A Mixed Model Design Study of RN to BS Distance Learning: Survey of Graduates' Perceptions of Strengths and Challenges

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Abstract

This article reports on findings from a survey administered to graduates of a distance learning RN-to-BS completion program. A questionnaire was constructed to examine graduate experiences and perceptions regarding distance learning formats, course content, time management, student empowerment, and program support. A total of 251 surveys were distributed and 82 useable surveys collected for analysis. The survey included demographic, quantitative, and qualitative items. Analysis of variance and correlations were used to examine quantitative and demographic data. The qualitative item responses were coded, with interrater agreement ranging from .83 to .93. The pattern of results were compared with the literature and supported: (a) the salience of online RN to BS program delivery, especially related to candidate employment during the educational process; (b) the importance of linking practice and theory; (c) the relevance of blending and 'psychological presence' (Shin, 2003); and (d) the empowerment engendered in the student to seek online learning opportunities beyond RN-to-BS completion nursing courses for lifelong learning.

Introduction

In the mid-1980's, applications from registered nurses in practice who needed and wanted a BS in nursing increased greatly. In response to this identified need, our SUNY nursing program (located in Upstate New York) began providing courses for RN students pursuing a BS degree in nursing (RN to BS) on campus and on-site at a community college 100 miles away. Faculty would travel to the community college site to provide course instruction and oversight. In an effort to serve a broader base of RN students seeking a BS, the nursing program sought out alternative methods for reaching more students.

In 1993 a five year grant from the U.S. Department of Commerce to expand the RN to BS program via telecommunication was awarded to the College. This was the first distance learning nursing degree program to be approved by SUNY and the New York State Education Department. In the spring of 1994 three sites were opened in New York State at a distance of 55 to 100 miles from the main campus, later expanded to six distance sites at a distance of up to 300 miles from campus. The use of interactive audio and video telecommunication technology allowed RNs the ability to continue their education at a site close to home, with minimal disruption to work and family obligations. Initially, adjunct faculty were trained to oversee the telecommunication equipment at the various sites at the time of broadcast and to facilitate student learning. Nursing courses were offered in a synchronous fashion, with capacity at each site to view the broadcast from each of the other venues through manual and/or voice-activated technology.

As the challenges around technology such as upkeep, security, and multiple-site management became more costly and as internet-based distance education technology and infrastructure on campus grew, there was a decision to switch to an online course delivery system. It was believed, based on literature review, standard course and program evaluation feedback, and anecdotal input from students and faculty, that an asynchronous, internet-mediated approach to our distance-learning RN to BS program would provide a more flexible and cost-effective access to a larger number of students.

Literature Review

The introduction is further developed by focusing on three main themes related to the present study and our ongoing Nursing Program's distance learning planning and implementation: student perceptions and expectations, student empowerment and support, and blended instruction and virtual online configurations.

Student Perceptions and Expectations

Undergraduate students' perceptions of online distance learning were examined by Ng (2006) using Achievement Goal Theory (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002; Pintrich, 2000) in studying their strategies, motivation, and perceptions in completing online assignments. In this context, Ng (2006) discovered that students who focused on mastery of information through in-depth comprehension scored higher on exams and assignments than those students who focused on their lack of expertise in online navigation, time for online socialization, or amount of work required. In studying graduate level students in a nursing department, Kumrow (2007) found that of the five self-regulatory resource management strategies: time management, study environment, effort regulation, help seeking and peer learning -- help-seeking was the only strategy that is positively correlated with achievement.

In addition, Shin (2003) pointed out that undergraduate students' perceptions of "psychological presence" in terms of availability and connectedness to teachers, peers, and their learning institution is predictive of their learning achievement and satisfaction. Relatedly, Zhang, Perris, & Yeung (2005) found that when instructors focused on student expectations, previous online course perceptions, student needs, different learning styles, and self-help strategies in developing their online nursing courses, the distance learning experience for online nursing students was enhanced.

In assessing students' perceptions of their mode of learning, Fink's Principles of Learning and Taxonomy (2003) were utilized by Magnussen (2008) to create learning-centered courses in contrast to content-centered courses by shifting the focus of the educator as a deliverer of content to a facilitator in learning. In discussing nursing program teachers' use of narrative pedagogy, Andrews et al. (2001) emphasized the importance of encouraging online students to share their lived experiences, perceptions, or narratives in a format that allows open discussion and application of course content. More recently, Mancuso-Murphy (2007) examined numerous nursing studies concerning online delivery instructions and identified as many as ten major categories of students' perceptions of their online learning experience, including learning cohorts, dialogue, and consequential interactions to enhance bonding opportunities online.

According to Young (2006), a survey of online undergraduate and graduate students' perceptions of that experience found that instructors are perceived as more valued when they require high-quality work, involve everyone, communicate effectively, provide flexibility, merge theory and practice, and are committed to student success. Dzakiria (2005) suggested that instructors would benefit by becoming learning-support providers and advocates for their students rather than judges of their performance. In studying a sample of master's degree candidates, Motteram and Forrester (2005) noted that the more instructors take into consideration students' needs, expectations, concerns, perceptions, and anxieties about being integrated from an interactive classroom community to an online learning community, the greater their sphere in supporting the learning process, student satisfaction, and success. Coose (2010) found that associate degree nursing program students who participated in the distance program perceived benefits such as staying in one's own community, becoming a more independent learner, and having more proportional time flexibility than did those students whose program delivery was on-campus.

Student Empowerment and Support

Ledwell, Andrusyszyn, & Isasiw (2006) used Kanter's Theory of Empowerment (1993) to evaluate what empowers post-RN baccalaureate nursing students while taking online courses. Feedback from instructors, access to a library, self-direction, determination and support from employers, family, friends, and children were found to be essential components of "an empowering educational experience" (Ledwell, Andrusyszyn, & Isasiw, 2006, p.78). Furthermore, in the context of grounded theory Molinari (2004) discussed the importance of encouraging online instructors to improve nursing students' comfortableness with technology, group process, and social connection as one of the course/program goals rather than being viewed as tangential to the learning process.

Diekelmann & Mendias (2005) found some nursing students underestimate the time required to manage an online course in relation to competing work and family responsibilities. The authors emphasize that instructors focus on "Concernful Practices" (p.395) to cultivate student awareness in knowing how to connect with and be supportive of others in an online

learning forum that is safe, fair, respectful and beneficial to themselves as well as the other students. In a theoretically focused paper, Hrastinski (2009) made inferences from Wenger's (1998) Conceptualization of Learner Participation, defined as a process of talking, thinking, feeling, belonging, and taking action to achieve results, in order to maintain relationships both online and offline through engaging conversations, active listening and continuous learning. More specifically, Hrastinski (2009) asserted that if the goal is to enhance online learning, then online learner participation learner styles must be engaged.

Relatedly, Avery, Cohen, & Walker (2008) qualitative results showed that diverse learner styles and student perceptions must be clearly supported. In a qualitative exploratory study of RN-to-BSN students, Oldenburg & Hung (2010) highlighted the importance of student synthesis and construction of meaning and instructor participation – but not instructor domination – in engaging problem recognition and resolution in an online course environment. Finally, Kim, Smith, & Maeng (2008) highlighted the salient roles of formative and authentic assessments in facilitating the needs of online learners.

Blended Instruction and Virtual Online Configurations

Blending, a term used to describe the integration of classroom (i.e., traditional) and online (i.e., contemporary) instruction to accommodate the different learning styles of students, has been shown to increase the success rate of passing a course with comprehension as well as facilitate increased learning satisfaction (Lim, Morris, & Kupritz, 2006). Muirhead (2007) asserts that online learning in nurse education would be wise to further utilize a mixture of using andragogical and pedagogical theories. According to Cragg, Dunning, & Ellis (2008), master's level course students' construction of the meaning of course material is not a linear process and therefore teaching strategies need to challenge students' comprehension of complex abstract concepts from academic methods to hands-on-learning experiences, whether in a classroom, online or work environment. Powell & Keen (2006) reported that although some University students graduate from full degree programs offered online, most students take online courses to supplement their learning experience in whatever their chosen vocation.

There is an emerging impetus towards integrating all the benefits of blended instruction into complete online programs that provide a variety of learning-community support in order to nurture the ever increasing number of non-traditional nursing students. For example, DeLucia, Francese, Passero, & Tortora (2009) present a virtual online environment that is representative of a college campus that allows students to enter collaborative zones, lecture rooms, and recreational areas to enhance social interaction, synchronous communication and academic needs. Curran, Elfrink, & Mays (2009) have specifically created a virtual community with virtual patients for online nursing education purposes. Relatedly, Sander (2008) also has developed a virtual world as a clinical evaluation tool for nursing students. Very recently, Jones and Wolf (2010, p.44) highlighted the importance of nursing faculty needing "to think outside the box" about the preference and efficacy of various online learning environments.

Purpose

A survey was developed to further examine our assumptions, facilitate strategic planning processes (Pisel, 2008), and to elicit perceptions from graduates of our RN to BS program that had completed courses using either or both telecommunication and online course formats regarding the strengths and challenges associated with distance learning. The survey was conducted at the time of transition from a telecommunication to fully on-line program delivery. The major questions we sought to answer included: (1) Was a move to an online format something that would be embraced by our RN to BS students?; (2) What kind of faculty, student, and technical supports would we need to ensure success?; (3) Do our students have the same perceptions of strengths and challenges associated with distance learning as reported in the literature?

Methods

Development of the Survey Instrument

The assessment instrument was developed based upon examination of the literature as well as related instruments and scales (Ali, Hodson-Carlton, & Ryan, 2004; Anders, 2001; CADE, 2005) previously used. After initial development, an instrument review was independently completed by four current nursing program candidates and graduates and, on the basis of that feedback, adjustments were made to the instrument prior to the initial mailing. For the two quantitative items, a principal components analysis (PCA) extraction using the varimax method demonstrated that these two questions loaded on one component with an Eigenvalue greater than 1 and explained 72.98% of the variance. The internal consistency Cronbach's Alpha based upon the two quantitative items was .61. Taken together, this information essentially indicates that the two quantitative questions are to a substantial extent measuring one underlying factor, yet should not be considered a unidimensional scale (Sullivan, 2001, chap. 6; Warner, 2008, chap. 19).

For the qualitative item responses, consistency of item grouping categories regarding assignment of participants' responses to the categories was examined. Interrater reliability between the researchers' and the external reviewer's assignment to response categories as determined by Pearson Product-moment correlations was .88, .83, and .93, for the challenges, suggestions, and supports qualitative questions, respectively. SPSS 18.0 (IBM) was used for all quantitative analyses and NVivo7 (QSR International) was used to assist with the organization of the qualitative analyses.

Procedures

In the summer/fall 2007, based upon University Institutional Advancement records, the researchers identified a total population of 251 Upstate New York University Nursing Program Alumni from the classes of 1989 through 2006 with valid addresses that were able to be contacted by mail. The range of contribution to the total population of each of the 18 graduating classes was from 3.2% (i.e., 1993) to 7.6% (i.e., 2005). The population consisted of 22 males and 229 females. Initial and follow-up mailings yielded a total of 82 useable surveys for analysis resulting in a survey response rate of 32.7%. Females comprised 77 (93.9%) of the sample and 91.2% of the population.

Survey Response Representativeness

Chi-square testing indicated that the proportions within the sample and population did not significantly differ by class, (Chi-square [17, $N = 251$] = 18.38, $p = .37$) or gender, (Chi-square [1, $N = 251$] = 0.09, $p = .77$), thereby supporting the sample's representativeness of the population. Contextually, it is of note that the present study "cast a large historical net" in that 18 graduating classes from 1989 to 2006 were surveyed. Further, to answer the research questions, the present survey design required considerable effort on the part of the respondents, and it has been reported that survey response effort can be a salient feature in determining response rates (Aaker, Kumar, & Day, 2001, chap. 9; da Silva, 2011).

Additionally, non-responders from the initial wave who responded to the second mailing, sent 6 to 8 weeks later, showed no significant difference in their ratings of the effectiveness of the online distance learning course(s) taken, $t(53) = -.072$, $p = .94$, or perceived effectiveness of all the distance learning course(s) taken, $t(67) = 1.37$, $p = .18$, relative to first wave responders.

Further, a time analysis (Armstrong and Overton, 1977) of the set of the last 10 questionnaire responders compared to the set of the first 72 showed no significant difference in ratings of the effectiveness of the online distance learning course(s) taken, $t(53) = .41$, $p = .68$, or perceived effectiveness of all the distance learning course(s) taken, $t(67) = .42$, $p = .68$. Finally, it is noteworthy that a response rate similar to this study has been reported in the literature in other works with parallel features (Bristol, 2005; Waltman, 2006; Wieck, Dols, & Landrum, 2010).

There were also no discernable patterns of qualitative response distinctions between first wave and second wave or first set – last 10 questionnaires received as examined by two raters independently. Additionally, a multivariate analysis of variance was used to compare first wave and second wave responders on frequency of total challenges, total suggestions, and total supports cited. More specifically, the findings supported that there was no significant difference in these three combined (i.e., composite) multiple dependent variables between the first and second wave responders, Wilks' Lambda = .93, $F(3, 77) = 1.95$, p = .13.

While none of these analyses suggests or evidences nonresponse bias; to fully accommodate and be very cautious regarding the possibility of nonresponse bias risk (MacDonald, Newburn-Cook, Schopflocher, & Richter, 2009), and at the same time relate valuable insights derived from the research, the method may be considered as nonprobability sampling (Royse, Thyer, & Padgett, 2010, chap.8).

Survey Participants

The distribution of the number of years that the survey participants were practicing in the nursing profession was 3.7% (2 to 5 years), 4.9% (6 to 10 years), 12.2% (11 to 15 years), 20.7% (16 to 20 years), and 58.5% (20+ years). Seventy-nine (96.3%) of the respondents reported that they were licensed to practice in New York State and 11 (13.4%) reported that they were licensed in at least one other state. Sixty-five (79.3%) had an Associate degree in nursing prior to attaining a Baccalaureate, while 15 (18.3%) had previously completed a Diploma program. Two respondents indicated other (2.4%) answers.

A total of 25 respondents indicated that they had post-secondary education other than nursing with the range of responses encompassing health care and related administration (n=5), education (n=3), English/communications (n=2), anesthesiology (n=2), midwifery (n=2), and social sciences (n=2). Thirty (36.6%) of those responding indicated that they were currently taking graduate courses; however, 51 of the surveys (62.2%) did not offer a response to this item. Seventy-eight (95.1%) reported that they were currently employed. Generally, employment was in Hospitals/Medical Centers/Clinics (n=36), Public Health Agencies (n=17), Private Practices (n=8), and less frequently in Schools (n=3) and Hospice (n=3). (The post-secondary education and employment reported areas do not equal the totals because very infrequently sited categories are not noted in the narrative.)

Research Analyses

The upstate New York University Institutional Review Board approved the study including the population studied, questionnaire, general methodology, and procedures to safeguard respondent anonymity. Both quantitative and qualitative analyses were undertaken using a within-stage mixed-model design (Johnson & Onwuegbuzie, 2004). Quantitative elements of the survey were analyzed via the use of descriptive and inferential statistics. Responses to the open-ended questions were studied to add depth of thematic meaning to the quantitative analyses. Quantitative analysis was performed on the Likert scale items: 1) How would you rate the effectiveness of the online distance learning course(s) you have taken? 2) How would you rate the effectiveness of all the distance learning course(s) you have taken? In both instances a five point Likert scale was implemented (i.e., Excellent-5, Good-4, Acceptable/Average-3, Marginal-2, Poor-1). Descriptive statistics as well as two analyses of variance were completed. The acceptable alpha level was set at .05.

Qualitative analysis was performed on the open-ended items: 1) What barriers or challenges do you believe there are in taking online distance learning courses? 2) What features would you find helpful to incorporate to aid nursing students in the future? 3) What additional online distance learning help would you like to see offered to students by the University? 4) What nursing courses do you think are most amenable to online distance learning? The joint contributions of the quantitative and qualitative items serve to add meaning and refine examination of the results thematically.

Results

Quantitative Analysis

Analyses of variance. In considering ratings of the effectiveness of the online distance learning course(s) taken, a 2 x 3 x 5 between groups analysis of variance (Completed Graduate Nursing Coursework [no, yes] by Employed During Nursing Studies [no, yes-part-time, yes-full time] by Years Practicing in Nursing Profession [2-5, 6-10, 11-15, 16-20, 20+]) indicated that only the main effect of Employed During Nursing Studies was significant, $F(2, 37) = 4.57$, $p = .017$. The partial eta squared for the significant effect was 19.8%. This result showed that the full time employed nurses ($M = 4.03$, $SD = .91$) and part-time employed nurses ($M = 4.27$, $SD = .70$) rated the effectiveness of the online distance learning course (s) higher than those who were not employed during their nursing studies ($M = 2.50$, $SD = .58$).

In considering ratings of the effectiveness of all the distance learning course(s) taken, a second 2 x 3 x 5 between groups analysis of variance (Completed Graduate Nursing Coursework by Employed During Nursing Studies by Years Practicing in Nursing Profession) was completed. This ANOVA found no significant main or interaction effects for these independent variables.

Correlations. In examining the Pearson Product-moment bivariate correlation matrix of meaningful correlations, there were several relationships that achieved statistical significance.

Table 1

Significant Pearson Product-moment Bivariate Correlations

Variables Related	r	Response Min/Max and Frequency *(f)*	Corr. n	p
Number of online nursing courses (n = 22) *with* number of years practicing nursing (n = 82)	-.52	min=1 (*f*=7), max =7 (*f*=2) min= 2-5 yrs (*f*=3), max =20+ yrs (*f*=47)	22	.013
Currently (or previously taken) graduate nursing courses (n = 82) *with* effectiveness of online distance learning (n = 55)	.34	no (*f*=54), yes (*f*=28) poor (*f*=1), excellent (*f*=17)	55	.011
Currently (or previously taken) graduate nursing courses (n = 82) *with* effectiveness of all distance learning (n = 69)	.26	no (*f*= 54), yes (*f*=28) marginal (*f*=1), excellent (*f*=17)	69	.028
Number closed circuit or other televised nursing courses (n = 40) *with* effectiveness of online distance learning (n = 55)	.35	min=1 (*f*=4), max= 17 (*f*=1) poor (*f*=1), excellent (*f*=17)	40	.040
Number of online nursing courses (n = 22) *with* number of non nursing courses online (n = 17)	.58	min=1 (*f*=7), max= 7 (*f*=2) min=1 (*f*=5), max= 8 (*f*=1)	14	.031
Effectiveness of the online distance learning courses you have taken (Q4) (n = 55) *with* effectiveness of all the distance learning course(s) you have taken (Q5) (n = 69)	.46	poor (*f*=1), excellent (*f*=17) marginal (*f*=1), excellent (*f*=17)	54	.000

Note: Consistent with the survey directions, blanks were deemed a nonresponse and were not included in the correlational analyses.

Qualitative Analysis

In an open-ended response format, the nurses were asked to indicate their perceptions regarding online distance learning barriers/challenges, suggestions, and useful supports. Unique responses (n=1) for any question are not displayed. In total, there were 5.8% (n=9) unique responses across all three of the constructed response questions.

More specifically, the study participants were asked: what, if any, barriers or challenges do you believe there are in taking online distance learning courses? Five response categories were determined for this question. In descending order by percent, respondents (total N responses=53) indicated 1) challenges related to depersonalization/lack of interaction (35.8%, n=19), 2) technology/computer skills (34.0%, n=18), 3) self-discipline/time management (13.2%, n=7), 4) time commitment/work load (11.3%, n=6), and 5) access to faculty & staff (5.7%, n=3).

The nurses were also asked: If applicable, based upon your experience with online distance learning courses, what features (suggestions) would you find helpful to incorporate to aid nursing students in the future? Ten response categories were identified for this query. The suggestions (total N responses=68) in descending order were: 1) combine online course with local site nursing instructor/coordinator availability (20.6%, n=14), 2) increase phone/email/online contact with instructor (20.6%, n=14), 3) further develop online discussion groups/telephone conferences/local study groups (17.6%, n=12), 4) better align onsite and online orientations/expectations of program and course expectations (11.8%, n=8), 5) enhance computer competency/skills class/library access/in-service modules (10.3%, n=7), 6) create more required and updated online BS/MS courses (5.9%, n=4), 7) include more pre-course developed literature/assignments (4.4%, n=3), 8) have extended and more flexible time lines (2.9%, n=2), 9) provide prompt technical support (2.9%, n=2), 10) include more case scenarios (2.9%, n=2).

Further, the nurses were asked: what additional online distance learning help (supports) would you like to see offered to students by the University? Four response categories were identified for this examination. The supports cited (total N responses=26) in descending order were: 1) more electives, broader range of course selection (42.3%, n=11), 2) technical support (26.9%, n=7), 3) masters/doctoral Level degree in nursing or related field (23.1%, n=6), and 4) more accessible campus/resource center (7.7%, n=2).

Finally, the survey participants were asked to list: which nursing courses do you think are most amenable to online distance learning? Seven response categories were identified by this request. The courses listed (total N responses=39) in descending order were: 1) theory/research courses (30.8%, n=12), 2) pharmacology (17.9%, n=7), 3) professional leadership/issues/ethics courses (17.9%, n=7), 4) all but physical assessment (12.8%, n=5), 5) community/public health (10.3%, n=4), 6) classes without labs (5.1%, n=2), and 7) business/computer usage courses (5.1%, n=2).

Limitations

It should be noted that since all the survey respondents were from a single institution, the particular academic characteristics of the institution may limit the external validity or generalizability of the results. Additionally, although it would not ostensibly be consistent with the directions, the authors cannot be certain that some respondents' blank/non-responses might potentially represent an actual zero (0) value.

Discussion

This investigation provides a number of important further insights into the design, development, and implementation of distance learning in the University's RN to BS nursing program. The finding that full time employed and part-time employed nurses perceived the effectiveness of online distance learning courses as greater than those who were not employed during their nursing studies suggests that the former groups may have an underlying heightened practical appreciation for the flexibility engendered by this mode of delivery given the time demands and constraints of their employment (cf. Osei, 2010). Also, the contextualization of the distance learning coursework temporally linked with nursing employment experiences may well facilitate constructivist opportunities (i.e., scaffolding) for enhanced authentic learning (Huang, 2002) and understanding (Ng, 2006), thereby contributing to a perceived greater effectiveness of the distance delivery mode experience. The fact that there was not a parallel result regarding employment for all distance learning courses may be construed as consistent with the online distance learning findings which relate the flexibility (Zhang et al., 2005) and empowerment considerations (Ledwell, et al., 2006; Nedd, 2006) that can be engendered by this particular (i.e., online) learning delivery mode.

The observation that number of online nursing courses was negatively related to number of years practicing nursing is not surprising given institutional policy developments, the expanding opportunities for exposure to distance learning and computer technology training, current emphases on computer skill set improvements, as well as recent developments of more pervasive online nursing coursework availability. Similarly, the positive relation between having taken (or taking) graduate nursing courses and the positive perception of the effectiveness of online distance learning likely speaks to the important role of merging practice and theory (Young, 2006) and constructivist applicability of distance learning to graduate nursing (Candela, Carver, Diaz, Edmunds, Talusan, & Tarrant, 2009; Legg, Adelman, Mueller, & Levitt, 2009).

Regarding blending, the researchers found that number of closed circuit (or other televised) courses taken positively relates to the perceived effectiveness of online distance learning. Further, the researchers found a positive link between perceived effectiveness of online and other modes of distance learning, suggesting a definitive perception regarding the salience of blending to the learning process. Blending also offers a teaching-learning structure that addresses the frequently reported major challenge of "psychological presence" (Shin, 2003), to online distance learning's optimal implementation. Indeed, blending helps to address the most frequently cited online distance learning challenges reported in this study related to depersonalization and a lack of interaction and computer/technology skills. Further, as discussed by Billings (2007), the use of appropriate distance learning pedagogy is crucial in optimizing the learning environment for students' application of content to real world situations as well as towards developing a learning community (Garrison & Kanuka, 2004).

The researchers also noted that the number of online nursing courses correlated positively with the number of other online non-nursing courses indicating that the frequency of student engagement with the online distance learning mode exhibits a range of coursework generalizability. While there are limited - however increasing - numbers of degree programs offered fully online (Powell & Keen, 2006), this generalization is a particularly relevant finding in that it provides support for the perspective that a nursing program, including general education coursework, is amenable to being successfully offered online.

Consistent with and in contextualization of the quantitative findings, qualitative thematic perceptions regarding help seeking (Kumrow, 2007) were most frequently linked to broadening course selection (i.e., generalizability to the nursing program). Nonetheless, specific nursing courses that were perceived as most distinctly amenable to online distance learning were seen as those that did not have clinical or physical assessment components such as theory/research, pharmacology, and ethics courses. In a qualitative study Leski (2009), broadly contextualized the interactive roles of course content, demands, and the environment in creating "optimal fit" (p. 94). Additionally, the role of faculty perceptions (Parthasarathy & Smith, 2009), motivation (Zhen, Garthwait, & Pratt, 2008), and skill development (Roman, Kelsey, & Lin, 2010) are crucial factors to the success of online courses/programs.

Several qualitative thematic suggestions were also offered to improve online nursing program distance learning. In this item as well, a number of these responses connect with the notion of the importance of blending and alignment with program standards. With the expanding role of distance education in nursing (Mancuso, 2009), as well as a heightened emphases on accountability in higher education more generally (Shultz, 2010; Spellings, 2006) this would appear to be a particularly timely and germane observation in sustaining distance education development.

Conclusions

Online distance learning is becoming the norm in community and state universities in the United States in addition to or supplementing the traditional alternative. Advances in technology continue to provide opportunities for nursing students that did not exist even five years ago. Whether or not an instructor integrates the available and current technology strategies in their online courses can make a meaningful difference in the efficacy, success, and satisfaction of the students' online educational experience. Some thematic challenges noted involved depersonalization, computer literacy, self-discipline, and work and access to faculty. Suggestions include increased contact with the instructor, group interaction, flexibility, computer competency, and technical support. Administratively, other parallel survey questionnaires will be conducted in the future at the University that reflect curricular and policy recommendations and promote continuous program improvement.

Implications

It is anticipated that the study will be useful to other nursing education programs in learning from our experiences to further develop and administer their distance learning methods and delivery. We have found this mixed model inquiry to be particularly guiding towards "closing the loop" in designing and implementing new opportunities for our nursing program students. Additionally, we hope that the research design, administrative protocols, and survey instrument structure will be useful to a wide variety of researchers and practitioners interested in the evaluation of distance learning programs.

Finally, a variety of more delivery integrated approaches are also being proposed and explored regarding student presentations, demonstrations, and skills assessment, among others. In general, we find that our challenges are reflected in more optimally using the evolving technologies available in higher education and nursing in particular. In closing, further studies to explore the impact of administrative policies, faculty perceptions, and training on student distance learning satisfaction are suggested.

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