Doctoral Education from a Distance

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• Nursing education

Today we are facing what may be the most severe nursing shortage in our history—and one that has no end in sight. Although the population continues to increase and baby boomers age, adding to the strain on our health care systems, many nursing faculty are approaching retirement.[1] Nursing programs are attempting to increase the number of nursing graduates they produce, but are limited, in part, by the number of qualified, doctorally prepared faculty available. In 2005 and 2006, 88,000 (1 of every 3) qualified applicants to nursing education programs were rejected because of lack of capacity. Even with the addition of 150 new registered nurse programs in 2005 and 2006, overall enrollment growth actually declined from 3% in 2005 to 1.5% in 2006. The selectivity of nursing programs significantly exceeds that of other United States undergraduate programs, with 54% of 4-year college nursing programs admitting less than half their applicants in 2006, compared with 35% for United States 4-year colleges in general.[2]

Despite the increase in the number of nursing doctoral programs in the United States, until recently the number of PhD graduates has not increased significantly. In 2007, although enrollment increased by 6.3% (231 students) to a total of 3927 students, the number of graduates increased by only 1.4% (6 students).[3] Attrition rates in doctoral programs have been reported as high as 50%.[1,4] As a result, most doctoral programs graduate only a few students each year.

According to American Association of Colleges of Nursing statistics, nurses who enter doctoral programs often do so late in their careers; as a result, the average age of new nursing PhDs is 46, which is much older than the average new PhD in other fields (32–35). This age difference means that the doctorally prepared nurses we are producing have much less career time to develop a research program or teach.[1]

Historically, doctoral education has used an apprenticeship model in which students study intensively with faculty mentors to gain the knowledge, skills, and lore needed to conduct independent research. This model is still the norm in most of the sciences—and many assume that it is also the norm for nursing doctoral

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education. However, the apprenticeship model has limited our ability to attract nurses to doctoral education for several reasons:

- Nurses who may aspire to doctoral education are nearly always employed, either as faculty, staff, or administrators, and frequently cannot or do not want to leave that employment.
- Nurses have family responsibilities that may preclude their moving to engage in full-time, on-campus study that an apprenticeship model requires.
- Geography too can be a barrier. For example, The University of Arizona has had a well-regarded doctoral program for many years, but its location in southern Arizona has made access difficult for students. Some commuting students have driven many miles to come to campus; some have even flown. Others have actually moved to study here in Tucson. Still, the number of students who graduated as PhDs remained low (perhaps three to five per year), and the vast majority attended on a part-time basis, which meant that their education took longer and they were older on graduating with limited time remaining in which to conduct research or teach. Outside of class time, these part-time students spent little time on campus with faculty so, to a great extent, the apprenticeship model of doctoral education was, for most students, a myth. Only a few students (often international students) were actually on campus full time and engaged in faculty research as graduate research assistants or associates.

As nurse educators were pushed to expand capacity, they began to look at other models of delivering doctoral education. Could educators bring doctoral education to students rather than expecting them to come to campus? Could students be provided with the needed research mentorship at a distance?

For faculty at The University of Arizona, the gauntlet was thrown down by the Arizona Board of Regents in 2003, who challenged the three state-funded schools of nursing to double their enrollments by 2008. As the only doctoral program in Arizona at that time, we determined to increase not only our baccalaureate graduates, but also our PhD graduates. Doing so would mean determining how we could make doctoral education more accessible to nurses.[5]

USING TECHNOLOGY TO DELIVER EDUCATION: INITIAL EFFORTS

Distance education has a long history, initially as correspondence courses in which students worked largely independently, reading and then submitting assignments to the instructor by mail. In the past 10 to 15 years, however, technology has made other options for delivering distance education available, such as television and online delivery. Malone College and Duquesne University began offering their nursing PhD programs online in 1997. The University of Arizona's online nursing PhD program, which began in 2003, was the first at a research-extensive university. Other online PhD programs have followed quickly (eg, University of Utah, University of Colorado at Denver and Health Sciences, Northern Colorado University, Oregon Health Sciences University, Vanderbilt University, Medical College of South Carolina, University of Wisconsin-Milwaukee, University of Kansas, University of Hawaii, Rutgers University, and so forth).

At the University of Arizona, before the Board of Regents' challenge, we had already begun to televise some graduate courses to a second site in Phoenix by way of the Arizona Telemedicine Program's telecommunication network. Because some of our students lived in the Phoenix metropolitan area, this made perfect sense. Students