Technology is enhancing the ability of distance education to reach both aspiring nursing students and professional nurses who want to advance their skills. Distance education also improves access to education and, in doing so, counters the nation's increasing shortage of nurses. It allows nurses to continue to work while enrolling in online courses. The American Association of Colleges of Nursing has recently established a Task Fore on Distance Technology and Nursing Education to address some of the issues schools face in establishing distance education programs. Resources, cost of innovation, faculty training, and ownership of intellectual property are key issues. Distance education changes relationships and enhances enrollment in nursing programs. Various technological options exist for distance education programs. Other issues include quality and standards, partnerships among faculty, training, and costs of setup and technical assistance. (HB)
DISTANCE LEARNING IS CHANGING AND CHALLENGING NURSING EDUCATION

The concept of using communication tools to bring education to far-flung learners is as old as the correspondence course, but now, burgeoning technology is allowing distance education to be carried out in ever more comprehensive ways. Video conferencing, CD-ROM, and the Internet are opening wide the doors of access to both aspiring students and professional nurses who want to advance their skills.

Distance education also helps to counter the nation's mounting nursing shortage by bringing nursing careers to people who wouldn't otherwise follow that path because they lack access to a campus, or because work, family, or economic considerations preclude a full-time, on-site education. Moreover, educators point out, distance courses fight "brain drain" from rural areas: students who learn within their own communities are more likely to practice there, and working nurses taking advanced degrees via technology can continue to serve their patients.

On campus, distance learning holds promise, too, as a tool to help relieve growing shortages of nursing faculty, by enabling many master's-degreed nurses to pursue education careers with doctoral courses online while remaining in the workforce. While distance education works well across the range of degree programs, how they are deployed remains a matter of school preference and culture. The University of Phoenix, for example, offers distance education programs only for full-time RN-to-Bachelor's of Science in nursing degree (BSN) students, delivering one immersion course at a time, each lasting five to six weeks. "This is our teaching model throughout the university," explains dean of nursing Sandra Pepicello. The University of Nebraska Medical Center College of Nursing's longstanding distance learning program teaches a doctoral track for masters-prepared faculty at sites in South Dakota, and for others in Nevada and Kansas; master's students at the University of South Dakota take graduate courses for the psychiatric nursing specialty remotely in Nebraska's program, and will take core courses and earn the degree from USD.

Task Force Guidance

Distance education has become such a factor in nursing that the American Association of Colleges of Nursing (AACN) recently convened a Task Force on Distance Technology and Nursing Education, which has published a white paper outlining the sticky issues schools face when setting up these programs, and offering some recommendations.

"One of the biggest issues is resources," says Kathleen Potempa, dean of the School of Nursing at Oregon Health Sciences University and task force chair. "The technology is expensive, and although tech costs tend to decrease with time, the newest innovations carry high price tags." Intangible costs also mount, particularly those linked to faculty time. "The huge learning curve takes faculty away from their other missions, like practice and research, so schools are grappling with how to launch programs while maintaining quality in their other activities," Potempa says.
Another chief concern for schools is ownership of intellectual property. "All schools are struggling with this and coming up with different approaches," says Joan Stanley, AACN's director of education policy. "When faculty prepare course materials, who ultimately owns them? And if another faculty changes the syllabus later, does ownership change? These issues need to be clarified at the institutional level before distance learning programs are implemented."

The key message of the AACN white paper is that schools must plan strategically for distance education, rather than rushing headlong into programs that lack administrative commitment, sufficient resources, and thoughtful policies.

**Changing Relationships**

According to Potempa, distance education "fundamentally changes the relationships between student and faculty, student and school. Once content is modularized and paced, activities determined, and the curriculum set, the teacher becomes the coach, rather than the 'sage on stage'," she says.

What faculty have found, in fact, is when students learn in a virtual environment whether an interactive video lecture, a self-paced CD-ROM, or an Internet chat room they tend to participate in the process to a much larger degree. Sheila Haas, dean of the Marcella Niehoff School of Nursing at Loyola University Chicago, recently completed a pilot project with the Veterans Administration for a distance learning certificate program. Groups of 10 or more nurses gathered via videoconference from various hospitals around the state for the distance course for post-master's adult health nurse practitioners. "It was amazing how they worked together as a team, although they had never met," says Haas. "You wouldn't think that distance learning would enhance cohesiveness, but they developed a real team mentality, and became much more interactive than in the classroom."

**Enrollment Advantages**

Distance education, by its very nature, draws in would-be students who wouldn't necessarily pursue coursework, so such programs enhance enrollments at both the baccalaureate and graduate levels, educators say. Of the 10 percent of nursing students enrolled in the University of Phoenix's online program, three-quarters are out of state. "We've been able to attract students by having physical campuses in many states and being very visible," says Pepicello. "As a private, for-profit institution, marketing is a big part of what we do."

Southeastern Louisiana University is just getting its distance learning program off the ground with the help of grants from the state Board of Regents. Nursing Dean Donnie Booth believes the program will certainly enhance enrollment, "if only because of the different options it makes available." The school plans to publicize the program and collect data on the impact it has on enrollment figures.

In Chicago, Haas learned firsthand what a bonanza the right distance courses can become. "We recently announced that in the spring we would be offering an interactive, online, one-credit course on quantitative research, taught by the renowned nurse scholar Rosemary Parse. As soon as word got out, we were inundated with queries from around the world. It raised some interesting questions for us about international registration and limiting enrollment for online classes."

**Choosing Tools**

The technologies of distance learning can be mixed and matched endlessly, but essentially, the learning breaks down into two basic styles: "synchronous" and "asynchronous." Each presents advantages and constraints: with synchronous technology, students learn in real time, through video conferencing or online "live" chats, and is ideal for coursework where interactive group discussion enhances the material. Asynchronous technology, where students download prepared materials at their convenience, works best for coursework that is more fixed.

Often it comes down to what faculties prefer, and the type of students primarily being served. "Synchronous learning gives students the huge advantage of being able to ask questions as content is being presented," says Haas, "But asynchronous courses allow working students and nurses to arrange their coursework around their professional lives." In addition, students across multiple time zones are equally advantaged.

Course content also drives delivery style. For instance, at Southeastern Louisiana, courses in health...
assessment and pharmacology are taught via video conferencing, "because of the need for conversation and interaction," while courses in medical terminology and informatics are presented entirely on the Internet, says Booth. "The delivery technologies we use depend on the course content, and some are taught half synchronously and half asynchronously depending on the topics being covered at any one time."

At the Decker School of Nursing at Binghamton University, distance technologies are used strategically to enhance the material being taught. Currently, the school offers a master's-level elective over the Internet on ethical dilemmas in advanced practice nursing. "Our students had asked for more flexibility in scheduling this course," which "seemed to be the perfect course for the Internet," says dean Mary Collins. The course emphasizes "class discussion, problem resolution, and case studies for independent learning, and affords chat rooms for discussion and group work," she adds.

Potempa explains: "This is a humanistic profession, so there is room for traditional modalities. Discussions of the types of material best suited to distance education should be ongoing, she says, adding that distance programs should be evaluated identically to traditional learning.

Quality Questions

Is "virtual education" as effective as classroom learning? The experts suggest yes: a 1999 review by researcher T.L. Russell of 238 studies conducted from 1928 to 1997 found no significant differences in the competencies of students taught by traditional classroom methods versus distance education. "Data show students in this milieu can achieve higher levels of integrated learning and application learning, and a higher level of synthesis," Potempa says.

In the experience of Rebecca Jones, director of the School of Nursing and Health Sciences at Texas A&M University-Corpus Christi, students in distance programs tend to perform as well as other students, with greater graduation rates over time. "Because we necessarily must offer certain classes at certain points in the degree program, students need to plan their course schedules carefully, so they may be more committed from the beginning," she speculates.

Distance technology also makes it cost-effective to run smaller, more specialized classes, which enhances the quality of the learning, says Jones. Texas A&M in Corpus Christi began offering distance BSN programs in the mid-1980s to serve practicing nurses in South Texas. Now the sites in Laredo, Victoria, and Temple also offer master's programs. "The program makes it feasible for the university to connect several classrooms with two or three people in them. We can offer highly specialized master's courses, like nursing administration, even if just a few people want it."

Partner Power

A positive by-product of distance education is that it can open doors to better collaboration among nursing faculties in teaching, practice and research. The AACN white paper strongly urges schools to look into partnering with other institutions as a way to share resources and faculty expertise, and to increase the flexibility of distance programs. "It's about creating a niche," says Stanley. "Not every school can do everything. They really need to look at what they do best, what they can offer, where their hardest resources lie, and then form collaborative relationships with others to create a strong program."

Texas A&M-Corpus Christi has been able to use distance technology to add specific specialty courses that benefit the community's health care offerings overall: "Our pediatric hospital in Corpus wanted to recruit more BSNs trained in pediatric O.R. settings," explains Jones, "So we put together a team of faculty from Scott & White Hospital in Temple, and they were able to transmit the specialty course to our students here." Clinical rotations took place at both sites, she adds.

Its successful collaboration with the VA now under its belt, Loyola of Chicago plans to tap into its large Jesuit university network to give students access to experts and programs across the country. "We envision each nursing school offering core courses, but enabling students to pursue specialty courses and majors at any one of the 19 or so schools in our network so they can continue to benefit from a Jesuit-based education," says Haas. She notes that several hospitals in the Chicago area have approached Loyola about providing continuing education remotely to nursing staff, but ¾ as with many fledgling partnerships ¾ equipment compatibility is a barrier to overcome. In this vein, the AACN white paper urges schools planning multi-site communications to consider coordination of services,
compatibility and progressive upgrading of hardware, and policies that lower transmission costs within and across state lines.

**Orienting Faculty**

The learning curve for faculty can be huge, and the drain on their time enormous, if expectations are not managed initially. Teaching an online course means less lecturing and more facilitating. Classes are typically run as small-group seminars, requiring student interaction and lots of dialogue. In addition to preparing and posting materials, faculty must spend a lot of time responding to student e-mail and reviewing online activity in chat rooms. The interactivity that enables students to receive instant gratification and feedback on their work requires faculty to determine in advance how they will manage the communication load. Haas estimates that for distance programs just getting started, a three-hour presentation will require 18 hours of faculty preparation time.

"The Internet allows a much broader presentation of materials, so in addition to re-creating lecture notes online, faculty will have to spend a lot of time researching materials on the Internet and hot-linking them," Haas says. The university's Center for Instructional Design conducts an intensive three-day technical workshop for all university faculty, and will send them for further off-campus training if requested.

**The Clinical Component**

Developing quality clinical preceptorships for students in remote locations is challenging, but do-able, say experienced deans. One point all agree on: preceptorships should be conducted completely independently of one's professional nursing work. At Texas A&M, reports Jones, "We start out with a clinical coordinator at our distant sites ¾ usually a part-time faculty member there ¾ who helps establish affiliation agreements and organize preceptorships at clinical facilities in their area."

Loyola's agreement with the VA required the agency to set up precepted sites wherever the student was, and the school would monitor the clinical learning. "We managed to do it," asserts Haas. "In many cases our faculty drove to remote clinics to assess students. But it wasn't that different from our frontier midwifery programs of the past."

**Barriers and Trip-Ups**

The AACN task force identified several areas, particularly cost, that may pose barriers to distance programs. In addition to up-front equipment and infrastructure are the expenses of building or licensing software, developing courses, marketing, technical support and creating backup teaching materials in case of technical failure. Many schools turn to state or federal funding for their programs.

Other key questions schools must face involve ownership and copyright, privacy of educational dialogue and related legal and ethical issues that require continued clarification. Some schools, like Phoenix, give ownership of all curricula, virtual or otherwise, to the institution. Others cede control to the authoring faculty. The bottom line is that nursing schools must craft forward-thinking ownership and privacy policies prior to developing distance education programs.

**Lessons Learned**

Deans who have been through the process of setting up distance learning programs have their share of war stories to tell, and amid those tales are valuable nuggets of advice: Jones says she has learned over time that planning, advertising and marketing of a program must take place in advance, as the course is being developed, "not after the catalogue is printed. You have to drum up business first."

For Haas, the most important piece of the puzzle is having a "point person" at the school who understands distance education ¾ "Not just the technology, but the psychology as well." This designated champion should have the ability to work with faculty and students at all levels, separate and distinct from his or her teaching role. "Having someone on board who is passionate about distance education is essential, so look for advocates on your faculty. They can do much of the initial carving out, and the rest can learn from them."

Booth at Southeastern Louisiana recommends getting technical support lined up at the beginning. "Use your institution's computing staff if at all possible. And make sure students have plans for supporting
their own equipment at home."

The AACN white paper, *Distance Technology in Nursing Education*, is available by calling (202) 463-6930, or here online.

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EDITOR: Dan Mezibov
Director, Public Affairs
dmezibov@aacn.nche.edu

CONTRIBUTING WRITER: Martha Frase-Blunt
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