation of distance learning requires continuous monitoring of the development, design and activities of instruction through both formal and informal means (O'Neill 1999, Angelo & Cross 1993). Areas of informal evaluation can be related to student comfort with the methods used to deliver the instructions, clarity of the course content and teaching effectiveness. Both the informal and the formal collection of evaluation data as the course progresses are known as formative evaluation. It entails the ongoing process at all stages of instruction and allows the instructor and student to reflect and improve the course as it proceeds (Willis 1993). Minor adjustments and / or major gaps can be identified and corrected through the use of formative evaluation.

The second method of evaluation that dominates education is known as summative. Summative evaluation commonly occurs at the end of the course and is used to assess its overall effectiveness. Information from summative evaluation is often used to revise a course plan. It is not helpful to current students since it is done at the completion of the course (Willis 1993).

In this course formative data will be solicited from students and faculty through private email. In addition, survey questionnaires will be used at two-week intervals to solicit input related to the positive and negative aspects of the course. These surveys will be placed on the survey/quiz portion of WebCT. Questions will be directed toward the use of technology, concerns and problems. Open-ended questions will be used in addition to items on a five point Likert Scale.

The summative portion of the evaluation will be directed toward both types of data. For example, students will be asked to identify weakness of the course, strengths of the course and different ideas for achieving the goals of the course. Additionally, checklists, observational sheets and scales will be used to gather data. The data will be analyzed using descriptive statistics along with identification of patterns and themes. In summary, it is believed that both forms of evaluation used in combination will afford the most valuable information. Questionnaires that are available will be used when possible to assist in reliability and validity of the instruments.

References

Acker, S., Slaw, P., & Bouwamn, H. (1993). International academic joint ventures: leveraging external resources through telecommunications and travel. *Interpersonal Computing and Technology: an Electronic Journal for the 21st Century*. 1(4). Retrieved from World Wide Web November 25, 1999: <http://jan.ucc.nau.edu/~ipct/j/1993/n4/acker.txt>

Angelo, T. & Cross, P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers*. San Francisco: Josey-Bass Publishers.

Bensusan, G. (1995) *Whose Sky Is It Anyway*. N.Arizona Press: AZ

Boettcher, J. (1997). *Pedagogy and Learning Strategies*. Retrieved May 5, 1999 from the World Wide Web: <http://www.csus.edu/pedtech/Learning.html>.

- Boettcher, J. (1999). Another look at the tower of WWWebble. Syllabus. Retrieved from World Wide Web: <http://www.cren.net>
- Boyle, T. (1997). Design for Multimedia Learning. Prentice Hall: London, England
- Bruner, J. (1997). Internet For Beginners. Icon Books: Cambridge, England.
- Bruner, J (1986). Actual Minds, Possible Worlds. Cambridge, MA:Harvard University Press. Retrieved November 28, 1999 from the World Wide Web: <http://www.gwu.edu/~tip/bruner.html>.
- Dillenbourg, P. & Schneider, D. (1995). Collaborative learning and the internet. TECFA: A Unit of Educational Technology. Retrieved from the World Wide Web: http://tecfa.unige.ch/tecfa/research/CMC/colla/iccai1995_1.html.
- Fleishman, J. (1999). Distance Education: Real-time conferencing Retrieved November 30, 1999 from World Wide Web: <http://www.convergemag.com/Publications/ConferencingFeature/DistanceFeatureConfTools.shtml>
- Gokhale, A. (1995). Collaborative learning enhances critical thinking. Journal of Technology Education. 7(1) Fall. Retrired From World Wide Web November 3, 1999.<http://scholar.lib.bt.edu/ejournals/JTE/jte-v7n1/gokhale.jte-v7n1.html>.
- Goldberg, M. (1999). WebCT White Paper August 1999 Retrieved November 23,1999 from World Wide Web: <http://webct.com/library/whitepaper.html>
- Hazari, S.I. (1998) Evaluation and selection of web course management tools. Retrieved November 28, 1999 from the World Wide Web: <http://sunil.umd.edu/webct>.
- Hofstetter, F. (1998). Cognitive versus behavioral psychology. Retrieved from World Wide Web November 28, 1999. <http://www.udel.edu/fth/pbs/webmodel.htm>
- Jackson, S. (1996). <http://www.star.ucc.nau.edu/~nauweb97/papers/jackson1.html> Retrieved from World Wide Web October 3, 1999.
- Knowles, M. (1980). The Modern Practice of Adult Education: from Andragogy to Pedagogy. Chicago:Associated.
- Laurillard, D. (1996). The educational challenges for teachers and learners. Virtual University Conference 24 May 1996, University of London, England.
- Mason, R. (1992) Methods for evaluating applicartions of computer conferencing. OU Press - PLUM paper #31.
- Mastrian, K.G. & McGonigle, D. (1998) Older student perceptions of techology based learning assignments. Retrieved November 30, 1999 from World Wide Web: <http://cac/psu.edu/~dmx12/percepref.html>.
- Merron, J. (1998). Managing a web-based literature course for undergraduates. Online Journal of Distance Administration. I(IV) Winter. State University of West Georgia Distance Education. <Http://www.westga.edu/~distance/merron14.html>.
- Miyake, N. (1986) Constructive interaction and the iterative process of understanding. Cognitive Science, 10, 151 - 177.

Moore, M. (1990). Background and overview of contemporary American distance education. In M. Moore (ed) Contemporary Issues in American Distance Education, pp xii-xxvi. New York: Pergamon Press.

O'Neill, M. (1999). Developing and implementing an online nursing course. Online Journal of Distance Learning Administration. Retrieved November 28, 1999 From World Wide Web. <http://www.westga.edu/~distance/oneill14.html>.

Partow-Navid, P. & Slusky, L. (1999). Learning Java Internationally using WebCT. Retrieved from World Wide Web November 27, 1999: <http://www.javasoft.com>

Pickering-Carlson, J. (1990). The University of Rhode Island & The Rhode Island Foundation. Teachers in Technology Initiative. Retrieved from the World Wide Web November 29, 1999. <http://www.21lern.org/readers/reader15txt.html>.

Schuman, L. (1996). How do I design appropriate instruction? SDSU Educational Technology. Retrieved from the World Wide Web November 28, 1999. <http://edweb.sdsd.edu/courses/edtec540/Persectives/designInstruction.html>.

Stoner, G. (1996). Implementing Learning Technology. Learning Technology Dissemination Initiative. Retrieved from World Wide Web November 28, 1999: <http://www.icbl.hw.ac.uk/Itidi/index.html>.

Vygotsky, L. (1962). Language and Thought. Boston: MIT Press

Waddell, D., Tronsgard, B., Smith, A., & Smith, G. (1999 July/August). An evaluation of international education using interactive desktop video conferencing. Computers in Nursing, 17(4), 186-192.

Willis, B. (1993). Distance Education: A Practical Guide. Englewood Cliffs, NJ: Educational Technology Publications.

Online Journal of Distance Learning Administration, Volume II, Number IIII, Winter 1999
State University of West Georgia, Distance Education Center

[Back to Journal of Distance Learning Administration Contents](#)