FACULTY PERCEPTIONS OF TEACHING ONLINE

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Abstract

RESEARCH SUBJECT: Faculty Perceptions of Teaching Online

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The number of nursing schools offering classes through the internet continues to increase greatly. Teaching online presents a challenge for nursing faculty who are not familiar with online education. Instructors must make a transition from real-time in the classroom to virtual-time when teaching online. Faculty perceptions may influence outcomes of online learning. Ryan, Hodson-Carlton, and Ali (2005) developed a Model for Faculty Teaching Online to explain the dimensions of faculty teaching online and validated the model. Further research is needed to test the model and determine faculty perceptions of teaching online. The purpose of this study is to determine faculty perceptions of teaching online based on the Model according to the major dimensions, including antecedent conditions, context, strategies, and consequences, and further validate the model. The sample will consist of 20 nursing faculty who teach online in Baccalaureate Nursing Programs at five mid-west public universities and colleges and agree to participate in the study. Permission will be obtained from Ball State University. A questionnaire developed by Ryan et al. (2004) will be used. The study is voluntary and data will remain anonymous. There are no identified risks to any individual or institution.
involved in the study. Findings will provide information for nursing faculty as nursing
courses are redesigned for online delivery.
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Chapter I

Introduction

One of the greatest challenges being faced by the health care industry in the United States today is a shortage of nurses (American Association of Colleges of Nursing, 2009). Approximately 116,000 registered nurse positions in hospitals and 100,000 in nursing homes are unfilled today (Dunham, 2009). The quality of patient care is being threatened by a lack of nurses even as many thousands of people are being turned away from nursing schools due to lack of available openings in schools of nursing (Warner, 2005). Almost 50,000 qualified applicants were turned away from United States nursing schools during 2008 due to insufficient number of faculty, clinical sites, classroom space, clinical preceptors, and budget constraints (American Association of Colleges of Nursing, 2009).

Distance education may help to decrease the shortage of nurses. Online education may allow more individuals to enroll in nursing schools due to decreased cost, convenience, and flexibility to learn at the individual's own pace. (Horne & Camann, 2000; Leasure, Davis, & Thievon, 2000). The use of distance education technology may also increase the capacity of nursing faculty to support education of nursing students (American Association of Colleges of Nursing, 2005).

In the latest figures from a 2006-2007 survey released by the National Center for Educational Statistics (2008), it was found that 66 percent of 2-year and 4-year degree-
granting colleges and universities offered distance education. In 2003 there were only 56 percent. This represents an increase in distance education of ten percent in only three or fours years. Nursing schools are also offering Web-based courses for both basic and advanced degrees (Billings, 2000). This rapid growth of distance education has resulted in the need for faculty to develop new skills (Barker, 2003; Clark & Ramsey, 2005)

**Background and Significance**

The introduction of online education has resulted in a significant change in the responsibilities of the nurse educator (Horne & Camann, 2000; Johnson, 2008). Not only is the role of faculty impacted, there are pedagogical and technological changes (Cuellar, 2002; Shovein, Huston, Fox, & Damazo, 2005). When traditional face-to-face courses are transformed to the online format, frequently a paradigm shift occurs (Ryan, Hodson-Carlton, & Ali, 2004). Faculty making this transition often report feeling anxious due to lack of experience in the development or teaching of Web-based courses. Even seasoned nurse educators may perceive themselves as a novice (Ali, Hodson-Carlton, Ryan, Flowers, et al., 2005). A review of the literature shows a scarcity of information is available about this change in the teaching role and pedagogy (Robley, Farnsworth, Flynn, & Horne, 2004). More research is needed to determine faculty perceptions about teaching in the Web-based environment and the most effective methods for online delivery (Cuellar, 2002). Sound educational theories must be used while developing and delivering online courses to ensure quality education for nursing students (Barker, 2003; Billings, 2000). Findings of this study may provide valuable information about needed
resources and support for nursing educators who are making a transition to online education.

Problem Statement

The number of nursing schools offering classes through the internet continues to increase greatly (Thiele, 2003). However, little is known about the outcomes and what supports need to be provided for faculty teaching these classes and the students taking them (Robley, Farnsworth, Flynn, & Horne, 2004). Also, there is little information about which teaching and learning practices lead to positive outcomes or how the technology offered on the web and its learning tools contribute to teaching and learning. Billings (2000) reports that accrediting bodies, commissions of higher learning, academic institutions, schools of nursing, and others want answers to these questions about outcomes, teaching and leaning practices, quality, and academic standards of on-line instructors. Nursing educators are also asking questions about the use of technology in education (Robley, Farnsworth, Flynn, & Horne, 2004; Thiele, 2003).

Teaching online presents a challenge for nursing faculty who are not familiar with online education. Faculty must make a transition form real-time classroom teaching to virtual-time online teaching. Faculty perceptions may influence outcomes of Web-based learning. Ryan, Hodson-Carlton, and Ali (2005) developed the Model for Faculty Teaching Online and validated the Model. Further study is needed to test the Model and determine faculty perceptions of teaching online.

Purpose of Study

This study has two purposes:
1. to determine faculty perceptions of teaching online based on the Model according to the major dimensions, including antecedent conditions, context, strategies, and consequences; and

2. to further validate the Model.

This will be a modified replication study of Ryan, Hodson-Carlton, and Ali's 2005 research.

*Research Questions*

1. What are faculty perceptions of teaching online?

2. Do perceptions of faculty support the dimensions of the Model for Faculty Teaching Online?

*Conceptual Framework*

The Model for Faculty Teaching Online which was developed by Ryan, Hodson-Carlton, and Ali (2005) will be the conceptual framework for this study. The basis for this model is grounded theory and was developed using dimensional analysis to yield the components of a matrix. The dimensions of the Model are antecedent conditions, context, strategies, and consequences.

*Definition of Terms*

*Faculty* describes an education professional who guides the learner through programs of study and evaluates the mastery of student. This educational expert may also create an environment or experience that allows the learner to "discover and construct knowledge for themselves" (Finke, 2005, p. 10).
Online teaching is a term used to describe technology enhanced teaching through the use of a computer and the internet.

Web-based course refers to a method of instruction that is entirely delivered through an internet connection. For purposes of this study Web-based course and online course will be used interchangeably.

Distance education is broadly defined as "students receiving instruction in a location other than that of faculty" (Clark & Ramsey, 2005, p. 397).

Perception refers to the results of receiving impressions in the mind through the senses.

Limitations

1. This study will be limited by the small number of participants.

2. Generalization is further limited due to limiting the sample to faculty teaching baccalaureate students.

Assumptions

1. The participants in this study will answer the questionnaire with perceptions that reflex true feeling.

2. The experiences of the participants in this study will be representative of baccalaureate faculty who have experienced the transition from traditional face-to-face instruction to online teaching.

Summary

Nursing faculty may face a challenge when making a transition from traditional instruction to online teaching. The purpose of this study is to determine faculty
perceptions of teaching Web-based courses using the Model for Faculty Teaching Online as a theoretical framework. The results of this study may be used to provide information about faculty needs when teaching online in order to improve the quality of this educational format.
Chapter II

Literature Review

Teaching online presents a challenge for nursing faculty who are not familiar with online education. Instructors must make a transition from real-time in the classroom to virtual-time online teaching. Faculty perceptions may influence outcomes of online learning. Ryan, Hodson Carlton and Ali (2005) developed a Model for Faculty Teaching Online as a useful tool to guide the redesign of nursing courses for online delivery and to help instructors rethink the faculty role. Further study is needed to test the model.

The purpose of this study is to determine faculty perceptions of teaching online based on the model according to the major dimensions, including antecedent conditions, context, strategies, and consequences, and to further validate the model. The literature review is divided into the following sections: organizing framework, effect of teaching methods on student outcomes, student perceptions of online learning, faculty perceptions of teaching online, and summary.

Organizing Framework

Ryan, Hodson-Carlton and Ali (2005) present a dynamic model which focuses on the process of faculty teaching online. Dimensional analysis was used to yield the components of a matrix. The "matrix provides a structure for analyzing terms in the perspective of logical sequencing" (p. 358) which helps to explain the complex story of faculty teaching in a Web-based environment. Dimensional analysis does more than
identify themes in the data. It is a methodological approach which looks "into the parts, attributes, context, implications, and the interrelationship among the dimensions" (p. 359). The Model for Faculty for Faculty Teaching Online is a theoretical framework with four major dimensions or concepts. The dimensions are antecedent conditions, context, strategies and consequences or outcomes. A schematic drawing of this model shows that each of these dimensions is linked. Each dimension has subheadings. The dimension of antecedent conditions includes support systems, use of technology to teach online, and policies for distance learning. Online curriculum, online environment and adjusting time frames are listed under context. Collaboration/planning, rethinking faculty role/redesigning courses, developing online communication techniques, and maintaining/revising are included under the concept of strategies. The last dimension includes faculty adjusting to online teaching, faculty role changed, increased awareness of course, collaborative learning, and changing relationships with students.

**Effect of Teaching Methods on Student Outcomes**

As the number of nursing courses being offered through the internet increased, nursing educators began to voice concern about the quality of education received through this delivery format. Leasure, Davis, and Thievon (2000) conducted a study with undergraduate students enrolled in nursing research courses to delve into this area of concern. The purpose of this research was to compare student outcomes in a course conducted through Web-based instruction to student outcomes in a traditional classroom setting. The researchers also examined the reasons students chose the internet or
traditional classroom delivery format and what were the characteristics of students who performed well in internet classes. The research questions were:

1. What are the differences in outcomes between students who complete N4062 via Web-based course delivery as compared to the traditional classroom methods?
2. What reasons do students use in choosing to enroll in either a WWW based, or a traditionally delivered educational course? (p. 150)

The setting for this study was three campuses of the University of Oklahoma. Students (N = 66) enrolling in a senior level nursing research course were given the option of traditional classroom or Web-based course sections. Eighteen students selected the Web-based section and 48 chose the traditional classroom. Student characteristics, including age, grade point average, critical thinking inventory score, hours completed, gender, ethnicity, and previous degree, were obtained. Chi-square and t-tests on these sociodemographic and academic characteristics did not show significant differences between the two groups. The same textbook, workbook, and computer-assisted instructions software were used by all students. Also, the students in both course sections were assigned to small work groups in which similar learning activities worth 10 percent of the grade were completed (Leasure et al., 2000).

Leasure et al. (2000) used several instruments in the study. The first, a survey that was administered at the beginning of the semester, asked about personal characteristics of the students and reasons for choosing either the Web-based or traditional course sections. Other instruments utilized were three multiple-choice examinations, which were
compiled by the two nursing faculty teaching the course sections, and final course grades. Reliability and validity of these tools were not reported by the researchers.

The results of the survey showed students who perceived themselves as more knowledgeable in using computers were more likely to choose the Web-based course section. Cost, convenience, and flexibility were reasons given for selecting this format. Students in the traditional classroom section gave the following reasons for their choice:

1. the perception of increased interaction
2. decreased opportunity for procrastination
3. immediate feedback
4. more meaningful learning activities (Leasure et al., 2000, p. 150).

Results of all three examination scores and the final course grade showed no significant difference between the traditional classroom section and the Internet section. In the first examination the traditional students' mean was 77.62 and the Web-based students' mean was 83.07 ($t = -1.876, p = 0.67$). The second examination mean scores were 74.52 for traditional students and 72.43 for the Web-based students ($t = .668, p = .507$). Third examination results were 82.70 for traditional students and 83 for the Web-based students ($t = -.082, p = .935$). Course grade results were similar with a mean of 80.39 for traditional students and 82.44 for the Web-based students ($t = -.96, p = .343$) (Leasure et al., 2000).

Leasure et al. (2000) concluded that the findings of this study showed evidence of equivalence in student outcomes between Web-based and traditional course delivery methods. The researchers also concluded that students who choose the Web-based section
had valid reasons for their choice and there may be some students who could not complete requirements for a degree in nursing without this option. The authors further determined that Web-based instruction provided quality education for nursing students while providing another viable option for nursing schools with limited state and federal funding.

Jang, Hwang, Park, Kim, and Kim (2005) were also concerned about the equivalency of learning outcomes with Web-based instruction compared with traditional classroom instruction. These researchers found many students had difficulty understanding electrocardiography (ECG) when instructed by the traditional lecture method. The authors hypothesized a Web-based learning format "may help provide reiterative learning opportunities and accommodate different learning styles" (p. 35). The purpose of this study was to examine the effects of Web-based versus traditional lecture methods on undergraduate nursing students' learning of ECG. Jang et al. addressed the following research questions:

1. Is there a significant difference between the two groups of students' knowledge of ECG and their ability to interpret ECG recordings?

2. Is there a significant difference between the two groups in students' perceptions of learning motivation and learning satisfaction? (p. 36)

The setting for this quasi-experimental study was in South Korea. Jang et al. (2005) used a pretest-posttest design with experimental and control groups. All 121 senior nursing students in a baccalaureate program were asked to participate in the study. Every student verbally agreed to participate but 16 were eliminated from the sample
because of providing insufficient information. This resulted in 54 students in the experimental group and 51 in the control group. The authors did not report if the subjects were randomly assigned or choose a group. The students in the control group received classroom instruction with 16 total hours of didactic lectures over four weeks. The students in the experimental group logged onto the Internet and completed a Web-based ECG learning program at their own pace and at times convenient to the individuals over a span of four weeks. The content was the same for the both methods of instruction.

Three instruments were used to collect data during this research study (Jang et al., 2005). The first, an 18-item questionnaire measuring satisfaction with the learning, was developed by the authors. The reliability of this tool was established with a Cronbach's alpha of .79. Jang et al. also developed the second tool, a learning achievement instrument designed to measure knowledge of ECG (45 items) and ability to interpret ECG recording (15 items). Reliability was measured using the Kuder-Richardson-20 formula. A score of .833 was achieved, which is adequate. A Korean version of Keller's (1987) Instructional Materials Motivation Survey (IMMS) was the third instrument used. Higher scores obtained with this tool indicated higher levels of motivation. A reliability coefficient of .87 was produced using Cronbach's alpha. The content validity of all three instruments was established by experts.

Results from the pretest showed there was no significant difference between the control and experimental group in ECG knowledge or ability to interpret ECG recordings (Jang et al., 2005). Posttest results revealed both groups had made significant improvement in both areas after completing the course. However, subjects in the
experimental group had achieved significantly lower ECG knowledge (mean = 33.5, SD = 4.2) compared to subjects in the control group (mean = 36.0, SD = 3.1; \( t = -3.527, p = .001 \)). Conversely, the subjects in the experimental group had significantly higher scores in ECG interpretation ability (mean = 9.1, SD = 3.1) compared to subjects in the control group (mean = 7.6, SD = 2.4; \( t = 2.839, p = .005 \)).

Jang et al. (2005) reported results of both the IMMS and the satisfaction questionnaire indicated no significant differences between the two groups. The experimental group's mean was 111.8 (SD = 13.1) and the control group's mean was 114.3 (SD = 20.1) in the motivation scale (\( t = - .779, p = .438 \)). The experimental group’s mean was 50.2 (SD = 5.6) and the control group's mean was 51.2 (SD = 14.2) for satisfaction with learning (\( t = - .484, p = .630 \)).

The findings of this study appeared to contradict the majority of previous research studies in which no significant differences were found in knowledge retention between students taught in Web-based and lecture-based courses. Jang et al. (2005) proposed some possible explanations for the reason the students in the experimental group gained less knowledge of ECG than the control group. First, "the design of Web-based teaching materials may influence what is learned" (p. 38), not the teaching methods. Secondly, more guidance from the faculty may be needed with Web-based instruction and this guidance was not provided during this study due to faculty time constraints. The authors also discussed why higher scores in ECG interpretation were achieved by the students in the experimental group. These results suggested "that the interactive Web-based learning
was effective, perhaps because of its visual stimulation and flexibility” (p. 38). The authors concluded that Web-based instruction may be more effective for students' learning of some topics, face-to-face lectures more effective in other topics, and in some cases, learning may be more effective with a combination of both methods.

Frith and Kee (2003) believed the type of communication used in instruction affects nursing student outcomes in web-based courses. The authors compared different instructional communication methods for students’ cognitive learning, satisfaction, and motivation to complete a course offered by WebCT. Three hypotheses were developed by the researchers. These were:

1. Students in a mixed conversation Web-based course will learn more than students in an internal only conversation Web-based course.
2. Students in a mixed conversation Web-based course will be more satisfied with the course than students in an internal only conversation Web-based course.
3. Students in a mixed conversation Web-based course will have higher course completion rates than students in an internal only conversation Web-based course (Frith & Kee, 2003, p. 352).

The subjects (N = 174) were taken from students enrolled in an undergraduate nursing program who had completed anatomy and physiology and who had access to email and to the internet. Any student could participate in this study from any location as long as they had a computer that was connected to the internet and met the other criteria. The students were required to have Netscape version 3.0 or higher or Internet Explorer
version 4.0 or higher. Nursing students already holding their RN degrees were excluded. The sample was divided equally into two groups of 87 students each (Frith & Kee, 2003).

Frith and Kee (2003) used a posttest only, control group experimental design. The experimental group and control group were both given a six week Web-based course on cardiac rhythm interpretation. The content was the same for both groups but the instructional design formats differed. The control group received an internal conversation method only in which the students completed the course activities independently by reading the course instructions, answering practice questions, responding to case studies, and taking self-tests. Faculty only responded to the students’ questions about the course content or technical difficulties. No further conversation was given by faculty other than to instruct the student to start the next unit. The experimental group received a mixed conversation method which included both the internal conversation and external conversation methods. In the external conversation, the students had more interaction with faculty and with other students. These students worked together on the case studies and used online chats to discuss the course concepts. Faculty were more involved with the experimental group by participating in the online chats, scheduling online office hours, and responding to students in discussion forums. Both groups of students had midterm and final exams. All students had access to technical help by either toll-free telephone or email and to an online tutorial that was listed on the Web course site.

Frith and Kee (2003) used several instruments to measure the study variables. One tool was a demographic questionnaire requesting information about the students’ age, gender, type of nursing program, cumulative grade point average, experiences with
email and the Internet, and previous distance educational experience. A midterm exam and final exam were also utilized. Both of these instruments were multiple choice examinations measuring cognitive learning. Each exam consisted of 40 items. The reliability of the midterm was .71 and the final examination was .79 with Cronbach’s alpha. Another instrument, Allen’s Attitude Toward Computer-Assisted Instruction differential scale, measured students’ satisfaction with Web-based instruction. The reliability of this tool was reported as .85 with Cronbach's alpha by Allen. The authors also measured the number of students completing the course by using statistical options available in the WebCT software.

Results from the study showed no significant difference in cognitive learning between the two groups. Means for the midterm examination were 84.78 (SD = 6.94) in the experimental group and 85.17 (SD = 7.17) in the control group ($F = 1.115, df = 2, 73, p = .33$). For the final exam, the means for the experimental group were 83.05 (SD = 11.10) and 81.91 (SD = 9.78) for the control group ($F = .602, df = 2, 73, p = .55$). There was no significant difference in completion rates between the experimental and control groups when analyzed by Pearson chi square ($\chi^2 = 1.832, df = 3, p = .608$). Completions rates were 40% for the control group and 46% for the experimental group. However, significant differences were found in satisfaction levels between the two groups. The experimental group had a mean of 85.74 and students in the control group had a mean of 80.29 ($t = 2.171, df = 60, p = .006$) (Frith & Kee, 2003).

Frith and Kee (2003) concluded that students who had more interaction with faculty and peers in a Web-based course were more satisfied because this yielded
"feelings of personal relation between the instructor and students and among the students" (p. 356). This led to greater enjoyment of the learning experience. The authors further concluded that, because the way students interacted in Web-based courses was fundamentally different from the way students interacted in face-to-face courses, faculty teaching online should carefully plan communication strategies in order to enhance student satisfaction (Frith & Kee, 2003).

**Student Perceptions of Online Learning**

Research examining the area of distance education has also focused on how the online delivery format was being perceived by students. Robley, Farnsworth, Flynn and Horne (2004) believed faculty have been more focused on the educational environment and technology of online learning than the impact this teaching method may have on the students. The purpose of this qualitative study was to “understand from baccalaureate-degree nursing students the experience of virtual learning in nursing and how online education enhanced and detracted from learning” (Robley et al., 2004, p. 333). Phenomenology was the approach used in this research.

Twenty-seven baccalaureate-degree students in four online nursing courses from the School of Nursing at Kennesaw State University participated in the research. Students were recruited by making announcements in class, by giving personal invitations to all students enrolled in online classes, and by posting information throughout the school of nursing. The students had an opportunity to select one of three focus groups. At the time of the study, 20 of the participants were seniors and seven were juniors. Students included two African-American women, one African-American man, one European-
American man, one Asian-American woman, and 22 European-American women (Robley et al., 2004).

Focus group discussions were held in a room that provided privacy. The discussion was facilitated by a qualitative researcher who was unfamiliar with Web-based education. This researcher used an unstructured, open-ended interview technique. Each session of the focus groups was recorded on audiotape and then transcribed word for word. Robley et al. (2004) reported that names and identifying information were deleted from the transcriptions in order to protect the rights of the individuals. Analysis of the data was completed by Ricoeurean hermeneutic phenomenology. The interpretation of the sessions continued with a “three-step” structural analysis (Robley et al., 2004).

Seven major themes were identified from the narrative (Robley et al., 2004). Five were positive. The first was identified as “making the framework” (p. 335). The students referred to the preparation by instructors as a framework for learning. Subthemes under “making the framework” included “providing flexibility,” “enabling students: observing, guiding and modeling,” “faculty as facilitators,” and “questioning as method” (p. 335). The second major theme was labeled “building incredible dialogue” (p. 337). The subthemes were “having great discussions,” “sharing ideas/knowledge,” and “not being inhibited” (p.337). Students were expressing an appreciation of the open dialogue with each other and faculty that led to learning from each other. The next major theme was “critical thinking: the 3-D effect” (p. 337) which included skills of thinking, writing, and nursing facilitated by the online method of learning. “Sitting with the words,” “using references/research,” “seeing a variety of perspectives,” “critiquing self and others,” and
“using selective language” (p. 337) were the subthemes. The researchers identified a fourth major theme to be “personal and professional growth” (p. 337). Students felt learning online led to a better understanding of the profession and of themselves. The subthemes were “intimate relationships,” “feeling valued and respected,” and “being connected” (p. 337). “More comprehensive learning” was the fifth major theme with subthemes of “deeper understanding” and “better retention of knowledge” (p. 338). The students verbalized that learning in the online courses seemed deeper, better remembered and more comprehensive than in traditional classroom settings.

In contrast, two negative major themes also emerged from this study: “being overwhelmed” and “being frustrated” (Robley et al., 2004, p. 338). The nursing students expressed feelings of being overwhelmed by the requirements of the online courses and by the level of intensity in the class. Frustration was generated by the large volume of messages to be read, the lack of regular feedback about progress and grades, the occurrence of technology failures, and testing that did not assess what was learned in the web-based course.

Robley et al. (2004) concluded that the best metaphor to explain the experiences of students learning online was that of "building or creating a structure where learning took place" (p. 339). Building was a cooperative effort by students and faculty. Faculty provided the framework, but the students completed the building by interacting with each other. The authors determined while online learning can provide for good opportunities for students to connect with others and the subject matter, this format may also distract from learning through poor communication and inappropriate learning activities. Robley
et al. believed the results of this study have revealed a need for faculty development, course activity redesign, and standardization of methodology in online education.

In another study, Fearing and Riley (2005) delved into graduate nursing students' perceptions of the online delivery format. The purpose of this research was to examine the students' perceptions of the faculty, the asynchronous format, the effectiveness of assignments, and faculty-student interactions. The researchers also studied how perceptions were related to learning styles. This was a descriptive study based on constructivism theory.

Participants of this study were recruited from six online nurse educator courses at a Mid-western university school of nursing. This recruiting resulted in a convenience sample of 28 graduate students. All of the students were female and working at least part-time. The mean age was 40.6 years, with a range of 25 to 53 years. Half of the students (N = 14) reported not having taken any previous online courses. In a self-assessment of ability to use the computer, the majority of students (71.5%) chose intermediate, 18% reported beginner, only one student reported advanced, and two students did not answer the question (Fearing & Riley, 2005).

Fearing and Riley (2005) used three instruments in this study. One was a seven-item demographic survey to determine general characteristics of the sample. The second was the Free Assessment Summary Tool (FAST). This instrument, developed by a sociology instructor at Mount Royal College in Canada, was adapted by the researchers to evaluate students' perceptions of online learning and teaching. FAST consisted of 15 Likert-scaled items and a sixteenth item that allowed students to type in comments. The
Likert scale consisted of 1=Excellent, 2=Very Good, 3=Acceptable, 4=Needs Improvement, and 5=Unacceptable. Students were requested to complete the survey at midterm and again at the end of the 16-week semester. The third instrument was the VAK Learning Styles tool. This 25-item survey determined whether each student's dominant learning style preference was visual (V), auditory (A), or kinesthetic (K). The authors did not report the reliability of instruments used in the study.

The FAST survey mean scores for the 15-item Likert scale ranged from 1.19 to 2.20. Midterm scores tended to be more negative than the final scores. None of the survey items had mean scores in the "needs improvement" or "unacceptable" categories. The most negative mean scores (2.20) were given to the survey item "professor communicated clearly and effectively online." The highest mean score (1.19) was given to the statement "professor treated students with respect." Three other items that scored highly were: "professor organized course content efficiently" (1.36), "professor was knowledgeable" (1.36), and "the asynchronous format provided me flexibility to meet my learning needs" (1.25) (Fearing & Riley, 2005, p. 387). Comments obtained in the sixteenth item were categorized by the authors into eight areas. Three areas that received the most comments were: "praised the active learning promoted by these courses" (N = 14), "ongoing communication is essential" (N = 11), and "ongoing interaction among students and faculty was beneficial" (N = 9) (Fearing & Riley, 2005, p. 388).

Results from the VAK learning style survey showed 46.4% of the graduate students were Kinesthetic learners (N = 13), 14.3% were Auditory (N = 4), and 7.1% were Visual (N = 2). The remaining 5 students were combination learners: 3.5%
Visual/Auditory, 14.3% Auditory/Kinesthetic, and 14.3% Visual/Kinesthetic (Fearing & Riley, 2005).

Fearing and Riley (2005) concluded the students generally had positive perceptions of the online course format. The convenience of being able to complete assignments in the individual's timeframe was an important motivator. Other areas of importance to the students included specific guidelines and instructions for course assignments and relevant feedback from faculty in a timely manner. The researchers were surprised at the low percentage of students who reported visual or visual-kinesthetic learning preferences because of the nature of online courses. Fearing and Riley theorized that students took online courses because of convenience and would devote the time and energy needed even if the course was taught in a less preferred learning style.

In a similar study, Thiele (2003) also focused on students' perceptions of online courses. This author believed this instructional delivery format caused changes in the way students learned. Two purposes were listed: "to determine factual learning of the course content" and "to determine perceived changes in the online learners" (p. 365). There were two parts to this research study. In the first part, learning outcomes of online students were compared to learning outcomes of traditional classroom students. In the second part, students' perceptions of online learning were examined.

The subjects of this study were baccalaureate nursing students who completed a research and informatics course during two consecutive semesters. There were 64 students in the online classes and 42 students in the traditional face-to-face classes. Students in the online classes also had three face-to-face sessions: an introduction to the
course, a question-and-answer class, and one for student presentations. The rest of the online course was conducted in an asynchronous format (Thiele, 2003).

Thiele (2005) used two types of instruments. The first, a multiple-choice examination, was administered to both groups of students to measure learning of the course content. The test items were 80 percent identical for the two groups of students. Students in the traditional classroom had 50 minutes to complete the examination which was proctored by faculty. Students in the online course were permitted to take the examination using a home computer at a time convenient for the individuals during a week-long time period. The reliability of this instrument was reported to be .71 per a Kuder-Richardson formula. The second type of tool was administered to the online students only and consisted of two open-ended questions which were:

1. How did you change as a learner through involvement in the asynchronous, Web-based course?

2. How well did this format encourage your participation in the course? (p. 365)

The students in the Web-based course had a mean score of 90 on the examination and the students in the traditional classroom obtained a mean score of 70 (Thiele, 2003). Although it appeared the online group learned more, Thiele thought the substantial difference in the two methods of administering the examination must be considered. The researcher suspected students in the online course may have treated the examination as an open book test and obtained the correct answers before submitting the responses.

In the second part of the study, Thiele (2003) found students responded to the first question about changes as a learner with two major themes. First, most of the students
(91%) wrote comments signifying "they learned to be independent in learning" (p. 365). Second, many students also indicated their way of thinking about learning had changed by being more open to other ways of learning, by learning to trust their judgment and by being more on task. In response to the question about the ability of the online format to encourage participation, four major positive themes emerged:

1. the course format increased students' participation in the course (88% of students),
2. the convenience and flexibility of the course were advantages (25% of students),
3. prompt feedback from the instructor was crucial to students' learning,
4. the regular use of e-mail increased students' ability to communicate effectively. (p. 365)

Thiele found only seven negative comments. Six of these had the same theme of students missing the face-to-face classes and the social interaction with other students.

Thiele (2003) believed the lack of control over the method of administering the examinations in this study would not permit definite conclusions to be drawn about learning outcomes and called for further research in this area. However, this researcher concluded the results of the second part of the study showed that the role of faculty and instructional design of online course were important, especially in the areas of providing prompt feedback and facilitating student communication. In addition, Thiele concluded faculty must provide "the resources, motivation, and questions that stimulate learners to seek their own answers" (p. 366) in order to promote student success in learning online.
Faculty Perceptions of Teaching Online

Faculty must make a transition from real-time in the classroom to virtual-time when teaching online. Faculty who teach online courses often report needing additional training, increased technical support services, and additional preparation time for Web-based courses compared with traditional classroom instruction. Pachnowski and Jurczyk (2003) examined the perceived added responsibilities of faculty who were teaching distance learning courses in both video-conference and online formats. The purpose of this study was to determine faculty's perception about technical support, equipment, training, and additional preparation time needed to teach in a distance environment and if faculty reported the same additional responsibilities after teaching a course repeatedly. The researchers also wanted to investigate whether the faculty would require the same support services, the same encouragement, and the same financial support after repeated semesters of teaching the same course.

All faculty teaching distance education courses at a large Mid-western university were sent questionnaires at the end of three consecutive semesters. After the end of the first semester, 21 out of the 32 faculty responded (65.6%). After the second semester, 17 out of 26 faculty responded (65%). After the third semester, 13 out of 54 responded (24%) (Pachnowski & Jurczyk, 2003).

The survey instrument was developed by one of the authors of this study (Pachnowski & Jurczyk, 2003). This instrument consisted of three subscales and a demographic section. The first subscale used six items to measure perceptions of the faculty toward the instructional technology and the support staff. The second subscale
contained nine items to measure faculty perceptions of the effect of the distance learning environment on preparation time. The last subscale contained six items to measure the effect that the distance learning environment had on the teaching/learning process. A content validity check was completed on the instrument by two department heads.

Results from the first subscale showed that faculty perceived the technology equipment and support staff as either good or fair except for the web-based course management system (Pachnowski & Jurczyk, 2003). The majority of the faculty reported that there was down time associated with the system. In the second subscale, 20 percent of the faculty reported needing 0 to 5 extra hours for preparation due to technology, 15 percent reported 5 to 10 hours, 10 percent reported 10 to 20 hours, 5 percent reported 20 to 30 hours, and 50 percent reported more than 30 hours. By the third semester, 69 percent reported needing 0 to 5 additional hours, 15 percent reported 10 to 20 hours, 15 percent reported 20 to 30 hours, and no one reported needing more than 30 hours. The results of the demographic part of the survey showed that faculty perceived less encouragement of the department chair after teaching distance education courses several times.

Pachnowski and Jurczuk (2003) concluded that faculty who begin to teach in distance learning will need more preparation time to transfer the traditional course into the alternate learning environment. After the first semester or two, the amount of additional time to teach online classes will decrease. However, about 30 percent of faculty continued to report spending an additional ten to thirty hours to teach the same course online as opposed to traditional classroom even after three semesters. The authors
also concluded that web-based instruction required more time than video-based instruction.

In a similar study, Christianson, Tiene, and Luft (2002) also explored the impact of the Web-based environment on teaching. The purpose of this research was to examine how nursing college faculty perceived and evaluated their Web-based teaching experiences. Christianson et al. addressed the following research questions:

1. How do faculty compare their online teaching experiences with their experiences teaching the similar subject matter in a conventional, face-to-face classroom?

2. What strategies do faculty teaching online utilize in Web course design, delivery, and evaluations?

3. What do online nursing faculty describe as their successes and failures in teaching a Web-based course?

4. What types of courses in an undergraduate nursing curriculum do online faculty consider being best suited to Web-based instruction? (p. 214)

Christianson et al. (2002) identified 316 undergraduate nursing faculty in a nationwide search who were either currently teaching an online course, or had taught one within the previous two years. All subjects were sent an electronic message asking for participation in the study and given directions to the research study Web site and survey location and 171 faculty responded by completing the survey.

Instruments used included a survey, which could be completed either online or as a print version, and phone interviews. The survey consisted of 76 items, most of which
used a 5-point Likert scale. The last item of the survey asked if the respondent would agree to participate in a phone interview. Of the faculty agreeing to participate, eight were randomly selected from four different categories of Web designs. In the taped interviews, faculty were asked to expand some responses to the survey, provide more detail about the online teaching experience, and discuss issues such as course design, pedagogical decisions, and teaching strategies. Reliability and validity of the tools were not reported by the researchers (Christianson et al., 2002).

Christianson et al. (2002) found that 80 percent of faculty reported devoting more than 30 hours planning online course work, while less than 50 percent of these same respondents reported devoting more than 30 hours planning traditional courses. With the survey items addressing teaching role, 69 percent agreed the online courses were more collaborative than traditional courses and 67 percent of faculty reported having greater ability to monitor student progress. Faculty also reported more interactivity between students (57%) and between students and teachers (70%) in the Web-based environment. The results of the survey about teaching format preference showed 47 percent preferred online, 27 percent preferred traditional, and 26 percent preferred a combination. Faculty found the instructional strategies to be effective online were case studies (90%), individual work (83%), and small group work (72%); not considered as effective were large group work (42%), lecture (31%), and cooperative work (7%). Most of the faculty (89%) felt that online teaching experience to be either successful or very successful and that many nursing courses are appropriate for online delivery. Two courses considered to be the most appropriate were nursing informatics (82%) and nursing research (80%).
During the phone interviews, Christianson et al. (2002) found faculty reported being more responsive to student needs and described the online teaching role as being more of a guide, coach, or mentor than "being the person who simply conveys information" (p. 218). Some faculty felt the online learning environment required more student participation and communication. Student communication was described as "more succinct and more egalitarian" (p. 220).

Christianson et al. (2002) concluded the majority of nursing faculty teaching Web-based courses perceived the online format was not only successful, but enjoyable, and the pedagogical challenges were being addressed effectively. The researchers suggested that faculty deserve additional reimbursement or release time to compensate for the additional time and effort required to teach Web-based courses.

Ryan, Hodson-Carlton, and Ali (2004) also conducted a study to explore the experiences of faculty teaching online. The researchers believed Web-based teaching presented a paradigm shift for faculty causing adaptation of teaching styles and instructional methods, and also a change in the faculty role. The purpose of the study was to describe the experiences of nursing faculty teaching online courses, "focusing on faculty role, pedagogies, and lessons learned" (p. 73).

The sample was recruited by asking directors of 12 schools of nursing with online nursing course to identify two to three nursing faculty to participate in a teleconference or phone interview. The inclusion criteria required that the participants taught a completely internet-based nursing course. Twenty faculty members from eight universities/colleges in the United States and Canada agreed to be part of the study (Ryan et al., 2004).
Interviews were conducted through using prescheduled teleconferences. Researchers used the same question format for each session based on earlier research by Diekelmann and colleagues. The themes from that study were: "losing familiar landmarks and touchstones, challenging conventional pedagogies, awakening new roles, learning from experience, and creating new pedagogies" (Ryan et al., 2004, p. 73).

Analysis of the data was completed by examining the responses of the participants line by line. Each researcher coded the data independently. This analysis resulted in a development of a matrix. The matrix had six categories: "addressing faculty role issues, redesigning/rethinking courses, handling communications, developing partnerships, managing time, and dealing with technology" (Ryan et al., 2004, p. 74). One core category was identified as being “faculty rethinking their role and redesigning courses, and presenting material in new and different ways” (Ryan et al., 2004, p. 74).

Ryan et al. (2004) concluded that the matrix depicted a relationship of dimensions that explain teaching online courses. The four dimensions were identified as antecedent conditions, context, strategies, and consequences. The results of this study indicated that support systems, technology partnerships, and policies should be in place before a nursing course redesign to the online format. The researchers also determined faculty experienced a paradigm shift in their philosophy of teaching.

Johnson (2008) also noted that the introduction of online education resulted in a significant change in the responsibilities and role of nursing faculty. This researcher believed nurse educators who were being asked to make a transition from traditional to Web-based teaching often had no experience in the development or teaching of online
courses. This transition challenged faculty to make changes in teaching strategies. The purpose of this study was to explore the experiences and reflections of graduate nursing faculty on the transition from traditional instruction to teaching in an online environment. A qualitative, phenomenological research design was used.

The setting for this study was a private college. Johnson (2008) used a purposive sample of 12 graduate nursing educators who had recently made a transition from teaching traditional to Web-based courses from one to ten years ago, with the average being 3.67 years. Total time of teaching experience ranged from three to 28 years.

Johnson (2008) utilized a guided interview questionnaire adapted from a study by Ryan, Hodson-Carlton, and Ali (2004). The instrument consisted of 12 open-ended questions about faculty's experiences during the transition to Web-based teaching. Additional questions were sometimes asked in response to answers given during the interview. The interview sessions lasted from 60 to 90 minutes. The researcher audio taped and then transcribed the interviews.

Using an inductive process, Johnson (2008) took 30 similar observations reported by faculty and identified five categories of findings. The categories were:

1. structuring and delivering course content,
2. faculty development,
3. student roles and responsibilities,
4. communication and relationships, and
5. the faculty role. (p. 18)
Johnson found under the category of structuring and delivering course content, the majority of faculty had to reformulate teaching and learning philosophies in order to teach in the Web-based environment effectively. Some found it difficult to let go of lecturing as a teaching strategy and to adjust teaching methods based on student understanding. Others voiced concern about the lack of face-to-face interaction and struggled to develop strategies to foster student participation. Many participants reported more time was needed to teach online while others described more of a restructuring of time. Most agreed that up-front preparation time to develop a Web-based course was greatly increased compared to traditional classroom. Under the category of faculty development, all participants found it challenging to learn how to develop and teach Web-based courses. Faculty reported it was helpful to collaborate with other experienced online educators and to also personally experience the online environment as a student. Faculty thought their own learning style preference influenced the ability to teach online.

In the category of student roles and responsibilities, all faculty in Johnson's (2008) study agreed that students in the online environment needed to assume more responsibility for learning. Most thought critical thinking was encouraged in this format. There was some disagreement among faculty about the ability to know students in the category of communication and relationships. Some faculty reported knowing the students better and others experienced more distance in relationships. All agreed that interaction with students was very important because the lack of interactivity could lead to students feeling isolated in Web-based courses. Under the category of faculty role,
Johnson found faculty all agreed their role changed in the online environment and some reported feeling anxious during the transition.

Johnson (2008) concluded nursing faculty experienced significant change in their role and teaching responsibilities during the transition from traditional classroom to Web-based courses. Most faculty did not feel adequately prepared to teach in the online environment. Faculty development is needed for nursing educators to make a successful transition. Participants in this study felt faculty who teach online for the first time should work with an educator who is experienced in this milieu. It was also determined two other experts were essential: a Web-based pedagogy expert, and a technology expert.

Ali, Hodson-Carlton, Ryan, Flowers, et al. (2005) conducted a study to determine the effects of changing from traditional classroom to teaching online courses. This study focused on the need for faculty development in making the role transition. The purpose of this research was to identify the level of perceived expertise of the nursing faculty involved in online teaching and the priorities of areas to be addressed in faculty development sessions.

All faculty in the College of Applied Sciences and Technology at a Midwestern university were asked to be participants in the study (Ali et al., 2005). Sixty-five responded to the invitation out of 190 faculty, that included faculty from the School of Nursing (N=20), the School of Physical Education (N=14), the Industry and Technology Department (N=14), the Family and Consumer Sciences Department (N=12), the Fisher Institute for Wellness and Gerontology (N=3), and the Military Sciences Department (N=2).
This study used a descriptive comparative survey design. The tools consisted of a demographic area and a three-part questionnaire (Ali et al., 2005). The survey was mailed to potential faculty subjects and returned through campus mail. The demographic section asked the name of the department or school, whether the faculty had taught online, number of semesters taught online, level of courses taught online, and the average number of students in online classes. The first section of a questionnaire had 20 items that covered six categories, which included: faculty role issues, redesigning/rethinking faculty roles, communication processes, partnerships, time issues, and technology issues. A 5-point Likert scale was utilized, consisting of Benner’s novice to expert categories. The second part of the survey asked faculty to rank order seven online educational categories for staff development. The third category consisted of open-ended questions about other online dimensions for further continuing education sessions.

The means and standard deviations of the first 20 items were reported. Results of the findings indicated that the means of all questions for faculty who had taught online were greater than the means for faculty not teaching online. Levene’s test for equality of variance was used to examine for significance of difference between staff who taught online and staff who did not. Seven of the 20 items were found to have significant differences. In the second section of the survey instructors were asked to rank order categories for continuing education. Redesigning/rethinking faculty roles was the highest in rank. Partnerships was the lowest ranked category (Ali et al., 2005).

Ali et al. (2005) concluded that there is a need for continuing education for faculty who teach online. Administrators in higher education need to be responsible for
ensuring that training, resources, web tools, institutional supports, and instructional
designs are available to faculty to provide for enhanced online teaching and learning.

The purpose of Ryan, Hodson-Carlton and Ali’s (2005) study was to validate the
Matrix for Faculty Teaching Online (2004). The model emerged from previous work that
was qualitative in nature. This later study was follow-up to confirm the validity of the
four dimensions of the matrix: antecedent conditions, context, strategies, and
consequences.

In the first round of the study (Ryan et al., 2005), a sample of 18 nursing faculty
from eight schools that participated in the original qualitative study were sent
questionnaires to confirm the interpretation of the data in forming the matrix. A second
sample of nursing instructors was recruited by identifying schools of nursing offering
online programs through the Web and asking the Deans to identify faculty who were
teaching online. In this national study, questionnaires were mailed to the Deans that
responded. A total of 68 faculty from 28 schools completed the questionnaires. All of
faculty taught online in master’s degree or RN-to-BSN programs. Demographic data was
also collected from the faculty about the type and level of course taught, number of
semesters teaching online, average number of students in the course, courseware, and
positive or unresolved issues in teaching online. About 40% had taught online for two to
four semesters and more than 50% had taught for five to six semesters.

A questionnaire, “Redesigning Pedagogy and Rethinking Faculty Role for Online
Teaching,” was developed to validate the dimensions of the matrix. This questionnaire
consisted of 56 items. The questionnaire was revised after a validation study and this resulted in 60 items with 15 subscales (Ryan et al., 2005).

The subscales under antecedent condition were support systems, use of technology to teach online, and policies for distance learning. Online curriculum, online environment, and adjusting time frames were concepts under the dimension of context of online teaching. The dimension of strategies for online teaching were rethinking faculty role/redesigning courses, collaborative/planning, developing online communication techniques, and maintaining/revising. The last dimension of consequences of online teaching listed the concepts of faculty adjustment, faculty role change, increased awareness of course, collaborative learning, and changing relationships with students. The participants in the study were asked to indicate whether individuals agreed or disagreed with each statement. There was also an opportunity for the respondent to express additional comments in an open-ended question at the end. The benchmark for including an item was 60% (Ryan et al., 2005).

The findings of this study (Ryan et al., 2005) showed agreement of greater than 60% for 54 of the 60 items. In the antecedent dimension, faculty strongly supported many of the items. Under the category of support systems, the results were administrative support (100%), online resources (97%), technology partnerships (92%), and faculty teams (65%). The subscale of use of technology to teach online listed these results: software/hardware (97%), technical skills (97%), and course management system (86%). The last category in this dimension was policies for distance learning and the results were: workload (94%), ownership (86%), and compensation (85%).
The findings from the context dimension under the subscale of online curriculum were: learning new pedagogies (95%), learning new role (91%), requires creativity (91%), requires high energy (90%). The next subscale was online environment. The results were: portable (97%), convenient (92%), comfortable (81%). The last category was adjusting time frames. The results were: expected by students (100%), expected by faculty (97%), and requires adjustment by faculty (87%) (Ryan et al., 2005).

In the strategies dimension the first subscale was rethinking faculty role/redesigning courses and the results were: using outside experts (99%), using critical thinking skills (98%), developing test security (84%), using trial and error (62%), and using graduate assistants (55%). The next subscale was collaborative/planning. The results were: faculty development (100%), faculty mentoring (100%), faculty team development (91%). Developing online communication techniques was the third subscale. The results were: engaging Web pages (97%), new and effective communication methods (91%), increased communication with students (90%), designing motivating media (83%), increased focus on reflective writing (81%), and acceptance of delayed response time (75%). The last category was maintaining/revising. The results were: prepare courses ahead of time (95%), update courses regularly (86%), deal with new technology and software changes (86%), revise courses each semester (73%) (Ryan et al., 2005).

Consequences of online teaching was the last dimension. Faculty adjustment was the first subscale under this dimension and the results were: flexible (98%), thoughtful responses (96%), delayed responses (73%), socially comfortable (72%), lacks spontaneity
(58%), socially isolating (33%). The results under the category of faculty role changed were: increased work load (85%), from authority figure to facilitator (85%), partnership/teams (60%). Increased awareness of course was the third subscale and the results were: design (97%), new ways to teach and learn (97%), content (91%), and outcomes (82%). The next subscale was collaborative learning. The results from this category were: increased challenges (100%), promotes responsibility for shared learning (97%), increase geographical diversity of students (94%), effective way of doing business (92%), creates a community of learners (87%), and increased cultural diversity of students (40%). The last subscale was changing relationships with students and the results were: take a different form (65%), miss face-to-face contact (58%), and know students better (52%) (Ryan et al., 2005).

Ryan, Hodson-Carlon, and Ali (2005), concluded that faculty have both positive and negative responses to online teaching. Faculty agreed that some aspects of the teaching role were unchanged and some were altered. There was a strong consensus that workloads increased with online teaching and that faculty-student relationships take a different form in this environment. Most instructors agreed that this mode of teaching is an effective way of doing business. The authors also concluded that the Model for Faculty Teaching Online was confirmed as a useful tool to guide the redesign of nursing courses for online delivery and to help instructors rethink the role as faculty. Additional testing of the model was recommended to provide further validation.
Summary

The rapid expansion of distance education has caused changes in the role and responsibilities of nursing educators. The Model for Faculty Teaching Online (Ryan, Hodson-Carlton, Ali, 2005) provides a theoretical framework and can be used to explain and describe the phenomena of faculty teaching online. As the number of online courses increased, researchers wanted to know if the quality of education received through the Web-based courses was equivalent to traditional classroom delivery. Leasure, Davis and Thievon (2000) found no significant differences in exam scores or final grades between students in traditional classroom and online sections. This study also looked why students chose to enroll in Web-based courses and found cost, convenience, and flexibility were reasons for selecting that format. In contrast, Jang, Hwang, Park, Kim and Kim (2005) found Web-based students were significantly better able to interpret ECG readings but had overall lower ECG knowledge scores than students taught in face-to-face classes. This study also found no significant differences in motivation or satisfaction with the classroom format between online and traditional nursing students.

Frith and Kee (2003) believed the difference in the way students interact in an online class and traditional classroom may affect student learning, satisfaction, and motivation to complete the course. In this research the effects of different types of instructional communication methods were examined. No significant differences were found in cognitive learning or completion rates but students in a mixed conversation group were significantly more satisfied. Robley, Farnsworth, Flynn and Horne (2004) focused on how students perceived online education enhanced or detracted from the
education experience and learning. This study found although students reported feeling overwhelmed and being frustrated with large volumes of messages to read, the students did report more comprehensive learning, critical thinking, personal growth, and incredible dialogue. Students also had generally positive perceptions of the online format in a study by Fearing and Riley (2005). Thiele (2003) also examined student perceptions of Web-based courses and found students thought the online format fostered greater independence in learning, increased participation and more communication. The students reported the convenience and flexibility of the course was positive but missed the social interaction found in a traditional classroom. This researcher also found significantly greater learning outcomes for the online students than traditional students.

In addition, researchers examined the perceptions of faculty regarding online education. Pachnowski and Jurczyk (2003) found faculty perceived more time is needed teaching Web-based than traditional courses. Increased time for planning and delivering online classes was also found in a study by Christianson, Tiene and Luft (2002). However, most faculty in this study considered their teaching experience to be successful. These faculty felt better able to monitor student progress and the majority preferred teaching online over traditional courses.

Ryan, Hodson-Carlton, and Ali (2004) believed faculty would need to discover how to adapt teaching styles, instructional methods, and new roles as distance education becomes more common in schools of nursing. In this study the researchers found faculty reported six categories of perceived difficulties related to online teaching. These categories were: faculty role issues, redesigning/rethinking, handling communication,
developing partnerships, managing time, and dealing with technologies. Johnson (2008) also thought faculty found it challenging to make a transition from teaching traditional face-to-face classes to online classes. This researcher discovered faculty reported experiencing a significant change in role and teaching responsibilities. Participants in this study thought working with experienced online faculty, web-based pedagogy experts, and technology experts was needed to be successful in teaching a first Web-based course.

Ali, Hodson-Carlton, Ryan, Flowers, et al. (2005) examined how the rapid increase of online education was affecting faculty needs for development. The researchers discovered no faculty in this study reported a perception of being proficient or expert in teaching online based on Benner's (1984) novice to expert scale. Faculty who had taught online perceived level of expertise was advanced beginner or competent. Faculty in this study thought redesigning/rethinking faculty roles was the highest priority for faculty educational development. Ryan, Hodson-Carlton, and Ali (2005) developed a Model for Faculty Teaching Online and confirmed the usefulness of this model in guiding course redesign for online presentation in a nationwide validation study.

In conclusion, this literature review has revealed that online education has had both positive and negative affects on students and faculty. Research is still needed to guide faculty in providing the best practices for teaching online classes. Theoretical frameworks provide a basis for conducting educational processes (Vandeveer, 2005). The Model of Faculty Teaching Online (Ryan, Hodson-Carlton, & Ali, 2005) provides a theoretical framework for nursing faculty. The purpose of this study is to further validate the Model and determine faculty perceptions of teaching online based on the Model.
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<th>Source</th>
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<tr>
<td>1. Leasure, Davis, &amp; Thievon (2000)</td>
<td>Researchers wanted to know if the quality of education received through online courses would be equivalent to traditional classroom delivery</td>
<td>Compare students outcomes in Web-based course to student outcomes in traditional setting, to examine reasons for choice of online versus traditional course Questions: 1. What are the differences in outcomes between students who complete N4062 via Web-based course delivery as compared to the traditional classroom setting? 2. What reasons do students use in choosing to enroll in either a WWW based or traditionally delivered educational</td>
<td>Framework not specified Concepts: Student learning outcomes, student motivation for selection of method of course delivery</td>
<td>66 undergraduate nursing students enrolled in senior level nursing research courses</td>
<td>Quasi-experimental</td>
<td>Survey of student characteristics, 3 multiple-choice examinations</td>
<td>No significant difference in exam scores or final course grade between students in traditional classroom and online sections, for online students: cost, convenience, &amp; flexibility were reasons for choosing that format, for traditional classroom students: perception of increased interaction, decreased opportunity for procrastination, immediate feedback, &amp; more meaningful learning</td>
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<td>Jang, Hwang, Park, Kim, &amp; Kim (2005)</td>
<td>Nursing students have difficulty understanding ECG through classroom lecture</td>
<td>Compare the effects of a Web-based teaching method with the effects of a traditional lecture method on student learning of ECG. Questions: 1. Is there a significant difference between the 2 groups in students' knowledge of ECG and their ability to interpret ECG readings? 2. Is there a significant difference between the 2 groups in students' perceptions of learning motivation &amp; learning satisfaction?</td>
<td>Framework not specified. Concepts: Student learning outcomes, motivation &amp; satisfaction</td>
<td>105 senior undergraduate nursing students in South Korea</td>
<td>Pretest-posttest Quasi-experimental</td>
<td>Learning achievement tool, Satisfaction questionnaire, Korean version of Keller's (1987) Instructional Materials Motivation Survey</td>
<td>No significant differences in motivation or satisfaction. Web-based students were significantly better able to interpret ECG readings but had overall significantly lower ECG knowledge.</td>
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The way students interact is different in Web-based courses than in traditional face-to-face courses. Faculty communication methods may affect student learning, satisfaction & motivation.

| Compare the effectiveness of different instructional communication methods in a Web-based course on students' cognitive learning, satisfaction, & motivation to complete the course. | Holmberg's (1977) theory of didactic conversation Conversation: Student learning outcomes, satisfaction & motivation; communication | 174 undergraduate nursing students | Experimental posttest-only comparison group | Demographic questionnaire, 2 multiple-choice examinations, Allen's (1986) Attitude Toward Computer-Assisted Instruction, WebCT's completion, attrition, & non-starting statistical option | No significant differences found in cognitive learning or in completion rates but students in mixed conversation group were significantly more satisfied. |
Little known about how online education affected the educational experience of nursing students  
To gain understanding of the experience of baccalaureate-degree nursing students in virtual learning  
*Questions:*  
1. What about the online nursing courses enhanced or detracted from student educational experience and learning?  
2. How has the experience with online education affected the student's future job or career?  
*Constructivism theory Concepts:*  
- Student perceptions, communication  
- 27 baccalaureate-degree nursing students  
*Ricoeurian hermeneutic phenomenology*  
3 focus group interviews using unstructured, open-ended questions  
Seven major themes emerged: making the framework, building incredible dialogue, critical thinking: the 3-D effect, personal and professional growth, more comprehensive learning, being overwhelmed, being frustrated

5. Fearing & Riley (2005)  
There is a gap in knowledge about the relationship of students' learning styles and their perceptions of  
To examine students' perceptions of online format, faculty, effectiveness of assignments & faculty-student  
*Constructivism theory Concepts:*  
- Student perceptions, learning styles  
- 28 nurse educator graduate students from a Midwest university  
*Typical descriptive study*  
Demographic survey, Free Assessment Summary Tool, VAK Learning Styles Tool  
Students generally had positive perceptions of the online format. The dominant learning style
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<th>online learning interactions and how these perceptions were related to learning styles</th>
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<td>6. Thiele (2003)</td>
<td>Little is known about how online courses affect learners and what factors contribute to student success</td>
<td>To determine perceived changes in the online learners, to determine factual learning of the course content Question: How do online courses affect learners?</td>
<td>Framework not specified Concepts: Learning outcomes, learner changes, student perceptions</td>
<td>64 baccalaureate-degree nursing students</td>
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<td>7. Pachnowski &amp; Jurczyk (2003)</td>
<td>Faculty perceived more development and preparation time was required to teach distance education courses than traditional classroom courses</td>
<td>To determine faculty's perception about technical support, equipment, training and additional preparation time needed to teach in a distance environment; and if faculty reported the same additional responsibilities after teaching a course repeatedly</td>
<td>Framework not specified</td>
<td>21 faculty teaching distance education courses during first semester, 17 faculty during second semester, 13 faculty during third semester</td>
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<td>8. Christianson, Tiene, &amp; Luft (2002)</td>
<td>Little is know about the nature of online experience from the point of view of faculty</td>
<td>To explore how nursing college faculty perceived &amp; evaluated their Web-based teaching experiences</td>
<td>Framework not specified</td>
<td>171 undergraduate nursing faculty who were either presently teaching an online course or had taught one within the previous 2 years</td>
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<td>9. Ryan, Hodson-Carlton, &amp;</td>
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<td>Ali (2004)</td>
<td>styles, instructional methods, &amp; new roles as distance education becomes more common in SON</td>
<td>teaching Web-based courses, focusing on faculty role, pedagogies, &amp; lessons learned Questions: 1. Is teaching/learning different? 2. If so, what are the changed elements? 3. How has the faculty role changed?</td>
<td>online courses in 8 universities &amp; colleges in the U.S. &amp; Canada</td>
<td>teleconference</td>
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<td><strong>10. Johnson (2008)</strong></td>
<td>Faculty found it challenging to make the transition from teaching traditional face-to-face classes to online classes</td>
<td>To explore graduate nursing faculty’s experiences with transition</td>
<td>Framework not specified</td>
<td>12 graduate nursing faculty of a private college who had recently made the transition from traditional face-to-face</td>
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<td><strong>11. Ali, Hodson-Carlton, Ryan, Flowers, et al (2005)</strong></td>
<td>Little known about how the rapid increase of online education is affecting faculty needs for development</td>
<td>To identify the level of perceived expertise of faculty in online teaching and the priority of areas to be addressed in faculty development sessions</td>
<td>Benner’s (1984) novice to expert</td>
<td>65 faculty from College of Applied Sciences &amp; Technology of one Midwestern university</td>
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<td><strong>12. Ryan, Hodson-Carlton, &amp; Ali (2005)</strong></td>
<td>The role of nursing faculty is being changed with distance</td>
<td>To validate Model for Faculty Teaching Online.</td>
<td>Grounded theory</td>
<td>68 nursing faculty from 28 SON nationwide</td>
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<td>education, bringing a challenge to design online courses based on best practices</td>
<td></td>
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<td>with statement in guiding course redesign for online presentation</td>
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Chapter 3

Methods and Procedures

Introduction

As the number of nursing schools offering online courses increases, faculty are making a transition from teaching in traditional classrooms to teaching Web-based courses. Faculty perceptions of teaching online may influence outcomes of learning. Ryan, Hodson-Carlton, and Ali (2005) developed a Model for Faculty Teaching Online to explain the dimensions of faculty teaching online and validated the model. The purpose of this study is to determine faculty perceptions of teaching online based on the model according to the major dimensions of antecedent conditions, context, strategies, and consequences, and to further validate the model. This chapter contains a description of the methods and procedures that will be used in this study.

Research Questions

1. What are faculty perceptions of teaching online?
2. Do perceptions of faculty support the dimensions of the Model for Faculty Teaching Online?

Population, Sample, and Setting

The population will consist of nursing faculty who teach online courses in baccalaureate nursing programs in five Mid-western public universities and colleges. The purposive sample will be 20 nursing faculty. Inclusion criteria will be: (a) nursing faculty
who teach in baccalaureate nursing programs, (b) must have taught at least one completely Internet-based nursing course, and (c) agree to participate in the study.

Protection of Human Subjects

This study will be submitted to the Ball State Institutional Review Board for approval in order to protect the subjects. No risks have been identified to any individual or institution involved in the study and participation is voluntary. With the return of a completed questionnaire, implied consent will be assumed. The participants will remain anonymous. An identification number will be assigned to each questionnaire and data will be reported utilizing this identification system. Permission to use the questionnaire will be obtained from the researchers who developed it. Benefits of this study include: findings will provide information for nursing faculty as nursing courses are redesigned for online delivery; and the Model for Faculty Teaching Online will be further tested for validity.

Research Design

The study will use a descriptive research design. Descriptive studies are commonly conducted when little is know about a phenomenon (Burns & Grove, 2005). The purpose is to gain more knowledge about a phenomenon in a natural setting and to examine characteristics of a single sample. In this study, information about the characteristics of the perceptions of nursing faculty occurring in a natural setting will be researched. The variables and their relationships will be identified and described in order to provide a picture of the phenomenon.

Procedures
After the study has been granted approval by Ball State University Institutional Review Board, the researcher will contact deans or directors of at least five Mid-western nursing schools that offer online courses in baccalaureate nursing programs. The purpose of the study, confidentiality, risks, benefits and voluntary participation will be explained. Permission to present the study in a scheduled faculty meeting will be sought. The deans or directors will be assured the presentation will take less than 15 minutes. After permission is obtained, the researcher will then visit the institutions and present the study before nursing faculty in order to solicit four or five volunteers from each school. Faculty who agree to participate in the study will be given a packet which will consist of a cover letter that explains the study, the instrument, and a self-addressed, stamped envelope. Participants will be requested to complete the questionnaire and place it in the mail within two days. The researcher will continue the process of recruitment until at least 20 questionnaires have been returned.

Instrumentation

The instrument will consist of two parts. In the first part, demographic data will be collected about the participant's age, type of nursing program (traditional RN versus RN-to-BSN), number of online courses taught, type of courseware being used, and average number of students in the course. The second part will consist of a questionnaire called "Redesigning Pedagogy and Rethinking Faculty Role for Online Teaching" (Ryan, Hodson-Carlton, & Ali, 2005). Permission will be obtained from the authors of the questionnaire for use in this study.
Ryan, Hodson-Carlton, and Ali (2005) developed the questionnaire to validate a matrix, the Model for Faculty Teaching Online. The matrix resulted from the authors' 2004 qualitative study that investigated experiences of nursing faculty teaching Web-based courses. The original questionnaire consisted of 56 items, divided into 15 sections, and an open-ended question for additional comments at the end. After a validation study with 18 faculty, the questionnaire was revised to 60 items.

The questionnaire addresses four dimensions of the matrix which are: antecedent conditions, context, strategies, and consequences (Ryan, Hodson-Charton, & Ali, 2005). Each dimension has three to five sections with two to five items under each section. Each item consists of a statement in which the subject is asked to indicate agreement or disagreement that the statement reflects the dimension being addressed. The first dimension of antecedent conditions has the sections of "support systems, use of technology to teach online, and policies for distance learning" (Ryan et al., 2005, p. 360). The sections of the second dimension of context are: "online curriculum, online environment, and adjusting time frames" (p. 360). The third dimension of strategies for online teaching includes the sections of "rethinking faculty role/redesigning courses, collaborative/planning, developing online communication techniques, and maintaining/revising" (p. 361). The last dimension of consequences includes the sections of "faculty adjustment, faculty role changed, increased awareness of course, collaborative learning, and changing relationships with students" (p. 362).

Instrument Reliability and Validity
The reliability of an instrument refers to the consistency of the measurement obtained in the use of the instrument (Burns & Grove, 2005). This means the instrument measures the same way each time it is utilized under the same conditions with the same subjects. Reliability occurs in degrees because "all measurement techniques contain some random error" (Burns & Grove, 2005, p. 374). The degree of reliability of the instrument will be determined by a test-retest method before use in the study. Ryan, Hodson-Carlton, and Ali (2005) do not report about the reliability of the questionnaire in the research article.

The validity of an instrument is a determination of the degree to which the instrument actually reflects the abstract construct being researched (Burns & Grove, 2005). Ryan, Hodson-Carlton, and Ali (2005) tested the validity of the questionnaire with 18 faculty who had participated in the original 2004 research study. As a result of this process, the questionnaire was revised.

Data Analysis

For each item in the questionnaire, the percentage of participants choosing agreement with the statement will be calculated. This calculation will be done by taking the number of agreement, dividing by the total number of participants completing that item, and then multiplying by 100. As in the study by Ryan, Hodson-Carlton, and Ali (2005), a benchmark of 60 percent will be used to indicate a consensus of agreement with item and validation of the dimension. Data will be organized in summary tables in order to present the information in a clear and concise manner.
The open-ended comments entered by participants at the end of the questionnaire will be compiled. This nurse researcher will recruit an experienced nurse researcher to assist in content analysis of this part of the data.

Summary

The purpose of this study is to examine nursing faculty perceptions of teaching Web-based courses and further validate the Model for Faculty Teaching Online. The sample will be 20 faculty from Mid-western universities and colleges. A descriptive research design will be used. The instrument will be a questionnaire developed Ryan, Hodson-Carlton, and Ali (2005). The percentage of faculty who indicate agreement with each of the items in the questionnaire will be calculated and a benchmark of 60 percent will be used to determine validation of the model. Open-ended comments by the subjects will be analyzed. The findings obtained in this study will be reported to nurse educators who could use the information to guide the presentation of nursing courses online.
References


