Enhancing Nursing Education with the World Wide Web

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ENHANCING NURSING EDUCATION WITH THE WORLD WIDE WEB

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Abstract: Distance learning in nursing is a relatively new phenomenon. The
rapidly changing health care environment, the diversity of students entering
nursing, and curriculum changes calling for more student-centered, interactive
teaching methods are a few of the reasons why the time is right to explore Web
based distance learning (WBDL). In this article the authors discuss reasons to
incorporate Web based distance learning into nursing education

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Introduction

It has been ten years since the National League for Nursing Council of
Baccalaureate and Higher Degree Programs called for reform in nursing education.
Teachers as all-knowing, not questioning assumptions, and obedience to the patriarchal
health care system were the norm. Arguments that we needed a total transformation in
how and what was nursing education curricula were quite revolutionary for this almost
totally female profession.

As early as 1989 the National League for Nursing proposed a curriculum that
"enhanced caring practices through faculty-student and faculty-faculty relationships that
are egalitarian and characterized by cooperation and community building and learning
experiences that incorporate critique of the current health care system and the analysis of
present and future health needs of the population as the basis for transforming the health
care system" (Tanner, 1996, p. 387). Moving away from a "training model" to an
interactive model promoting flexibility, problem solving, reflection, critical thinking and
innovation, became a mandate (Tanner, 1996; Walton, 1996; Reilly & Oermarm, 1990).

The buzzwords of the 80's have become widely accepted in nursing education
today: critical thinking, caring, empowerment, life-long learning, egalitarianism,
cooperation and community building, constructivism, humanist-behaviorist model,

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reflective learning, and feminist pedagogy (Rentschler & Spegman, 1996; Tanner, 1996). In the past decade many articles related to these topics have appeared in the nursing literature. One of the common themes among these topics is the emphasis on interactivity in the teaching-learning process. "The key element in today's teaching-learning process is interaction whereby participants are involved in those learning experiences fostering skills of problem solving, reflection, and critical thinking with real problems" (Reilly & Oermann, 1990, p. 17).

The profile of the nursing student has changed. No longer a white, female, recent high school graduate sent to college compliments of mom and dad, many of the nursing students today are men and women who have been in the workforce. These adults come from a variety of cultures and bring a variety of life experiences to the class. Often students enter nursing as a second career with a multitude of family and work experiences. An understanding of adult learning theories developed by Knowles have assisted nurse educators in understanding the conditions of learning for the adult learner: (a) active participation in the learning process; (b) sharing responsibility for planning the learning experience; (c) using experience as part of the learning process; and (d) providing a learning environment characterized by physical comfort, mutual trust and respect, mutual helpfulness, freedom of expression, and acceptance of differences (Knowles, 1990, pp. 85-87).

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Distance Education Movement

Since late 1980, over 400 institutions in 61 countries have offered home study courses. These "distance education" courses are currently serving over two million people (Reinert & Fryback, 1997). Many disciplines utilize off-campus and home study courses ranging from paper and pencil correspondence courses to interactive, two-way compressed video presentations and Web-based instruction. In nursing education, distance learning is a relatively new concept. Funding and questions related to professional education through a distance format have previously hindered the growth of distance education courses in nursing. A study of 353 nursing schools indicated that only 135 had offered any type of distance education within the last ten years (Reinert & Fryback, 1997).

Effective distance education programs require careful planning and a focused conceptualization of course requirements and student needs. Appropriate technology can only be selected once these elements are understood. Effective distance education courses don't happen spontaneously; they evolve through the hard work and dedicated efforts of many individuals and organizational departments. Successful distance education programs rely on the consistent and integrated efforts of students, faculty, facilitators, support staff, and administrators. Effective distance education administrators

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are more than idea people. They work with technical and support service personnel, ensuring those technological resources available and readily usable by faculty to further the institution's academic mission. They must have a vision that maintains an academic focus and meets the instructional needs of distant students.

The Internet as Community

As the Internet is fast emerging, the World Wide Web (WWW) is becoming an increasingly powerful global, interactive, and dynamic medium for delivering instruction. More and more institutions are using the Web to provide instruction and training. Increasing numbers of these institutions offering Web-based courses are recognizing the fact that the Web is a viable medium of learning and instruction (Hughes, 1994). Already busy adult students can participate in Internet-based classes after work and family obligations are completed. Viewed as a virtual learning community, the Internet-based course will empower students and faculty to interact dynamically with each other, the course content, and the technology (Cafolla & Knee, 1999; McLellan, 1998). A WBDL virtual community emphasizes (a) a collaborative relationship; (b) shared goals; (c) mutual respect, tolerance, and trust; (d) developing technical and content competence; (e) creating and manipulating shared spaces; (f,) using multiple forms of representation; (g) continuous communication; and (h) formal and informal environments (McLellan, 1998).

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Web Based Distance Learning (WBDL)

Using the above concept of a "virtual community," Web based distance learning (WBDL) is a powerful tool for supporting the concepts of adult learning, cooperation, and community building in nursing education (McLellan, 1998).

In a WBDL course, students and faculty have the advantage of listening to, reflecting on, and critically analyzing course content using such tools as chat rooms and email. Assignments can be developed that require each student to contribute to the discussion. Students and faculty can work together to facilitate learning and meet course goals. WBDL removes the variables of race, gender, appearance, and ability from the traditional classroom. "Many students do not do well in spontaneous spoken interactions, but have much to contribute in interactions in which they have time to reflect on what they wish to say. These students also find written communication easier than face-to-face interactions" (Rheingold, 1993, p. 23). Students share "classroom space" as they point each other to Internet resources.

The Web-based classroom is a new medium and has its own unique characteristics that contribute to the choice of the appropriate pedagogy. For most educators, building a Web-based classroom is an evolutionary process. (McCormack & Jones 1998). In a traditional classroom, students are often exposed to only few forms or

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representation related to course content. The instructor lecture, perhaps a film, or slides are the norm. In WBDL multiple forms of representation are available over the Internet. Charts, photographs, "cyber" lecturers, graphics with sound and video are all available to the students. Students have the opportunity to participate in seeking out these materials, increasing the number of possible representations and allowing for creativity and collaboration among students.

One of the greatest advantages to students is the concept of continuous communication with the faculty member and other students throughout the time span of the class. Students can log onto the class and join in a chat room or send email at times convenient to their schedules. While WBDL courses allow for flexibility, setting deadlines for class participation is important in order to motivate students to maintain continuous communication and class participation. Just as important as the formal environment, where students obtain the class syllabus, submit class assignments, or participate in required chats, is the informal environment of the WBDL class. The opportunity for students to see and respond to each other's work provides a more dynamic learning opportunity and often leads to more informal interactions among students. Students in WBDL classes have made comments such as: "You all have such diverse approaches. It has been fun to follow your links and glimpse at a bit of your personalities" or "I was worried that not being able to see or converse with my

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classmates would be isolating, but I had not anticipated the best benefit of being able to read everyone else's assignments" (McLellan, 1998, p. 103).

In WBDL the temporary virtual community ends at the close of the term. Students often develop forums to continue their relationships as they continue to be part of their own communities. One student wrote:

> I am assuming that many of us will be raving Web Heads by the end of the class and will be doing all sorts of work in our communities (or for ourselves). It would be nice for us to be able to continue our discussions on the ESU listserv that's dedicated to Web talk (McLellan, 1998, p. 106).

Technology

The WBDL classroom requires fast computers, easy Internet access, Web browsers, modems, and various software programs for client and server (Ackermann, 1996). This equipment must be available for both student and teacher. The instructor or designer of nursing material for WBDL must decide on the minimum client software the student must have to process the material on the Web. Before you can decide on what multimedia elements you will use to present information, you must consider the client software on the student's computer and the technology available to the instructor on the

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server that will house the Web site. To make full use of the technologies available today ask yourself these questions:

1. What software must the user have to view the course Web site? Netscape Communicator 4.5 and Internet Explorer 5.0 are the most common Internet Browsers today.

2. What additional multimedia software (client software) and hardware components must the student have installed in order to experience all the sights and sounds of the WWW?

    a) Multimedia software like Shockwave (Macromedia)

    b) Specialized Multimedia Players for Video files, Sound files or Movies like Crescendo (Live UpDate) or RealPlayer (RealNetworks, Inc.)

    c) Hardware components such as a soundcard with speakers, CD-ROM or DVD (Digital Versatile Disk)

3. Will the students need access to peripherals (devices that connect to a computer) such as a digital camera, scanner, or printer?

4. Productivity software for word processing, spreadsheets, and databases.

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5.   **Email** software (client software) for HTML mail and MIME files (attachments).

6.   Will you be using a course management tool such as Web CT, Web Course in a Box, First Class, or designing your course through linking Web pages?

A systematic approach to WBDL will result in a mix of media, each serving a specific purpose (Willis, 1994). For example:

1.   A strong print component can provide much of the basic instructional content in the form of a course text.

2.   A strong Web-based component provides easy and consistent access to content, the instructor and the virtual learning community or class.

3.   Video conferencing can provide real time face-to-face interaction.

4.   Computer conferencing or electronic mail can be used to send messages and receive assignment feedback.

5.   Listserves and Web Boards can also be used to increase interaction among students.

6.   Pre-recorded videotapes can be used to present visually-oriented content.

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While technology plays a key role in the delivery of distance education, educators must remain focused on instructional outcomes, not the technology of delivery. The key to effective WBDL is meeting the needs of the students, faculty, and program. The NLN mandate for nursing education, the needs of the adult learner, and the power of the World Wide Web can work together in a WBDL virtual community.

References

Ackermann, E. (1996). Tools for Teaching: The World Wide Web and a Web Browser. [on-line] January 7,9,14,1999. Available: http://www.mwc.edu/ernie/facacad/WWW-Teaching.html

Cafolla, R. & Knee, R. (1999, February). Adding Interactivity to Web Based Distance Learning. Paper presented at the 10* International Conference of the Society for Information Technology and Education; San Antonio, Texas.

Hughes, K. (1994). Entering the worldwide web: Amide to cyberspace. San Francisco, CA: Enterprise Integration Technologies.

Knowles, M. (1990). The adult learner: A neglected species. 4* ed. Houston: Gulf Publishing Company.

McCorrnack, C., & Jones, D. (1998). Building a web-based education system. New York: John Wiley & Sons.

McLellan, H. (1998). The Internet as a virtual learning community. Journal of Computing in Higher Education, 9(2), 92-112.

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Reinert, B.R & Fryback, P.B. (1997). Distance learning and nursing education. Journal of Nursing Education, 36(9),421-427.

Reilly, D. & Oermann, M. (1990). Behavioral objectives—Evaluation in nursing. 3 'd ed. New York: National League for Nursing.

Rentschler, D.D., & Spegman, A.M. (1996). Curriculum revolution: Realities of change. Journal of Nursing Education, 35(9), 389-393.

Rheingold, H. (1993). The virtual community. Reading, MA: Addison Wesley.

Tanner, C. (1996). Talkin' about a revolution: Notes for the wanna-be and the skeptic. Journal of Nursing Education, 35(9), 387-388.

Walton, J.C. (1996). The changing environment New challenges for nursing education. Journal of Nursing Education, 35(9): 400-405.

Willis, D. (1994). Distance education: Strategies and tools. Englewood Cliffs, NJ: Educational Technology Publications.

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