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University of Nebraska at Omaha

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**Computer-Mediated Communication in Online
Education:
A Case Study of Instructor and Student Experiences and
Perceptions in a Hybrid Online Course**

A Thesis

**Presented to the
School of Communication
and the
Faculty of the Graduate College
University of Nebraska
In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
University of Nebraska at Omaha**

by

Melodae D. Lane

November 2004

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THESIS ACCEPTANCE

Acceptance for the faculty of the Graduate College,
University of Nebraska, in partial fulfillment of the
requirements for the degree Master of Arts,
University of Nebraska at Omaha.

Committee

Jeremy H. Lipschultz

Holt F. Galt

Neal W. Jopp

Chairperson *Jeremy H. Lipschultz*

Date *November 16, 2004*

in Online Education:
A Case Study of Instructor and Student Experiences and
Perceptions in a Hybrid Online Course

Melodae D. Lane

University of Nebraska, 2004

Advisor: Dr. Jeremy Lipschultz

Abstract

Various surveys and literature reviewed identified the role of online education in growing number of institutions of higher education who have embraced it as an important factor in creating educational opportunities, particularly in the nursing field. Research was focused on theoretical concepts of interaction and socialization concepts in the study of CMC in the online learning community. This included the role of nonverbal communication, gender-related issues, and identity. This case study of a hybrid online communication centers on a course developed at a midwestern health sciences. It integrates both the student and the instructor points of view in terms of their needs, experiences, and available guideposts, in discovering strategies to use CMC effectively and fulfill expectations. The purpose of this study is to identify the aspects of CMC that are perceived by students and instructors to be most important and useful in enhancing communication in online education.

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Chapter I Introduction

Individuals and groups communicating electronically via e-mail, chatrooms, and bulletin boards have created new areas for study and research (Severin & Tankard, 2001). According to a 2002 research project conducted for the Pew Internet and American Life Project, about 113 million people (59 percent of Americans) had gone online: 93 percent of those with Internet access sent e-mail; 53 percent researched for school or training; 46 percent sent an instant message; 25 percent used a chat room or an online discussion; 9 percent visited an online support group; and 7 percent took a class online for college credit (Horrigan & Rainie, 2002).

Horrigan and Rainie (2002) indicated:

With the steady growth of Internet penetration, and the sometimes-fevered focus on the Internet's transformative potential, Americans have begun to expect a lot from the Internet (Horrigan & Rainie, 2002, p. 5).

Horrigan and Rainie stipulated several reasons for rising expectations about the Internet, one of which is the growing ranks of veteran Internet users. New Internet users go online expecting to find information that matters to them through trusted online sources and tools (Horrigan & Rainie, 2002).

Central to the Internet was the evolution of computer-mediated communication (CMC) in a variety of uses, which connected both technology and humans in the creation of new material applications and symbolic meanings through interactions. As a relatively new media, CMC contains a mixture of aspects from verbal, writing, and

electronic media. Culture is shared values or beliefs between individuals or groups of individuals that define the group's identity, and the symbolic interaction that occurs to change the shared elements and their meaning (Lindlof & Taylor, 2002).

Qualitative researchers have focused on three concepts in the study of CMC: identity, interactivity, and community. Identity involves ways of understanding and representing who the individual thinks he/she is and how they want others to perceive them. In CMC, users find the anonymity and reduced cues of the Internet as a way to alter, enhance, or disguise identity to manipulate relationships or create new experiences. In CMC, relationships are studied from an interactive perspective of how social information is processed. Since communication is central to the existence of the community, users interact virtually in interactive dialogue to distinguish themselves in specific groups (Lindlof & Taylor, 2002).

The concepts of identity, interactivity, and community in CMC have been researched in conjunction with online education. Barnes (2003) summarized educational uses of CMC. It is used in the traditional classroom, in online or distance education, in the electronic distribution of course materials, and on the Web as a research tool. Barnes also indicated that CMC can be placed into three overarching areas: conferencing (connecting people through CMC), informatics (using the computer as an information manager), and computer-assisted instruction (using the computer as a tutor). This thesis will focus on the conferencing aspect of CMC in online educational uses in order to explore instructor and student experiences and perceptions of how communication is created in an online environment. Through this exploration of communication, a better

understanding of how it can be used to enhance the online learning experience can be gained.

A study by Allen and Seaman (2003) reported that institutions of higher education have embraced online education. The study indicated that:

- Eighty-one percent of all higher education institutions offered at least one fully online or blended course.
- Complete online degree programs were offered by 34 percent of the institutions.
- Among public institutions, the numbers were even more compelling, with 97 percent offering at least one online or blended course and 49 percent offering an online degree program.
- Perhaps most telling, when asked about the role of online education for the future of their institution, 67 percent answered that it is a critical long-term strategy for their institution (The Allen & Seaman, 2003, p. 2).

The above passage illustrates that online education is on the rise in higher education from courses partially online to complete degree programs. And with online education slated as an important strategy for many institutions, it would appear that more could be learned about how online courses and programs can be effectively implemented in higher education.

Overview of Online Education Issues

Generally, Internet applications have made information more accessible through interactive environments and shared resources. Simpson (2003) indicated that the Internet

provides hands-on experiences for many people who would not otherwise have opportunities to obtain a higher degree. Online education allows students to spend less time in the traditional college classroom and more time in the convenience of their own homes.

There are many compelling concerns about online education, one of which is the quality of communication and learning outcomes in online courses as opposed to face-to-face courses. Allen and Seaman (2003) found that a significant concern was whether improvements in online education would be enough to compensate for the traditional in-class experience for students and encourage continued student enrollment in online classes.

Researchers indicated that awareness of student-to-student and instructor-to-student communication implications in a new medium may be valuable to help instructors identify their role in establishing more effective communication. Many CMC scholars suggested that online courses require more detail, planning, and structure than traditional courses in order to effectively engage and connect instructors and students in online education.

Nursing Student Issues

While CMC scholars have identified issues in communication found in online education, the impact of online technology has become more prevalent in nursing education (Simpson, 2002 and Kenny, 2002). For nursing students, online education can increase access, particularly for working students – whose numbers are growing in the nursing population. Nursing education is undergoing a significant change. These researchers

stressed the increasing need to integrate technology into nursing education as an additional resource, in the face of aging and retiring baby boomer educators. As Simpson stated: "...the 'virtual school of nursing' may have arrived just in the nick of time, just as the growing shortage of nursing educators hits academia" (Simpson, 2003, p. 83).

According to the American Association of Colleges and Nursing (AACN) (2003), the shortage of faculty in schools of nursing is an expanding problem. This is compounded by the increasing deficit of full-time master's- and doctoral-prepared faculty. The AACN (2003) reported the mean age of doctoral faculty has increased steadily since 1993, from 49.7 to 53.3 in 2002, and from 46 to 48.8 for master's faculty. The significance of faculty age, retirement timelines, and an inadequate pool of younger faculty, therefore, creates a shortage of future faculty. Simpson (2003) pointed out that nursing schools must change while adapting to collaboration, shared knowledge, and declining resources.

Researchers in the medical community also indicated the important focus of online education programs in turning out master's-degreed nurses in the United States. CMC is identified as an important contributing focus for institutions in facilitating online education. Various surveys and literature reviewed (Allen & Seaman, 2003, Simpson, 2002, Kenny, 2002) identified the role of online education growing in institutions as an important factor in creating educational opportunities, particularly in the nursing field.

There is evidence in the literature that addressed student and instructor perceptions of online education (Huang, 2002 and Poole, 2000). However, there is little in the literature to bring student and instructor points of view together to discover communication enhancements for the online learning experience.

Therefore, exploration of both nursing instructor and student perceptions in the online learning community and, in particular, the evolving role of computer-mediated communication, is crucial to discovering strategies for communicating effectively online. *Central to the problem is that student and instructors may not automatically know how to communicate effectively with each other online. Therefore, studying the nature and complexities of computer-mediated communication (CMC) is essential in establishing integrated strategies for effective instructor-student interaction in online education.*

Purpose of Study

The researcher's interest in the role of communication in online education and began with a former position held with an international training company. In 1997, the researcher was charged with the task of converting traditional classroom-based training to an online environment. The organization was an early-adopter of converting training to the Internet and therefore, guidelines for creation of content and structure for courses were limited. There was recognition early on in the process that course exercises involving interactivity and communication with an instructor or online "coach" would be an important part of making the training work. The courses that were ultimately designed, therefore, evolved to include these points of CMC.

As a student of communication in a master's program, previous work in this area has led the researcher to the belief that the quality of relationships formed through CMC is crucial in making online learning come to life. Individual characteristics also have an impact on how much or how little communication a learner will need in the online experience, thus affecting their perception of online learning.

There is particular interest in the role of CMC in contributing to health care education. The growing need to educate health care workers in all sectors is prominent, and in particular, there is a need to turn out well-educated master's-degreed nurses to teach and also serve in advance practice and business settings. Therefore, a case study including graduate-nursing students is important in uncovering how relationships formed through CMC to create a more meaningful experience. If this can be accomplished, better ways may be found to encourage other nurses to pursue advanced education.

Therefore, the purpose of this study is to identify the aspects of CMC that are perceived by students and instructors to be most important and useful in enhancing communication in online education. For example, perhaps the extent and frequency of instructor feedback to students on assignments is perceived to be important. Another example, is the quality and frequency of student-to-student interactions. The implications of this study could be useful for educators in the assessment of and continuous improvement in graduate nursing programs in online education.

This thesis will first review relevant literature regarding CMC in online education. Next, the body of literature will be critiqued on the basis of what has been achieved thus far and what gaps still exist. Suggestions for future research will be significant in forecasting real-world applications for the nursing community. The creation of more effective instructor-to-student and student-to-student interactions online can impact the quality of the online education experience.

Chapter II

LITERATURE REVIEW

In the review of relevant literature regarding online graduate student and instructor experiences and perceptions of CMC and online education, seven broad areas will be presented: 1) the theoretical framework; 2) the manifestation of online interactivity; 3) the role of nonverbal communication; 4) gender-related communication; 5) student perceptions of interactive online communication; 6) the instructor role in CMC; and 7) CMC in higher education and the nursing community.

It should be noted that there are two terms used to refer to instruction via the Internet. The two prevalent terms used in the literature are the older term, “distance education,” and the newer term, “online education.” The AACN (2000) defines distance education as a set of teaching or learning strategies to meet the learning needs of students outside the traditional classroom setting, requiring that teachers and learners be separate from each other. Some of the earliest distance education courses were provided via television broadcasts and cable television feeds. The range of distance education technologies include a variety of content-delivery methods, including audio telephone conferencing, audio and video taped lectures, e-mail, CD-ROM, and Internet-based programs. These may also complement traditional classroom instruction.

Online education is the use of the Web to distribute individual course materials, such as reading assignments and class discussions. This term is also used somewhat synonymously with distance education in the use of both asynchronous (communication that allows participants to read messages at different times, such as in a discussion group)

and synchronous (exchange of messages online in real time) forms of CMC. In these scenarios, students meet virtually to discuss course material (Barnes, 2003).

Both terms, distance education and online education, are used in this literature review.

Theoretical Framework

There are several theoretical frameworks that apply to CMC and online learning. Many of the theories focus on learner-instructor interaction (Bannan-Ritland, 2002). These are grounded in overarching theories of interpersonal communication, which Griffin (2003) defines as the continual process of using verbal and nonverbal messages with another person to create and alter cognitive images. Griffin likens this to the game of charades in which cooperation occurs in the transaction (Griffin, 2003).

Three types of theories emerged in these contexts: sociocultural; social cognitive, and transactional distance.

Socio-cultural Theories of Interaction

McLoughlin and Oliver (1998) discussed learning as a communicative social process.

Essentially, socio-cultural theory provides a context-based communicative perspective on teaching and learning.

Learning is culturally influenced as social rather than an individual process (McLoughlin & Oliver, 1998, p. 127).

It is possible to contrast three theoretical perspectives on computer-based education learning processes. Behaviorists promote individual instructions and feedback, drill and practice. Constructivists deal with individual, discovery-based, and generalizable skills. The socio-cultural approach stresses a collaborative learning environment characterized by social laddering, interactivity, and reflectivity (McLoughlin & Oliver, 1998).

Social interaction and peer presence are important predictors of task-related interaction and a higher order of learning. In addition, the authors argued that the socio-cultural theory of learning is the most appropriate for online learning because it emphasizes that learning takes place in a social context, language use is essential to learning, and learners need support and assistance to learn. McLoughlin and Oliver (1998) stressed that learning around computers is a social activity where learners collaborate and share resources.

Dysthe (2002), Jarvela and Hakkinen (2002), and Guitierrez et al. (1999) presented research that is also supportive of the collaborative learning environment and grounded in a socio-cultural view:

The important point here is that individual learning cannot be separated from the ways the larger learning context is organized.

The goal, then, is to create rich zones of development in which all participants learn by jointly participating in activities in which they share material, sociocultural, linguistic, and cognitive resources (Guitierrez, et al., 1999, pp. 87-88).

Dysthe (2002) also used the socio-cultural framework. CMC is grounded in an understanding of learning as negotiated, situated, and mediated through dialogue. She argues that Web-mediated discussion creates a high learning potential for participants writing in an asynchronous context. This is also referred to as a discussion list.

Dysthe also discussed some important implications, including concepts of dialogicality and multi-voicedness; the dual function of texts, factors contributing to dialogic interaction; and learning potential in reading, “lurking,” and responding (Dysthe, 2002, p. 350).

Jarvela and Hakkinen (2002) indicated that in asynchronous communication the participants must establish what is “mutually known” in order for messages to be formulated appropriately with the meaning of messages constructed. This is difficult, the researchers explained, when groups and individuals come from different contexts and countries to work on a project.

Social Cognitive Theories

The second major theoretical approach is social cognitive theory. In a study completed by Bandura (2001), this theory is explored extensively:

Social cognitive theory provides an agentic conceptual framework within which to analyze the determinants and psychosocial mechanisms through which symbolic communication influences human thought, affect, and action. Communications systems operate through two pathways. In the direct pathway, they promote changes by informing, enabling, motivating, and guiding participants. In the socially mediated pathway,

media influences link participants to social networks and community settings that provide natural incentives and continued personalized guidance for desired change (Bandura, 2001, p. 265).

At the heart of Bandura's study is the idea that people are "self-organizing, proactive, self-reflecting, and self-regulating shaped by environmental events or inner forces" (Bandura, 2001, p. 266). He also indicated that symbolic modeling is central to a fuller understanding of the effects of mass communication and the social cognitive theory. His model includes four aspects: attentional, retention, production, and motivational processes (Bandura, 2001).

Scott (2002) and Thomas (2002) both take a cognitive approach in offering models for the study of communication in online learning. Thomas (2002) pointed to the creation of a cognitive process shaped by ideas, having them criticized and elaborated on, and being able to reshape them in the course of peer discussion. Scott (2002) focused on the context of becoming an effective learner: asking "laddering" questions; establishing conversation reflecting on experiences; and creating conversations about the purposes of learning (Scott, 2002, p. 22).

Transactional Distance Theory

Huang (2002) studied student perceptions in an online mediated environment. She was guided by M.G. Moore's theory of transactional distance, identifying numerous variables of interaction, course structure, and learner autonomy (Moore, 1991, as cited by Huang, 2002). Huang's study extended Moore's approach (Moore, 1993a, as cited by Huang,

2002) discussing three types of interactions in online communication: “Learner-to-instructor, learner-to-learner, and learner-to-content” (Huang, 2002, p. 416).

Barnes (2003) also discussed the idea of transactional distance stating that a circular model of human communication is transactional. Understanding the meaning of messages depends on the assumptions and the knowledge of the receiver, as well as the context in which the communication occurs. This more clearly represents a reciprocal two-way interaction. Barnes elaborated on the variable of shared experiences as being central to CMC because participants are geographically dispersed. In addition, participants must work to establish commonality to be successful in CMC.

Each of the theories reviewed pointed to a varying degree of interactivity in online education as an important element. CMC interactivity takes on many different forms in online education between students and instructors.

Manifestation of Online Interactivity

The National Education Association (NEA) acknowledged interactivity as one of the 10 standards for quality education. A survey of online learning in higher education indicated that faculty view traditional courses and online learning courses as equal in developing student interactivity (NEA, 2000, as cited by Alesandrini, 2002).

CMC scholars have identified interactivity between the instructor and student online as essential in enhancing online education. And, according to McIsaac, et al. (1999) the instructor has an important role in creating an interactive environment. Interactivity, as identified by scholars is a central feature and the “single most” important activity in an online course (McIsaac et al., 1999, p. 122).

Scholars also point to the two-way flow of communication and feedback as an important factor in allowing communicators to regulate the flow of messages. Barnes argued that interactivity is manifested to different extents in CMC and in the different “genres” of CMC (Barnes, 2003, p. 20). These genres are e-mail, mailing list/discussion groups, bulletin boards/forums/newsgroups, real-time (or synchronous) chat, instant messaging, multi-player games, and Web pages. Interactivity enables both senders and receivers to exchange points of view. Barnes further categorized the genres into groups of interpersonal interactivity, informational interactivity, and human computer interaction (HCI). E-mail, discussion boards, and chat fall into interpersonal interactivity. Informational interactivity involves locating information and using forms. Finally, as Barnes indicates, HCI is the way users become involved with computer technology.

The above definition of interactivity is essential to understanding the role of CMC in online education and in the examination of the literature. CMC scholars indicated that interaction in online education is needed to keep students involved in learning. Rafaeli and Sudweeks (1998) explained that interactivity is a process-related construct about communication, with the extent and outcomes of interactivity being engagement and sociability.

Although interactivity is a crucial variable in online education, Banan-Ritland (2002) found that it is not well defined. Multiple definitions and interpretations exist, which create confusion in the conceptual understanding of the construct, as well as the interpretation of results. This is seen in numerous studies with different perspectives regarding interactivity and how CMC tools are incorporated. Eveleth and Baker-Eveleth

(2003), Poole (2002), and Alavi (1994) used various models for collaboration or interaction in their research.

Banan-Ritland (2002) examined the Gunawardena et al. (Gunawardena et al., 1997, as cited by Banan-Ritland, 2002) model of interaction as it related to a constructivist perspective. This research showed that learners move through five phases of interaction: 1) sharing/comparing of information; 2) discovery and exploration of dissonance or inconsistency among ideas, concepts, or statements; 3) negotiation of meaning and/or co-construction of knowledge; 4) testing and modification of proposed synthesis or co-construction; and 5) phrasing of agreement, statements, and applications of newly constructed meaning. This model took into account the importance of the student's active involvement and collaborative participation. For example, the student becomes involved in the content, participates in the discussion, interprets meaning from statements and ideas, and asks questions from the instructor or others involved in the discussion in such a way that they can construct knowledge from the newly constructed meaning as they move through the phases. Thus, learning is collaborative and learner-focused.

Poole (2002) also focused on the concept of learner-focused actions in moving through interaction. Poole discovered that, despite the availability of a chat feature, students did not choose to arrange live conversations with their classmates. Instead, they preferred a more time-independent communication initiated through the bulletin board and e-mail, leaving more time for synthesis and testing of understanding. The study concluded that courses designed for flexible student-focused participation maximize the CMC learning environment.

Alavi (1994) examined the root of collaborative learning using interactive group decision support systems (GDSS). These systems emphasize the importance of active learning and critical thinking skills through the process of goal-oriented construction of knowledge, cooperation and teamwork, and learning through problem solving. Data analysis indicated that ,overall, there was a more positive reaction to the collaborative online environment than a manual collaborative process (Alavi, 1994).

Eveleth and Baker-Eveleth (2003) stated that online collaboration provided an opportunity to create learning communities, develop relationships among students, and minimize feelings of isolation. They offered a model drawn from available literature for defining behaviors associated with dialogic and collaborative online interaction:

1. Questioning to gather information or clarify previous statements.
2. Checking comprehension through restating or paraphrasing.
3. Contributing insights or information to the conversation.
4. Statements of respect, honoring, personal connection.
5. Statements that shared understanding or agreement are emerging.

(Eveleth & Baker-Eveleth, 2003, pp. 228-229).

The above studies appear to promote the concepts of student-centered involvement in learning that affords the individual the opportunity to move through phases or stages in participation to understand and create meaning through collaborative interaction.

The Role of Nonverbal Communication

Many of the studies reviewed elaborated on ideas of collaboration, cooperation, and the exchange of ideas in the CMC environment. This section of literature focuses on the

role of nonverbal communication traditionally associated with what one can observe in a face-to-face manner. Nonverbal communication is examined as a contributor to how students perceive the quality of CMC.

The review of relevant literature in CMC included nonverbal behavior and education. Two general areas of nonverbal communication and the nuances related to CMC are reviewed: 1) language and nonverbal interactivity online, and 2) patterns of nonverbal interaction in online education.

Researchers of nonverbal communication, such as Richmond and McCroskey (2000), indicated students actively use nonverbal communication in the context of traditional classroom discussion. Examples are varying attention, speeding up the rhythm of speech, and vocal outbursts. Nonverbal communication can be used for a specific purpose such as disrupting the lesson to annoy the teacher or to gain peer acceptance. Research indicated that this same type of behavior can be manifested in online education.

Language and Nonverbal Communication

Richmond and McCroskey (2000) explained that, since the first caveman, most nonverbal communication occurred in the presence of spoken words and sounds. This evolved from the groan to a common code that was understood by others. Just as language is a code, emblems, as a type of gesture, are solely dependent on nonverbal behavior. Two examples of coding systems are American Sign Language, which evolved for the hearing impaired, and telegraphic Morse code.

With the Internet, a new form of code has evolved in chat rooms, e-mails, and discussion groups. Barnes (2003) described the way people use the computer keyboard

creatively to invent linguistic and graphic forms of expression. According to Barnes, people playfully invent emoticons, such as the smiley face, :), to help foster computer-mediated exchanges. Several studies reported the significance of emoticons arising from the absence of verbal and visual cues (Wolf, 2000; Fox & Roberts, 1999; Waskul & Douglass, 1997; and Allerton, 1996).

Waskul and Douglass (1997) argued that people do engage in meaningful interaction online and communication of emotion is an important aspect. Emoticons give participants a vehicle for communicating contextual and emotional/feeling cues, and therefore participants support them as experientially real in a social context.

Researchers indicated that nonverbal communication can be present in both the physical and online classroom. In the physical classroom, the combinations of verbal and nonverbal cues create social meaning. In chat and discussion groups, emoticons provide context communication for the interaction.

Patterns of Nonverbal Interaction in Online Education

Richmond and McCroskey (2000) pointed out that early research on communication in the classroom was focused on the verbal aspects between teacher and student. Woolfolk and Galloway (1985) indicated that nonverbal research could be a rich resource for information regarding studies in classroom communication. This may be expanded to current paradigms that guide aspects of online teaching.

Woolfolk and Galloway (1985) suggested that both individual and interpersonal exchanges can take place simultaneously or independently in classrooms. Students and

teachers make inferences about others' feelings and attitudes by observing nonverbal behaviors.

CMC researchers argued the importance of nonverbal communication in the education experience whether it is on-campus or online.

In an online course study, MacKinnon (2000) found that electronic discussion groups were successful, but not intended to replace face-to-face discussions. Albeit closely related, face-to-face discussions operated under different dynamics and assumptions. In the process of finding a way to assess interaction in the discussion group, MacKinnon (2000) used a number of categories of specific interaction as the basis of evaluation. These included: acknowledgement of opinions (evidence of participation); question (thoughtful query); compare (similarity, analogy); contrast (distinction, discriminate); valuation (unsubstantiated judgement, value); idea to example (induction, conclusion), clarification, elaboration (reiterating a point, building on a point); use and effect (inference, consequence); and off-topic faulty reasoning (entry inappropriate).

The above research sets the stage for understanding how nonverbal communication occurs online. Woods (2002) and Furst-Bowe and Dittman (2001) argued that the role of the teacher is important in the online setting in order to coordinate or moderate dialogue and encourage interactivity. How that relates to the absence of nonverbal behavior becomes even more important to learner perception. Woods (2002) found students in each of the treatment groups responded favorably to the instructor's personal exchanges. Similarly, Furst-Bowe and Dittman (2001) found that

communication with the instructor was one of five general categories of women's needs in online education.

Garcia and Jacobs (1996) studied the importance of students and instructors participating in turn-taking in online discussion. In oral communication, Garcia and Jacobs (1996) explained, individuals do not have the luxury of necessarily editing or revising their message in progress as they are speaking; their nonverbal cues may be saying something different. In contrast, CMC participants can edit their messages before posting and revise a message-in-progress to respond to messages that are coming in while they are constructing the next message for their turn.

The Garcia and Jacobs (1996) study seems to illustrate what Richmond and McCroskey (2000) noted: Communication is not a linear process. Not all verbal communication (whether written or spoken) produces the same outcome as perceived and processed by receivers within contexts. Therefore, different receivers will interpret messages differently. There are numerous types of nonverbal messages that can be sent either intentionally or unintentionally.

Baym (1996) discussed the impact of environment and time and CMC. Individuals working online do not necessarily share a common in-person or real time context in face-to-face interactions and it represented the greatest difference between writing online and oral interaction. Due to the potential of changes in meanings over time, writers cannot assume that the intended recipient(s) will have read the intended messages. McKenna and Bargh (2000) and McQuillen (2003) found that nonverbal cues in CMC can lead to a greater control over time and pace of interactions and can also reduce the level of stress associated with the need to respond efficiently and quickly.

Having reviewed studies of communication theory, interactivity, and nonverbal implications in CMC, the next section reviews additional student-related impacts such as gender, which also intertwine with these aspects.

Gender-Related Communication

According to the literature reviewed, there are a number of student-related characteristics that can be measured as variables in relationship to student activity and interaction in the online learning environment. Several studies (Zafeiriou, 2001; Carswell, 2000; and Fishman, 1999) discussed variables of age, gender, personal attributes, learning style, communication apprehension, socioeconomic status, academic-self-concept and computer access and readiness.

Tayton (2000) elaborated on what the older, non-traditional college student can bring to the university environment. For example, they bring deeper life experiences, while maintaining a balance between family life and studies. She indicated that women taking their place in the university have caused a major paradigm shift in educational perspectives traditionally defined by male dominance.

Particular studies (Furst-Bowe & Dittman, 2001; Sullivan, 2001; Tauplin & Jegede, 2001) focused on gender-related CMC issues in interaction, receptiveness to distance-learning, and overall satisfaction.

Furst-Bowe and Dittman (2001), as a result of focus groups, identified women's needs in distance learning communication. These included communication with the instructor, interactions with the other students, technical assistance, support services, and personal support of family.

Sullivan (2001) found significant differences between the way male and female students identified the strengths and weaknesses of the online environment. Some examples are for females are flexibility, lack of face-to-face interaction, shy and quiet students, self-discipline, and self-motivation. The study produced evidence that online courses are of greater value to non-traditional and female adult learners with children or other family responsibilities, than to others.

While much of the literature suggests some consistent findings about factors affecting student achievement, Tauplin and Jegede (2001) suggested that there is still more to be learned about the impact of various variables such as motivation, study approaches, and support systems for all students.

This section of literature is focused on gender-related issues in CMC: 1) gender and CMC technology; 2) gender and language; and 3) gender and identity.

Gender and CMC Technology

As Zafeiriou (2001) pointed out, there are a number of issues surrounding participants in online learning environments, as discussed by both educators and curriculum designers. This study also indicated a number of student factors, which either promoted or inhibited online group participation. These included familiarity with computers and software, familiarity with the subject, typing skills, group size and attendance, level of interest, and perceived technical problems.

Shade (1997) provided a “gendered” perspective on access to technology (Shade, 1997, p. 33) which examined access issues for women. Specifically, Shade explored the problems with the gendering of computer technologies in design, language, and social

practices that have emerged around computers in the workplace, in academia, and in popular culture.

In a historical perspective of gender and technology issues, Clegg (2001) examined the evolution of gender, education, and computing. This researcher reported that the lack of early participation by females is significant. Secondly, she pointed to schools as a major site for gendered meanings in the ways in which computers were introduced into schools. Clegg indicated the idea of computing was forged from a power base in science and mathematics, one that women were not initially attracted to. In contrast, the relationship between education, computing, and the concept of lifelong learning has grown through the re-entry of women into the workforce and pressure for parents to become computer literate.

Keller and Cernerud (2002) analyzed students' perceptions in relation to gender, age, previous knowledge of computers, attitudes to new technology, learning styles, and implementation at an online university. One conclusion of the study was that the implementation strategy of an online education system plays an important role in influencing the student perceptions. For example: greater management support; additional user participation; identification of the complexity of new technology; and identifying the role of project management during implementation (Laudon & Laudon, 1998 as cited by Keller & Cernerud, 2002).

Gender and Language

Soukup (1999) examined gender differences in relationship to interactions and language used between men and women. Online applications such as electronic mail, bulletin

boards, chat rooms, and user groups offer unique communicative qualities that offer a “radical shift” from traditional views of communication processes (p. 169). He argued that mediated context dramatically alters presentation, nature, and construction of verbal codes, feedback patterns, and development of intimacy (Soukup, 1999, pp. 169-170).

In relating language and gender to CMC, a study by Barrett and Lally (1998) used a content analysis of online dialogues to investigate learning and socio-emotional behavior within this community. That data suggested that men and women took different roles in the online learning environment. Most significantly, the cognitive content of online contributions was found to be similar, but the social and interactive behavior was significantly different. The long-term aim of the research was to identify and explore the ways in which the potential of CMC may be used to develop social and academic interaction between students and tutors. Women make shorter, more interactive contributions than men in their messages, including references to previous contributions. The research suggested that relationships within the online educational community may be significantly influenced by gender.

Gender and Identity

Contradictions of personal identity in CMC interaction are reviewed in this section. In pre-modern societies, Barnes (2003) discussed, identity was “fixed, solid, and stable”. In contrast to this, modern identity is “mobile, multiple, personal, self-reflexive, and subject to change.” (p. 177). She also stated that scholars have conflicting opinions about the influence of the Internet on individual representation of their identity (Barnes, 2003).

Richmond and McCroskey (2000) indicated that some messages contradict, dispute, counter, or are in conflict with the verbal. Several researchers (Blake, 2000; Freeman, 2000; Hawisher, 2000; Waskul & Douglass, 1996) discussed contradictory issues of hidden or altered identity and anonymity aspects of the Internet, especially in chat rooms and discussion groups. Freeman (2000) described this concept as “virtual masquerade parties” (p.10). Blake (2002) described this similarly as a “masked ball” (p. 190), while Waskul and Douglas (1997) described “cyberselves” as “disembodied performances” (p. 388).

Hawisher (2000) discussed issues of identity in relationship to how women use personal images to connect with one another. As a part of her study, a listserv called women@waytoofast was constructed as a forum to discuss women’s portrayals of themselves. It was originally concerned with verbal online experiences women encountered. What emerged indicated that women represent themselves visually, using keyboard symbols and then talked of dress and appearance. This evolved as “faces,” “picts,” or “e-art” (pp. 544-545).

Researchers studied the contradictions that come online with the written word and the identity behind it. As Waskul and Douglass (1997) pointed out:

In on-line chat environments any potential self is possible, and anyone can present him or herself as being anything. Categories of personhood—race, gender, socioeconomic status, age, physical appearance—all become pure labels, symbols to think and interact with, not within (p. 388).

Waskul and Douglass (1996) also discussed that “cyberselves” are sometimes intentionally different from selves that define normal daily lives, while others strive to find a “true reflection” of “who the person is.” (p. 388). This, they indicated, is a continuous process.

In the online classroom environment, some researchers noted the benefits of this identity masking in relationship to instructors. As Blake (2000) indicated, individuals know nothing of each other’s voice or appearance, unless they have exchanged photos.

McKenna & Bargh (2000) uncovered that, unlike the traditional classroom experience; physical appearance and visual cues are not present as influential factors on the Internet. Relationships are formed sight unseen, fostering those that never would have begun in real life.

Grubner’s (1999) study on “cyber feminism” analyzed online “voice” (p. 200). It studied an African American woman’s online personalities and presence in a college class and how her online contributions to a cyber community of peers influenced the group’s perspectives on violence and gender issues.

Gunn (2003) pointed to the evolution of research of CMC and gender. Her research summarized gender-related issues identified by international research and academic practice through supporting case studies. She suggested a redefinition of the discourse on CMC to be more gender inclusive.

In summing up this section of the literature review, Barnes (2003) captured the main idea that, although modern society makes it acceptable for individuals to select different roles, they have been defined by social norms. In the new postmodern

technological society, however, changes in roles alter the way we interact. Therefore, gender appears to matter in online interaction.

Student Perceptions of Interactive Online Learning

The next studies discussed measurements student of perceptions in CMC. Two areas of research will be covered: 1) Perceptions of student-to-instructor communication; and 2) Perception of student-to-student communication.

Perceptions of Student-to-Instructor Communication

Northrup (2002) indicated retention of students to online course programs as a key issue. Students' perceptions of their experiences with CMC are essential in understanding what is important and how to keep them involved in online learning. According to Northrup, interaction, conversation and collaboration, interpersonal cues, and support in CMC are important variables in examining communication in online education. Findings indicated that students have an expectation of feedback from instructors and collaboration with both peers and instructors for creating a sense of community. Further, Northrup elaborated that it is important for instructors to employ varying use of audio-narrated lectures, timely responses, guides, and discussions in the online curriculum.

McIsaac et al. (1999) suggested interactivity as the most important element of a well-designed online education course. In examination of student perceptions, lack of immediate feedback from the instructors was a major factor in contributing to the student disconnect and feelings of isolation. This directly relates to the amount of time spent in

dialogue as an important issue relative to what students are looking for from instructors. In addressing this, the authors argued that the instructor is essential in providing three main functions: 1) dialogue with students; 2) time spent on class preparation; and 3) teaching style and course structure.

Alesandrini (2002) indicated that the effectiveness of online learning has been evaluated, in part, by measures of student satisfaction, student interaction, and opinion surveys. However, the researcher argued, opinion surveys are somewhat limited. Online learning enables types of interaction not possible with other forms of media.

Several studies pointed to instructor effectiveness as a key component of student satisfaction with online learning. Most of the research on student attitudes toward CMC in education is described in the transactional distance model for instructor-to-student and student-to-student interactions, which encourage reciprocal discussions (Furst-Bowe & Dittman, 2001; Mayzer & Dejong, 2003; Woods, 2002).

Woods (2002) discussed whether more frequent delivery of instructor-initiated personal e-mail, outside of required discussion formats, would result in a more positive student perception of the online community and overall learning experience. He found that students across all groups in the study reported having a positive faculty/student relationship, a strong sense of online community, and being very satisfied overall with the learning experience.

As Beard and Harper (2003) point out, although there are distinct advantages to online education, the perceived communication disadvantages exist in the absence of strong interaction and less personalization due to the distance element. They found that

instructors often fail to use all CMC opportunities available to them through various software applications.

De Fazio, Gilding and Zorzenon (2000) studied both asynchronous and synchronous communication tools. They found that CMC should be monitored and moderated carefully by teachers working collaboratively to facilitate student-learning competence. This approach can assist in personalizing the online environment for the student experience. The researchers found that this type of facilitated communication appeals to students. It gives them time to reflect on issues, created their responses, and “self correct” their messages in a more meaningful way. (De Fazio, Gilding and Zorzenon, 2000, pp. 7-9).

A study by Northrup (2002) investigated the types of interactions that students perceived to be important for online learning. These included content interaction, conversation and collaboration, intrapersonal/metacognitive skills, and need for support. Data were collected through the use of the Online Learning Interaction Inventory (OLLI). In this study, online learners echoed the importance of interaction by requesting more interactive elements in their online experiences. For example, they indicated their preferences for instructor use of audio lectures and note-taking guides.

The personalized instructor approach is identified by Muirhead (2002) as “meeting student learning needs” (p. 1). He argued that online teaching is an art and a science in contributing to the student experience, and setting the “emotional tone” for computer-mediated interactions (p. 3). He suggested that instructors and students share personal and professional data, share stories, give positive comments, and that instructors should be flexible with students’ assignments.

Perceptions of Student-to-Student Communication

Student-to-student interactions in online education are important. Several studies found a strong need for timely responses from peers and spontaneous responses from their instructor (Northrup, 2002; Goldsmith, 2001; Zafeiriou et al., 2001; Johnson et al., 2000; Carswell, 2000).

Goldsmith's (2001) qualitative study of 400 responses from students enrolled in 72 online courses offered by 15 different institutions examined students' attitudes towards online learning. The results suggested that students recognized the importance of flexibility, thoughtful communication and interaction. They responded positively to active learning and interaction among students.

Maushak and Ellis (2003) reported on a study from the Iowa Distance Education Alliance Project to assess student attitudes about their experiences in Iowa Communication Network (ICN) classrooms. It showed that distance education is more suited to older student orientations, which may be due to a lower need for peer interaction (Sorenson, 1997, as cited by Maushak & Ellis, 2003, p. 129).

Zafeiriou et al. (2001) adopted a qualitative approach. The paper discussed students' perceptions of the conditions affecting participation in online group interaction: quality and quantity. Quality was based on criteria of content contribution, provision feedback, and relevance of the topic. In addition, there was a connection between frequency of contribution and the emergence of dominant individuals in the group environment.

Muirhead (2001) cited Burge's 1994 investigation with two online graduate education classes using in-depth interviews with 21 Master of Education students and two of their instructors. The results indicated the following model of expectations that students have about communication from their peers:

1. Participation- Share different perspectives, demonstrate application of knowledge, risk-sharing tentative ideas, and show interest in the educational experiences of other students.
2. Response- Provide constructive feedback, respond to questions without being repetitive, be a dependable small group member, share positive remarks with others, and actively participate in relevant dialog.
3. Affective feedback- Use students' names during coursework, provide a sense of community or belonging to others, show patience, offer compliments, and encourage a learning atmosphere that is affirming and supporting.
4. Focused messaging- Use concise online statements and avoid excessive messages that do not contribute to learning within the group. (Burge, 1994, as cited by Muirhead, 2001, pp. 3-4).

Instructor Role in CMC

All of the literature emphasized the importance of the instructor in the normal discourse of online education. Relevant literature reviewed for this section is grouped into the following areas: 1) instructor perceptions; 2) importance of the instructor in directing

online interaction; 3) instructor sensitivity to the communication needs of the individual; and 4) instructor use of CMC tools and course design to promote interaction.

Instructor Perceptions

From the instructor perspective, the McIsaac et al. (1999) study showed that instructors taught differently online, different forms of communication were used, such as e-mail, message posting, and chat, with more time was spent in online class as opposed to the traditional classroom. Overall, this affected course structure and their perception of their own effectiveness. The study also found that instructors brought their own communication style and backgrounds into the design and structure of the course.

Woods (2002) indicated that a lack of frequent communication online with students from instructors may be the result of variables such as the level of instructor computer literacy, resistance to online education, increased workload and class sizes, and different philosophies about online communication.

Mitra et al. (1999) conducted a longitudinal study of instructors in their attitudes and adoption of the use of e-mail for the purpose of communicating with students. The study found that instructor expectations about the anticipated use of technology were related to the actual use of e-mail for communicating with students in the course of teaching. The researchers found that instructors who perceived that technology plays a positive functional role in improving the instructional process were also among those who felt that e-mail could function effectively and appropriately as a communication tool for interacting with students.

Schrum and Hong (2002) studied what faculty members know about how to assist students in succeeding in online education. They were asked to identify dimensions of strategies that they use to ensure student success. They defined seven dimensions: 1) student access to computers for the ability to join discussion; 2) students who were inexperienced with computers were disadvantaged online; 3) learning styles were important for those who had trouble reading online assignments and multiple teaching methods were employed; 4) students must have control over study habits and be prepared; 5) students need to be motivated; 6) lifestyle factors affect completion of assignments; and 7) personal characteristics can make it difficult to assist them.

Importance of the Instructor in Directing Interaction with Students

Relevant literature points to the importance of the instructor in directing online interaction seen in two different contexts of sociocultural and social cognitive.

Jarvela and Hakkinen (2002) and Dysthe (2002) used a theoretical approach in defining the importance of interaction in online education. Dysthe argued that in the sociocultural context learning is negotiated and mediated in dialogue, creating a higher learning potential for the students. Dysthe extended this to concepts of interaction patterns and engagement, factors influencing the level of dialogue of the discussion, postings, and the contributions of multiple students within the course.

Dysthe pointed to the importance of instructor involvement in creating opportunities for dialogic texts in online education and concluded that there is a need to develop both instructor and student awareness of and opportunities for engagement.

Jarvela and Hakkinen (2002) echoed the emphasis of interaction patterns and the role of the instructor in relationship to student performance in the online learning environment. The objective was to explore how students can gain knowledge progressively by using varying degrees of perspective taking within online dialog. The authors argued that improved learning outcomes are dependent on the instructor efforts and skill and offering perspectives online.

Shea (2003) indicated the importance of discourse facilitation, including areas of agreement and disagreement; seeking to reach consensus and understanding; encouraging, acknowledging, and reinforcing student contributions; setting the climate for learning; drawing in participants and prompting discussion; and providing ways for students to communicate to faculty.

Instructor Sensitivity to the Needs of Individuals Participating in Online Education

Researchers examined the differences in experiences for students. Some dealt with issues of external factors such as computer support services, feedback from the instructor on support needs and a need for greater flexibility due to work and family issues. Other researchers suggested that intrinsic factors, such as self-motivation and self-discipline and a need for interaction with the instructor may be more significant for females. (Huang, 2002; Sullivan, 2001; Furst-Bowe & Dittman, 2001; Tauplin & Jegede, 2001).

According to Furst-Bowe and Dittman (2001), women, in particular, return to college for career advancement, earning power, and personal fulfillment. These researchers examined some of the external barriers for succeeding in online education.

Female participants were easily frustrated with technology-related problems of the courses they were enrolled in. A key finding was that, although schools offering technical support to students varied, they relied on communication with the instructor in answering their technical questions

Researchers found a strong need for students to balance work and family with schoolwork. And, although online education addresses this need in offering greater flexibility, it also offers some challenges in communication for students and instructors. Challenges include technical problems software glitches and slow transmission speeds. Other challenges include lack of institutional support for online courses such as no administrative support during off-hours and little support for advising or other services. There was also a lack of general support for non-traditional students and in-particular females (Furst-Bowe & Dittman, 2001; Sullivan, 2001).

Tauplin and Jegede (2001) indicated that those female students who were identified as “low achieving” were more likely to study at home during the week rather than the at office (p. 150). The implications of this are environmental issues, which may be detrimental to study.

Researchers also uncovered internal factors influencing student needs, which are important for online instructors to understand. Tauplin and Jegede (2001) found that high-achieving males and females were intrinsically motivated by personal reasons of self-satisfaction rather than career advancement. This finding was most significant for women. They also found that high-achieving women were most likely to seek help and form study groups and the least likely to try to solve personal problems of test anxiety.

Researchers found that interaction with peers and the instructor was significant to both males and females (Sullivan, 2001; Furst-Bowe & Dittman, 2001; and Perreault, et al., 2002). Sullivan's research indicated that online interaction was more personal or intimate than traditional classroom interaction. However, the lack of face-to-face interaction was a drawback to the online environment and more significant for females than males. Sullivan's study suggests that female students may feel the lack of interpersonal interaction more strongly than males.

Similarly, Furst-Bowe and Dittman (2001) found that participants missed the discussions associated with a traditional classroom. However, they found a need to participate more in online discussions than in the traditional classroom.

Other researchers reported that a lack of face-to-face interaction with the instructor and other students outside of class time to be associated with feelings of "disappointment" (Perreault et al. 2002, p. 313).

Research indicated a need for instructors to understand issues of work and family, especially for females, driving the need for the flexibility of the online medium. Results suggested that the instructor needed to increase interaction and feedback to students in answering their questions about the course and CMC tools (Furst-Bowe and Dittman, 2001; Sullivan, 2001; Northrup, 2002). Tauplin and Jegede (2001) found that instructors should encourage individual study strategies for students such as the formation of study groups and external support from family and friends for help with personal problems. According to Perreault et al. (2002) instructors should employ multiple means of addressing the student need to feel engaged through e-mail, discussion boards, the telephone and online office hours.

Instructor Use of CMC Tools and Course Design to Promote Communication

Scholarly research providing guideposts and models for instructors regarding their teaching strategies and use CMC tools for students is somewhat limited. However, three studies were found that identified issues with instructor in their ability to actively use of strategies to promote interactive communication with and between students.

Smith, Ferguson and Caris (2002) interviewed 21 college instructors who taught in both classroom and online formats to study the differences in teaching from the instructor's point of view. This research pointed to issues of bandwidth limitations and the asynchronous nature of communication within the courses. Moreover, with emphasis on interactive writing online rather than face-to-face, instructors communicating with students online can be very different. Accordingly, these researchers pointed to implications of course design:

They cannot use their presence and their classroom skills to get their point across. Nor can they use their oral skills to improvise on the spot to deal with behavior problems or educational opportunities (Smith, Ferguson & Caris, 2002, p. 63).

As a result of the difference between classroom and online communication, Smith, Ferguson and Caris (2002) suggested the use of new tools to convert and post assignments as text documents. Accordingly, they also suggested that course design must include clear directions for students in logical and all-encompassing ways. The researchers pointed out that instructors must spend more hours creating the perception for students that the instructor is there and responsive to them. This included the instructor

presence in online threaded discussions, adding online guests in their classes, and posting articles within the system.

Brown (2003) discussed the importance of collaboration between faculty and course designers in impacting the student learning experience. A comprehensive set of faculty and student surveys from five groups was conducted. Results suggested that systematic course design processes improved students' opportunities for interaction with peers and students.

Instructor Readiness in Active Use of Strategies to Promote Interaction

Much of the research that dealt with instructor perceptions or issues suggested that there is a gap between the application of the technology for use in education and instructors' adoption of the medium. Several researchers (Brown, Myers & Roy, 2003; Smith, Ferguson & Caris, 2002; Perreault et al., 2002; Schrum, 2000) discussed issues associated with instructor readiness and in their ability to actively use strategies associated with CMC in online education.

Researchers indicate that many instructors have never taught online before and naturally feel "trepidation" (Smith, Ferguson & Caris, p. 61). These researchers pointed to the student recognition of initial anonymity in discussion threads creating more equality online between students and instructors. This leaves instructors with the feeling that their authority has been diminished and that their ideas are debated and challenged more. They also argued that instructors should be reassured of the learning potential for students and the "academic integrity" of this as a teaching environment (Smith, Ferguson & Caris, p. 67).

Mitra et al. (1999) completed a five-year longitudinal study at a university beginning with the implementation of computerized educational objectives. Using surveys, Mitra ascertained that instructors used e-mail at varying levels to interact with students. The users were more positive toward the use of computers and had less apprehension about use. On the other hand, the non-users were more apprehensive and less comfortable with computers. The results indicated that younger faculty members were associated more with frequent e-mail use than older faculty.

The research conducted by Perreault et al. (2002) indicated that instructors often found problems with reliability and support for the use of technology on their campuses. In addition, the need to adapt teaching styles to online formats that foster communication was an issue. The researchers discussed a need for instructors to become more familiar with technology by having more opportunities to use and experiment with the CMC technology outside of the classroom.

Brown, Myers, and Roy (2003), Shea (2003), and Perreault et al. (2002), all cite training as an important solution to this issue, in that instructors, curriculum designers, and technology support professionals should be teamed to optimize means for creating challenging and supportive CMC learning environments.

Gutierrez (2000) argued that CMC needs to be grounded in pedagogical principles that encourage faculty/student reciprocity and cooperation in the use of active learning strategies, the prompt attention to communication, and the understanding of diverse learning styles, supported in a transactional distance environment.

CMC in Higher Education and the Nursing Community

The AACN (2003) reported that nursing is experiencing workforce depletion in practice and in higher education. The Division of Nursing of the U.S. Department of Health and Human Services projected that 114,500 full-time jobs for RNs will go unfilled (National Advisory Council on Nurse Education and Practice, 1996, as cited by AACN, 2003).

With the limited pool of qualified instructors at the baccalaureate and graduate level, the AACN indicated the use of technology might provide a way to increase the number of faculty-qualified nurses to support practice as well as education.

Hinshaw (2001) argued that nursing schools need to develop and evaluate new strategies for countering the shortage of nursing faculty. One of these strategies included the retention of productive senior faculty, offering new experiences and challenges.

The AACN (2002) detailed factors that need to be addressed by nursing administrators and institutions in order to take advantage of the use of technology in nursing education. Some of these included national planning for communication integration, coordination of technology services and resources, attention to teaching strategies, and examination of increased competition among institutions who have online education technology.

CMC use in nursing education is on the rise as a way to increase student and instructor collaboration and to maximize resources. Several researchers, (Beller & Or, 1998; Campos, 2001; Kumari, 2001; Schrum, 2000) have traced the evolution of CMC in online education to what it has become today. Campos (2001) highlighted a move from “peripheral-collaborative” to “basic-collaborative” activities occurring in the classroom (p. 49). This study suggested instructors are integrating conferencing technology into

their teaching in more creative and dynamic ways by combining online and face-to-face interactions.

Similarly, Kumari (2001) argued that integrated information technologies provided opportunities for faculty to re-think resources available to them. For example, virtual guest speakers or experts were used in graduate courses through Web-based conferencing. They found that students were responsive to the additional interaction with guests, free of time and place constraints.

Schrum (2000) reported on a pilot study of corporate and university collaboration to design and develop MBA courses tailored to worker needs. It incorporated both online and face-to-face components. The success of the first year of the program was based on faculty and student collaboration. Faculty cited program support, and technical and pedagogical support. Students cited the responsiveness of the faculty and administration to student concerns as the key factor to their success. Key findings concluded:

The ability of the students to react honestly to their experiences, and most particularly, the willingness of the faculty to respond and adapt, has been one of the most important aspects of the program. Working together as a team, the students, faculty, and administrators of the program have made enormous progress in establishing effective ways of teaching and learning in the distance environment (Schrum, 2000, p. 60).

York (2002) provided an overview of a Master of Health Professions Education (MHPE) online program. Findings suggested that the appeal of the online program is

broader than just overcoming geographic barriers and that it is attractive to local students who find it difficult to balance a busy work schedule with regular class attendance. Faculty anecdotes indicated a substantial initial investment of time and effort to learn the new online teaching software and convert their classes. York also reported some student self-selection based on cost benefits and comfort with technology. The researchers indicated that especially for healthcare professionals, the tradeoff with costs is one of time lost from their jobs or personal lives in the attendance of classroom instruction. In general, the study concluded the benefits of the online program in that it provides students with instruction who might not otherwise be able to attend a traditional class.

Oliver and Shaw (2003) studied the potential of Asynchronous Learning Networks (ALN), defined as online asynchronous discussions to support learning in medical education courses. The study demonstrated the feasibility of ALN and discussed the significance of a tutor as potentially being a major contributor to interactive engagement of students through CMC. The researchers called for additional study of the role of the tutor.

Bellar and Or (1998) described a challenge facing universities in the design and development area. The researchers concluded that universities need to examine their academic and administrative structure in the face of a technology-laden environment, tailoring its strategy to fit with its vision, mission, and aims, keeping in mind its relative strengths and weaknesses.

Wright and Thompson (2002) indicated that while general college education meets consumer expectations, market demands from employers for individuals, specifically in the field of nursing, has become a nation-wide crisis.

McDonald (2002) concluded that in order for higher education institutions to take advantage of the potential of online education for nurses, the effects of the technology on human communication and interaction need to be understood. This included an understanding of the processes of communication, group dynamics, teaching strategies, and uses of the technology beyond traditional teaching methods.

Critique of Literature in Relationship to the Case Study

Strengths

So far the literature review has emphasized the importance of some aspects of computer-mediated communication in the normal discourse of online education. As has been previously stated, research on graduate nursing student impressions of CMC in the online education environment is very limited. Student and instructor perceptions are important, as the online education delivery system becomes more prevalent in the overall blend of educational resources in the medical community. Understanding the CMC issues, which are important to students and instructors, could be useful in the development of strategies to enhance the online experience for students. The impact of this is that increased satisfaction in the online experience could lead to increased enrollment and more opportunities for institutions of higher learning to turn out graduate nursing students as nurse educators, family nurse practitioners, and nurses as leaders in business.

The literature showed how communication contributes to effectiveness of learning and the important role of instructors provide in guiding dialogue to create more interpersonal interaction. As Sullivan (2001) suggested, this is of stronger importance to

females. With a large number of females in the nursing area, studying aspects of interpersonal communication is a crucial element of this study.

In addition, the literature also uncovered the importance of verbal and nonverbal behaviors in CMC, and also the language and coding of messages in conveying personal information, ideas, and emotions leading to the building of online relationships and the establishment of identity. This is also a central concept of the study.

Weaknesses

Significant CMC studies have emerged uncovering issues in online education, but very few CMC theories exist. Traditional communication theories of socio-cultural, Sociocognitive and transactional distance in application to CMC, however, could lead to the creation and promotion of more effective online communication with students.

More extensive communication needs for females as opposed to males was identified as a factor in student perception of CMC in online education. Furthermore, while issues of gender have been raised (Sullivan, 2001; Woods, 2002), the literature is not extensive in this area. In addition, more may be uncovered related to issues for female graduate students.

Although much of the research has been conducted from the student perspective, very little research is being conducted from the instructor perspective. Moreover, little has been done to intersect student and instructor perceptions. This is an interesting gap, since so much depends on the instructor understanding what the student online communication needs and how they differ from communication needs in the traditional classroom. In addition, little was discussed in the literature, other than a suggestion from

Perreault et al. (2002) that instructors receive training on instructing online and specifically in using CMC tools effectively. Again, this may be due to the newness of the medium and early exploration of initial issues.

Methodologically, most of the research employed quantitative methods and surveys as the primary method of gathering data. A few researchers used case studies, and a combination of quantitative and qualitative methods. Surprisingly, however, very little research in the CMC area has been done ethnographically in application to student and instructor experiences. It is anticipated that much can be gained in the understanding of the significance of student and instructor experiences of how relationships are formed using CMC in online education. Investigation of their stories and anecdotes in a qualitative approach for this study could bring rich results.

Research Questions

Current research of nursing student perceptions of CMC and online education, albeit limited, has uncovered aspects of instructor effectiveness in interaction with the student. In addition, it placed emphasis on how instructors can personalize their communication to meet individual learning needs (Muirhead, 2002). Other studies tie this and other factors related to student and instructor usage of CMC tools for threaded discussion, email and chat rooms as an important contributor to the student's success and interactive experiences in online education (Gutierrez, 2000). Finally, availability of literature related to the understanding graduate instructor and student perceptions is limited. This suggests that there is much room for study in this area.

The present study will build on previous research of graduate nursing student and instructor perceptions in order to explore the importance of CMC interactivity and how relationships are built to enhance the experience and create meaning in nursing courses

Therefore, the following questions will be addressed regarding CMC interactivity and relationships in online education:

RQ 1: How do relationships form in the online portion of the class?

RQ 2: What are instructor and student perceptions of relationships formed online as opposed to offline?

Chapter II

METHODOLOGY

Procedures

Characteristics of Qualitative Research

Qualitative research methods, including interviews, focus groups, and a review of online dialogue transcripts and course documents, were selected for this case study. Therefore, multiple methods of data collection were used. It was anticipated that the interviews and focus group would enable the building of rapport and credibility with the subjects. Student and instructor perceptions are central to this study. Therefore when questioning is involved, they were broad and open-ended to encourage the participants to elaborate on their experiences. Since qualitative research is fundamentally interpretive, this approach allows the researcher to be wholly involved in the evolution of the results, painting a broad picture of the student and instructor experiences. In order to do this, several strategies of inquiry guided the procedures for the case study.

Paccagnella (1997) stated that the goals of many early studies of CMC were related to the impact of new technologies, and the efficiency of work. He pointed out that a constructivist interpretation comes closer to the study of everyday life. In studying online education and social interaction, using Paccagnella's approach, we can better understand the complexity of the daily experience of the online student and instructor.

Lindlof and Taylor (2002) discussed constructivism as a way to explain how individuals adapt their communication strategies by cognitive means and perspective taking. Creswell (2003) pointed out that in a "knowledge claim" position of

constructivism, the researcher must understand multiple participant meanings and the social and historical construction (p. 6).

Lindlof and Taylor (2002) suggested that researchers should take into account the contextual features of the study, including the CMC user's history and the official purpose of the setting. In this way, the researcher can help resolve connected issues. For example, the study might uncover how CMC users manage the expectations generated in their offline relationships through online interaction. By examining the participant's online and offline worlds, (understanding the culture, values, and beliefs), we can begin to understand the product of how CMC evolves.

Research Strategies

The main strategy for this study was to explore student and instructor experiences in forming relationships with each other using various aspects of CMC in a hybrid-nursing course, such as online chat, discussion groups and e-mail. A hybrid course adopts the use of both classroom elements and Web-based elements in its design. And as Garrison and Kanuka (2004) indicated, hybrid learning blended the face-to-face experiences with the integrated technological learning activities described above, which can become complex in implementation, design, and context (p. 96).

This course is particularly useful because it is a hybrid course using the resources of both on-campus and online CMC. It was anticipated that the study would be able to draw upon a stronger perception of the online CMC experience in conjunction or comparison with the kind of communication they receive in the on-campus setting. Questions which uncovered the participants' background information were useful in

understanding underlying individual characteristics of students and instructors. These characteristics might affect their perceptions. Interviews and focus groups will be used to enhance the depth of the information gathered and triangulate the data for interpretation. Lindlof and Taylor (2002) describe triangulation as a comparison of two or more types of evidence involving the research being conducted with the objective of finding the same meanings. Because multiple methods of gathering the data from the same sources being studied are used, the validation of claims is enhanced. The author will also write in a narrative, phenomenological approach to capture student and instructor “stories” from the focus groups and interviews (p.179). The participants being interviewed individually or in focus groups tell stories and anecdotes about their lives. This can be the foundation for capturing the whole experience of the participant and therefore, allows a deeper representation of patterns.

Role of the Researcher

As a staff member at a college, I was granted knowledge about the online education program. I regularly had contact with the graduate students through normal interaction during work, because most of the proposed students for this study are also instructors for some of the undergraduate in-classroom nursing courses. These students were asked if they would like to participate on a purely voluntary basis. All precautions were taken to use alias names to protect the identity of these volunteer subjects in any printed material for this study, including the thesis itself. The study was conducted after course. These students were in no way be required to participate in the study, were fully briefed and will be required to sign a participation form indicating their understanding.

Case Study Participants and Setting

Stake (1995) described a qualitative case study as being “highly personal” research, where the researcher is encouraged to include his or her perspectives in interpreting the information gathered. In this way, the case study is valued for whether or not “meaning is generated” and there is personal value in the work (p. 135). Conducting the research as a case study was chosen because of the small class size and the opportunity to look at the total group in how their relationships were formed. The students and instructor who participated in this case study were drawn from a college located in a mid-sized, midwestern city. It serves approximately 600 students regionally and nationwide through both on-campus and online courses. As of the spring 2004 session, 55 percent of all students were taking at least one course online; 45 percent take all of their courses online. During the spring 2004 semester, 83 students were enrolled in the Master’s in Nursing program. These students are predominantly female. Students have the option of concentrating in areas of Nurse Education, Family Nurse Practitioner, and Nursing Health Care Business Leadership. Post-master’s certificates in the three concentrations are also offered. A master’s-level course in the nursing program is being used for this study. Six students who have completed in the Theories of Learning-NU 806 class participated for this study. The instructor of this class also participated. All the student participants for this study are undergraduate instructors employed by the college described above. This course was selected because it was the first hybrid class offered at the College in blending elements of both online and traditional classroom components. This gave a richer perspective between the interactions between the two components.

Data Collection Procedures

For purposes of gathering multiple sources of data, course documents, such as the syllabus and other materials related to the course and its structure were examined. Transcripts of the online threaded discussion and chatroom portion of the course were studied. Background information regarding how the course was designed and why it emerged as a hybrid class, was gathered from the instructor. This was useful in understanding why certain CMC elements were included and why others were left out as opportunities for interaction.

A preliminary interview with the course instructor was conducted. This helped refine the questions for the student interviews.

Following the instructor interview, the six of the seven students in the Theories of Learning-NU 806 were interviewed. One student was not available at the time of the study. The interviews will be transcribed and reviewed and coded by the researcher to determine preliminary themes from the interviews.

A focus group of the same seven students was conducted, on a voluntary basis, to gain their perspective and synergy regarding their perceptions of how relationships were formed. The preliminary themes were shared to verify the accuracy of the themes. This was important in the triangulation and validation of the data gathered.

Following the student focus group, a second interview was conducted with the instructor. The general themes from the student interviews were shared with the instructor to elicit further commentary.

Both the individual interviews and the focus group will be tape-recorded for later transcription. The participants will be encouraged to contact the researcher, should they have any other ideas that occur after their interviews or the focus group.

Interview Protocol

Patton's (1980) approach to ordering questions was used. A series of broad questions started with current questions and work backward to the past (Appendix C – Instructor Questions; Appendix D – Student Questions). These were designed to get more specific and deeper into experiences, feelings, sensory recall, opinions, and knowledge, in that order. Broad, open-ended questions encouraged the participants to tell more interesting stories or anecdotes about their interactive online experience. The last question was demographic.

Experiential questions centered on instructor-to-student and student-to-student interactions. Feeling-oriented questions mirrored the related experiential questions about interactions to provide additional depth. Sensory questions were designed to capture first-time perceptions going into the course. Opinion questions were formulated to provide more specifics about the class itself and about behaviors and interactions occurring in online discussion.

The intent of the next level of questioning was to uncover student and instructor knowledge of computers and their extent of use of CMC tools leading to interactivity. Relevant research indicated that student computer-readiness has an effect on how students perceive the online education course.

The final grouping of questions will be present-and future-oriented to find out how past or current experiences affect student desires to take courses online again. And, for the instructor, the questions will identify issues specifically related to how their teaching strategies have and will continue to evolve. Some CMC researchers have argued that if a student does not have a quality online experience the first time, it may impact whether they will take another online course. The experiences of both the student and instructor have potential impact on suggested improvements in online education.

Focus Group Protocol

Students were brought together for a focus group on a voluntary basis, after the individual interviews were completed. The researcher moderated and started the discussion. Specific questions were formed from the interview questions so they would tie back to the research questions (Appendix E – Focus Group Questions). Lindlof and Taylor (2002) explained that focus groups can produce “complementary interaction” (p. 182), where people can freely express views. They also produce stories and jokes that are characteristic of the group norms. According to Lindlof and Taylor (2002), the focus group should include 6 to 12 people, last for about 90 minutes, and should be in a neutral location. They indicate the importance of the moderator who introduces one or two questions to uncover the subject’s experiences. The moderator should only lightly guide the discussion. The focus group interview were tape-recorded and transcribed. The researcher also observed the participants during the discussion to capture expressions and gestures.

Data Analysis Procedures

The interviews and focus group will be tape-recorded with the permission of each of the participants. The interviews were transcribed in the exact words of the participants and also in the researcher's words exactly as the researcher asked the questions. It was anticipated that capturing a narrative chronicle of each of the students' and instructor's experience could be useful in defining their experiences as a "social actor" within the hybrid course (Coffey & Atkinson, 1996, p. 113). This takes into account each person's history and life in explaining how and why they came to online education. Each participant will be given an alias.

The researcher read through the rough copies of the transcribed interviews for clarity and initial understanding. From a second read-through, consistent, recurring words and phrases were highlighted. Notations were indicated for potential patterns and categorization for coding. An Excel spreadsheet was used to code and categorize the notations and highlighted text. The focus group transcription was analyzed in the same way. All of the material was reviewed and logged to determine patterns. Patterns from the interviews and the focus group were coded separately and then analyzed for triangulation of information gathered as a whole. This can also be reviewed against pertinent initial background information for relevance.

The intent of the written material was to discuss each individual using the participant's own story in chronology of how relationships are formed and perceived in the life of an online student. There is also value in understanding the day in the life of the instructor. To date, the researcher has not found any other study that has taken this

approach in studying the perceptions of how online relationships are formed for students and instructors.

Strategies for Validating Findings

Multiple methods for gathering qualitative data for this study were employed to strengthen the accuracy of findings. Data from these methods and various sources were examined and triangulated to build a “coherent justification” for themes (Creswell, 2003, p. 196).

It was anticipated that the narratives from the interviews would convey rich descriptions of the student and instructor experiences. By sharing the preliminary themes gathered from the interviews with the focus group, the researcher could determine whether participants felt they were accurate.

It was anticipated that there could be specific participant-perceived issues associated with interactivity because of their experiences in forming relationships. Participants were encouraged, during each step of the process, to contact the researcher with additional information or ideas they thought of outside of the interview or focus group.

The researcher used a peer de-briefer to review and ask questions about the study that will suggest perspectives, limitations, or future research directions.

By using the above validation strategies, it is the goal of the researcher to present a more thorough and credible outcome.

Anticipated Ethical Considerations

As a member of the college, the researcher was sensitive to the careful treatment of student-related information. Studying human subjects requires approval from the Institutional Review Board (IRB) and, therefore, this proposal was submitted and approved before any work on the study began. Each participant was interviewed, identified in the thesis through aliases, on a purely voluntary basis and was not required to participate. The study began following the end of course, so there was not any pressure for the subjects to participate. Each participant was asked to sign a statement indicating they understood they would be tape-recorded and that their threaded discussion from the online portion of the class would be reviewed (Appendix A- Informed Consent). The statement also explained how the material would be used. It also explicitly stated that the students and instructors were not required to participate. Information will not be misused to the advantage or disadvantage of the instructor, student or the College. Under no circumstances were any data suppressed or falsified to invent findings or meet any need of the study.

The Congress of Nursing Practice and Economics of the American Nursing Association (ANA) in July 2001 approved a revised *Code of Ethics for Nurses with Interpretive Statements* (American Nurses Publishing, 2001). Provision eight is listed as the following:

The nurse collaborates with other health professionals and the public in promoting community, national, and international efforts to meet health needs (ANA, 2001).

Given the above, it was anticipated that this study will be useful in promoting and understanding online education in the health care community, and that it is within the ethical realm of collaborative participation.

Significance of the Study

The impact of the study should be beneficial to the students, instructor, and to the College in understanding their role as current and future health care educators or advance practice nurses working online or in development of future online hybrid courses.

Expected Outcomes

In general, the researcher predicted that two significant themes would emerge. First, relationships would be perceived as highly important for meaning to be constructed. For example, certain types of instructor-to-student interactions might be seen as key to connecting with the instructor, such as an e-mail confirming that they did well with an assignment, indicating how well they may do in the course. Secondly, student-to-student relationships may be perceived as most important for the richness of learning. There may be additional outcomes regarding how the course was constructed in creating opportunities for interaction.

In addition, interesting, if not significant findings might come to the surface with regard to how the participants felt their own personal situational and student-centered characteristics (such as computer readiness) affected their ability to contribute to the relationship-building experience. Other issues, such as the students' ability to use and

understand non-verbal CMC cues during the online portion of the course, would emerge as having an impact on their ability to create mutual meaning, comprehension and thus an enhanced experience.

Finally, perceptions of how online interaction contributes more to the experience than the traditional in-classroom portion of the hybrid course would be seen.

Chapter IV

RESULTS

At a time of changing relationships between instructors and students, online education attracts students who would not otherwise pursue coursework and thereby enhances enrollments. The AACN (2000) suggested that schools must plan strategically for online education, understand changing relationships and enrollment advantages, and choose the right technology tools. Another factor indicated is the development of quality clinical components of the program. Moreover, attention should be paid to quality of instruction, orienting faculty, and collaboration among faculty for teaching, practice, and research. Studying colleges that are focusing attention to what students and instructors think about online courses in order to create meaningful experiences is an important step in advancing online education.

The College and the Course

The small College for this case study is nestled in the heart of a midwestern city on one full city block at the corner of a major intersection. As I started my work each day, I took a ritualistic and brisk two-block walk from the parking garage to the front door of the College lobby. As I walked along, it was typical to see the traditional students fresh from the local high school walking toward the College. I was just as likely to see a 40-something woman, pulling her small suit-case-on-wheels up the sidewalk from Lot 52. All the while, the whirl of the morning traffic of cars and buses and the smell of exhaust brushed past us. The colorful leaves piling up on the sidewalk from overgrown trees

lining the road made it difficult for the woman to roll her case along the rough path.

Across the street, I could see the major medical center, at which many of the College students did their clinical work. Medical center students, administrators, College students, and instructors dot the sidewalks coming to and from the College, the medical center, and the adjacent parking lots and garages.

Once you entered the College, it was not unusual to notice that the building had the refurbished feel of a six-story office building. In fact, it was a former insurance building, circa 1980. Somewhere on the second floor, deep in one of the classrooms, you could peer in to find one young male among a class of 15 to 20 women.

What I just described was indicative of the urban feel and a predominantly female college. As I talked to a few of the students in preparation for this study, I quickly discovered that what many of them called home were small towns on the western edge of the state where farm life is the norm.

In this Midwestern College, you can find the truly urban student, the small-town student, traditional, and non-traditional age students completing school work on campus and online. In contrast to the image of students being physically on campus, I recalled a previous telephone discussion with a master's in nursing student who had already completed her coursework and degree online in the nursing program. At that time, I was working on a story for the College alumni magazine. My own reflection of that discussion gave me some insight applicable to the case study I was about to begin. For this student, living in South Dakota, the nearest college offering a master's-level program was 100 miles across the pass. She typically worked online after 10:30 p.m. after kissing the kids goodnight. This all occurred after she had put in 8 to 12 hours at a local doctor's

office as part of her clinical field work for the Family Nurse Practitioner (FNP) program. Attending the traditional bricks-and-mortar classroom had been out of the question for her.

The College is unique. It offers convenience for local residents, while also offering a niche health sciences option for those living in the rural four-state area. Still, others, like the online student in South Dakota, have found working online to be a flexible option in obtaining a higher education. The College began contracting with a national vendor in 2000 in order to provide a more state-of-the-art service to students, which official College statistics put at 90 percent female. Here I found a rich setting for the case study, allowing me a focus on a small group of females in a hybrid course that was being used to determine the feasibility of future hybrid courses.

The school had come a long way since the very first distance learning course in 1998, characterized by videotapes being sent to students and the students then faxing their completed assignments back to the institution. The Fall Theories of Learning NS 806 blended-learning hybrid course began in October 2003, as the first master's level hybrid course attempted at the College. A review of the syllabus and an interview with the instructor gave insight to the structure of the course. It consisted of four traditional classroom experiences that I will call *in-class* and an online component. The online portion called for students responding to the discussion group format postings of at least two other classmates' answers to the weekly focus questions posed online by the instructor. The students were also responsible for depositing papers into the drop box and using the "Webliography" to post references (2003, NS 806 Theories of Learning syllabus).

Instructor and Students

On a Tuesday in October 2003, in the midwestern city suburbs, NS 806 student Donna had completed the same sort of evening ritual that the student, now Alumnus, in South Dakota had. While Donna was a local student, working online fit into her busy schedule.

In contrast to this, another student in the NS 806 class, Jessica, stopped by the local library on Wednesday of that week after her busy day, as she said “to sit and watch a clock for an hour until someone else was finished with a computer.” Jessica jokingly described herself as the only student in America without a computer and online access at home. With the clock still ticking away, Jessica knew she had two hours of her allotted library computer time to finish the weekly online assignment, which included responding to the threaded discussion postings of two other students like Donna.

On Sunday night at 11:00 p.m., Linda, yet another of the NS 806 students was just now logging on to respond to her classmates’ postings. Since the next week’s class was on Monday morning, she was aware that she probably wouldn’t get any online feedback from her classmates.

Nancy emphasized in her interviews that she recognized the importance of her instructor role in facilitating interaction. It was also extremely important to provide feedback to students in a non-threatening way, to both build trust with her and set an example for building a sense of community with the other students. One of her methods was to use humor. She described that she would e-mail a few of the students on some days, to give them a gentle reminder that they needed to post earlier in the week so others could respond. She liked to inject her humor at end the communication with a smiley

face:). Nancy was using an online nonverbal cue (emoticon) to convey the emotion of humor as a less threatening way to let the student know to post early.

Although Donna, Jessica, and Linda were able to visit with each other in the traditional in-class experience portion of the hybrid class, their opportunity to respond online to each other for the previous week's assignment had passed.

What we know so far is that these students had come to online learning with a variety of situations. Some can be working locally with the additional access to each other through the in-class portion. Some of the participants had found it easy to access the online technology, but one of the students, Jessica, was not finding access to her classmates online as easy without a home computer. Some of the participants were posting later in the week, but too late for the opportunity for others to respond online. Seeing this as an issue, the instructor was using humor as a way to gently coax the late posters to respond to their classmates earlier.

The purpose of this case study was to research how relationships were formed in the online portion of the class and what the instructor and student perceptions were of the relationships formed online as opposed to offline in the traditional in-class setting. The firsthand accounts presented give a brief insight into the backdrop of the students' daily lives and potential points of communication between NS 806 students and the instructor, from which to begin the discovery process.

This case study began in June 2004, to look at the relationships in this particular NS 806 course. The course had been completed and the participants seemed eager to share their experiences.

The students already mentioned, Donna, Jessica, and Linda, with their alias names I assigned for confidentiality purposes were joined in NS 806 by Amy, Yolanda, and Lori. The seventh student anticipated for the study left the College and was not available at the time the study was conducted. With my pre-determined set of questions, I completed individual interviews starting with the instructor Nancy. I followed the same process of individual interviews with the students.

A focus group with the students was conducted after the individual interviews, with five of the students participating. The sixth student was unavailable at the time of the focus group. A second interview was completed with the instructor following the student interviews and focus group to glean additional comments and insight. Major themes from the individual interviews and focus group were discussed with the student participants later for additional insight and clarification. I was able to use the course syllabus and transcripts from the actual threaded discussion for this course to triangulate information from the interviews and focus group.

All of the student participants were also instructors at the College in undergraduate programs. Each was taking the NS 806 as a part of their coursework toward an MSN, auditing the course, or taking it for post-master's certification.

Themes

Pre-existing Relationships as the Underlying Communication Dynamic

Interpersonal Communities

It is important to note that there were some surprising dynamics into pre-existing relationships of the participants. I found that most of the participants knew each other in

some way or had some connection prior to the course. This formed the foundation of an existing interpersonal community going into the course. The participants discussed their relationships during the interview portion. And as the interviews unfolded, I found that there were small relationship communities within the community.

Nancy

Nancy was interviewed in my office on the sixth floor of the College at 10:00 a.m. This was an impromptu decision as we both agreed that the previously designated location in the Alumni Room was much too cold from the air conditioning. We entered my office and Nancy helped me clear off papers from the round table in the corner. We briefly chatted about the process for the thesis, and also discussed that this interview was the first in the case study. I observed that Nancy was dressed neatly in a powder blue knit suit. Her graying hair matched her gray-blue eyes. I fumbled with the tape recorder and did an audio check to make sure the recording process was going as planned. Having known Nancy for about four months, our familiarity with each other at work made the interview a comfortable process.

Nancy was the first to reveal her own prior relationships and what she knew about the student relationships. Having taken online courses previously and being a self-described seasoned online instructor, she was quick to point out that because NS 806 was a hybrid class, and it was different from the typical online course. Nancy said the students had an in-class, face-to-face part, and also had an online portion where she would post questions for the students in order to initiate responses from and between them:

“...And since they teach together, it was a little bit different. But one of

the things that they always talk about with online courses is that since they can't see each other and they might not have met each other prior to taking the course, that a sense of community is very important. And for this course, the students knew each other, which was nice. They had no problem whatsoever communicating with each other, and I think they had a sense of bonding.”

Nancy also talked about her own prior relationships coming into the class:

“I was scared because I've taught students, but never had to teach peers before and I thought (she laughed)...am I going to appear stupid in front of them? I've not taught in the master's...I've not taught this course before...how will they perceive me? Plus, I have to tell you my boss...my director was in that course taking it for audit...and I thought, can I do this with her sitting there?”

Nancy raised two interesting points: first, the students knew each other going into the course and two; she had a peer relationship with the students. These two points unfold further as the students shared their own stories. It is important to note that her boss was in the course, but I did not include her as a part of this study, because Nancy's boss only participated in some portions of the in-class presentations and did not participate in the online portion.

Interpersonal Relationships Influence on Hybrid Communication

Amy

Later in the day, after my interview with Nancy, I had my first interview with one of the NS 806 students, Amy. What instantly struck me was that Amy had a power-blue knit

suit on and her short grey hair melded neatly together for a striking ensemble. I remembered thinking to myself how similar she and Nancy looked that day. Even though it was now 2 p.m., Alumni Room was still cold. But, we chose to stay in there for the interview opening one door to let some warmth in.

Amy, who had taken online courses before at the College, said that she enjoyed online education because she could work at her own pace. Participation points were given so that all the students would participate in the online discussion. However, as Amy indicated, there was another reason why they participated. “But most everyone did because everyone knew each other. But some people are going to participate more than others and some aren’t going to say anything (in class). But with online, you all have to put in whatever you want to say, about something. We all worked together so this is kind of unique situation from other classes,” Amy said.

This was Amy’s first revelation that there were prior relationships. She said it was hard to separate the prior relationships with the students from how the relationship was built online. She also said that she knew the instructor. These prior relationships were important as an incentive to participate in the online discussion.

Linda

My next interview was with Linda. In contrast to the first two interviews, Linda was very formal, used very little body language, and was short and to the point. However, she seemed very sincere and had no qualms speaking about her classmates and using their specific names, rather than in general terms. Linda described her experience in NS 806 hybrid course as “positive and enjoyable.”

Linda offered up the next example of prior student relationships, although it was different from what the students in the prior three interviews had talked about. “I felt comfortable with all these people. I think in some ways, I was at a disadvantage because I was their supervisor, you know. But no one ever said anything out of line or really questioned. But I think everybody was pretty truthful. People were very polite,” Linda said.

In describing the differences in the communication between online and in-class Linda said that people were more relaxed in the off-line portion but that there was more discussion in class. The other participants had reasoned that it was their ability to have time to really think about their answers in disclosing their opinions online rather than being more spontaneous in class in the normal discourse. It seemed to be a clear boundary for most of them. Linda went on to describe herself as being the discussion leader in class. “I wasn’t afraid to talk, and I knew Nancy so well, and I knew she wouldn’t mind if I asked questions and stuff...you know, that she would think that would be good.”

Linda had revealed yet another pre-existing relationship, her close relationship with the instructor.

Linda reiterated the existence of prior-relationships, but also reaffirmed and articulated the affect that these relationships had in the way people communicated; it was different online versus in-class, noting that from her perspective, there were some boundaries in what class participants were willing to disclose or the extent of their responses. For example, there was more spontaneity in-class, but more time to reflect before responding online.

Yolanda echoed the influence of relationships in the creation of boundaries and the dual-nature of hybrid communication:

Yolanda

Later in the week, I interviewed Yolanda in the Alumni Room. The room was still cold and Yolanda commented that it would keep us both awake now that it was after lunch. She smiled and laughed a lot in this interview, but at times, would turn very serious. She also used her hands and was very animated in making her points. Yolanda said her experience with computers was limited, and the NS 806 class was the first online course she had taken. Although she found it “frustrating” at first, she also termed it a “good experience.”

“The fact that it was a hybrid course,” Yolanda said, “still gave you the opportunity to have some interaction with the instructor and the students, so you were able to share. So that helped as well.”

She also gave insight to the dual nature of the communication in the hybrid class. “I think in some ways, there were times, I thought, my own interpretation was, people were a little bit more definitive and more, what do I want to say...just more convinced when they were writing online than in class. Then when they came to class...well, yeah...people kind of backed off a bit, which I don’t know if that was good. Because, if you feel a certain way, you should stick to it,” Yolanda said.

Her comments could be explained by the dynamic of having previous relationships. Although most of the students thought that there was not a class leader,

Yolanda, reiterated some of what Linda had said, but from her own perspective. After a long pause and a sigh, Yolanda said:

“I think most people felt like they could express their opinions freely. But, I do think one person in the class seemed to be more of a leader...and it may have been because we all knew each other...and because of our roles here at the College. I don't think it was so much, in terms of what people said, or what they believed, or even knowledge level. But, I think it was our own relationships that were formed previous to the class...and you know there was a director and some of the faculty that report to that director and sometimes you could see that. At least I felt that sometimes people were agreeing (in class)...sometimes pretty quickly without thinking things all the way through.”

From the perspective of Linda and Yolanda, there were differences in the way people communicated online and in class. This was because of the relationships that the participants brought with them. For example, Linda being a supervisor of Donna, Lori, and Amy and that caused these participants to agree in class more spontaneously with Linda. However, they took more time and care to be reflective with their answers online.

Lori

The next two interviews were recorded over the phone. This departed from the established protocol to accommodate the schedule of the two students, Lori and Donna, who were nine-month faculty and not working at the College during the summer months when the case study was conducted.

Lori had taken several courses online prior to NS 806. She offered that she seemed to do much better with the online because she could work independently and on her own schedule. Like Linda, Lori was also very brief and to the point. In a reflection of what the literature has shown, with females, she stressed the importance of having a

relationship or bonding with other students, Lori described that her best relationships were with Donna or Amy. “Just because I know them so well and can ask them anything. Or, I would think that they would feel the same way about me and could ask me anything about the course or whatever,” Lori said.

Donna

Donna was also interviewed over the phone. In contrast to Lori, this was her first online class and but like Lori, she enjoyed the flexibility of being able to log on whenever she wanted to.

As with all of the other interviews, Donna talked about prior relationships. “With the online portion, I think for me, being a faculty, I think it was a little bit different because I already had a relationship with her (the instructor).” Asked about student-to-student relationships, Donna said, “They were built actually a couple of different ways. Since it was a hybrid course we had a weekly class so we had a lot of bonding that way. But, we also had class online and had discussion questions each week that we had to respond to each other. Where our opinions were different, it was kind of neat that we could say, ‘yeah, I agree with this way...but what about this way’. So we would respond back and forth that way.”

Donna’s best relationship, she said, was with Lori. “We are very close in age; we have the same kind of background. We’re also on the same course to graduation, so we have become very close.”

Donna and Lori mirrored each other in their perceptions. The ability to identify with each other in their age and the program they were in was important to them both.

And the both indicated that because they both had young children at home, the flexibility of the hybrid course, particularly the online allowed them to work on their own time that was convenient to them.

Amy as another one of the instructors who were in the same program also saw the value in having known the instructor, her mannerisms and style was another part of the identification process in forming relationships. This had bolstered the strength to the community that was forming online.

“Well first of all, knowing the instructor because I work with her. That made a difference than someone just coming in and not knowing the instructor, so I had that. So I think the communication was easier and at a different level. And, because we knew each other in this course because we all work together, most of us, except for the one faculty member who wasn't in nursing...we all work together, so we all knew each other. So in that way communication was easier because you were talking with people you knew and had worked with. With the instructor, you knew her personality, so when she would write something online, you felt like you knew exactly what she meant because you could see her saying it in person more than if it was just an instructor seeing the written word and not the personality in it. So you had that extra part where you knew her personality, plus we were all talking with her in-class, so that helped with the communication both ways. It made it easier.”

Jessica was the one student who was not a part of the group of instructors who were in the nursing program. Amy explained that while the other students did not know her as well, they were able to get to know her better through online participation:

“But I think what we did with this one instructor...(Jessica) wasn't part of us...because I do think we got to know her better...so we could still form a relationship with her (online). But I do think it took a little longer. There we are, this core group who worked together, and there she was. Not that we excluded her...I think it took her a little bit longer to become comfortable with the group. She wasn't shy or anything, she just got to know that we were good people too and we all built a relationship together. And that was good too, because we got to know her better being part of the faculty too.”

The above passage illustrates what happens in the absence of prior-relationship or knowledge of a participant from which to identify with. In her own words, Amy said the relationship “took a little longer” to form.

Jessica

The final student interview was with Jessica. It was her first online experience, and although she said there was a lot of “thought sharing,” she did not like the experience very well.

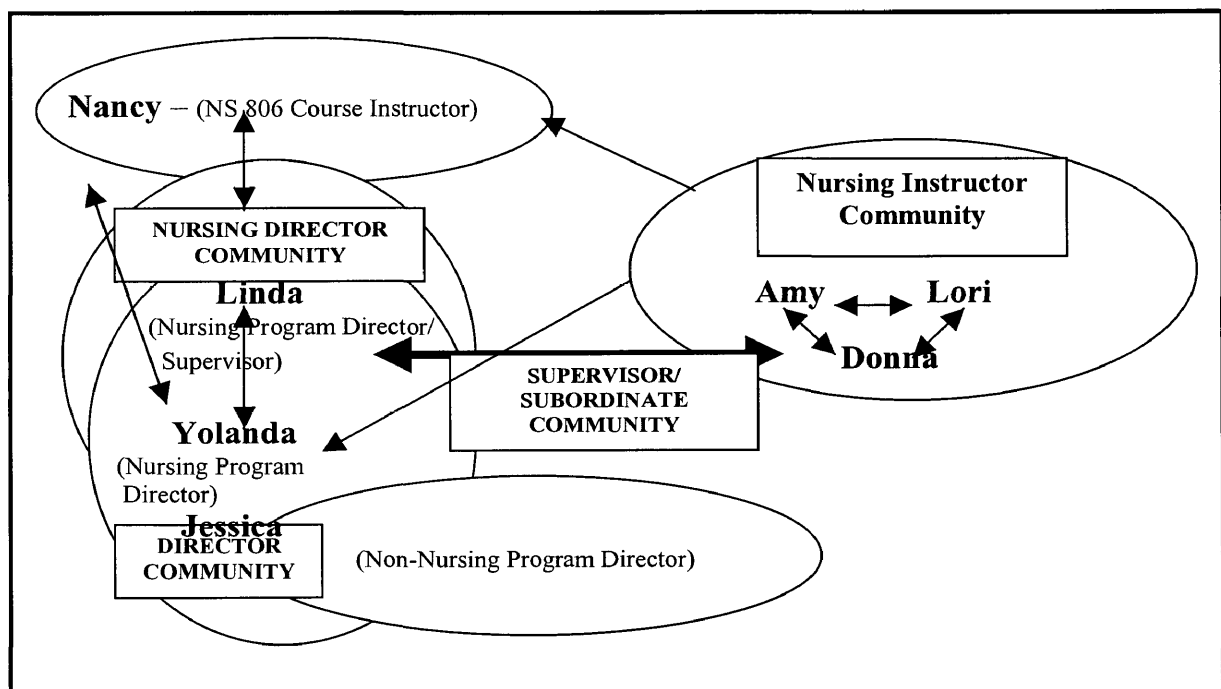
My interview with Jessica was by far the most interesting of all the interviews, because of her unique perspective. She was very thoughtful and descriptive in answering my questions. Her perspective was unique because she was the only non-nursing program student in the course. She also had very little prior relationship with the other students before entering NS 806. However, she did have something in common with Linda and Yolanda in that the three were all directors of programs at the College. This set up another of what Jessica viewed as a distinct relationship group and a community within the community.

“There were three program directors and the rest were faculty. So, I think that being an internal group to some extent the demographics influenced it anyway. I just think that if your boss is talking to you, even though it is as a colleague...you hear things differently.”

Jessica was talking about the supervisor relationship Linda had with Amy, Lori, and Donna. From a perceived outsider looking in to one of the communities within the community, Jessica was seeing how prior relationships influenced the communication in the hybrid course.

There were several types of pre-existing relationships described by these case study participants. These pre-existing interpersonal relationships created communities within the online community. It influenced their feeling of connection or bonding to each other and how they interacted online versus in-class. There were relationship communities within the hybrid course community as a whole: 1) The Nursing Director Community consisted of Linda and Yolanda; 2) The Director Community included, Yolanda, Linda, and Jessica; 3) The Undergraduate Nursing Instructor Community included Amy, Lori, and Donna 4) The Supervisor/Subordinate Community included Linda as the supervisor, and Amy, Lori, and Donna as subordinates. There were also pre-existing relationships between Linda and Nancy as former co-workers and all of the others knew each other going into the course except for Jessica. In order to provide more clarity about the relationship pattern, Diagram 1 illustrates what the participants described:

Diagram 1. Prior Interpersonal Relationships/Communities within the Hybrid Community



Relationship-Driven Care and Concern for Interaction

Another theme was emerging from the interviews in the case study. Participants were concerned with how they formed their postings and responded to other students. This was largely driven by how students felt about their existing relationships and how “comfortable” they were with constructing and articulating their written opinions online.

All participants agreed that the success of working online was dependent on participation in the threaded discussion. Amy summed up this idea well:

“I just think with online you probably have to work maybe hard with communication and building relationships because much of it is on paper (in writing online). Although I do think that people think a little bit more before they put it on paper (in writing online). Sometimes they don’t. But it is away from what we’ve traditionally done in classroom teaching. You are not face-to-face, so it is not verbal. Well, some of it is verbal, but you’re not face-to-face when you are doing the verbal communication and a lot of it is written...so you just have to be careful how you present it. I’m meticulous both places but I do think that you... probably if I do say something in class...I don’t think about it as much as I do when I am online. I’m probably going to spend more time thinking about it (online), than I am just participating in class.”

The participants used similar words to describe the care they took with articulating their opinions online. These included: “respectful”; “take time to think before responding;” and “thoughtful.” And, because of the prior relationships and “bonding,” the group or “core” was committed to “getting as much as possible” out of the experience. This summarizes their care and concern for postings. Therefore, because they cared about each other through their prior relationships they were more concerned about their commitment to responding carefully online.

Yolanda’s comments below illustrated this idea of care and concern:

“Well, I think the student-to-student relationships were built quite successfully too because everybody really put a lot time and effort into our responses and communications. We tried to be very open about it and we also tried to be as thoughtful about it as we could. I think maybe when people respond online they just respond to get something out of the way, but I don’t think the students in this class did. I think they all really wanted to get as much as possible out of the course and I think we all made an effort to contribute meaningful responses, and, too, to be sensitive to each of the responses because we had varying philosophies...and our own theories of about what another person felt and why they felt that way.”

Relationship and Identity

Yolanda took the care and concern one step further by saying the prior-relationships kept people from “flying off the handle”. Identifying with others in a relationship kept the participants in check for being respectful. However, had this been a group of people she did not know or identify with, that might not have been the case. “But, if I were enrolling in a class with 15 or 20 students that I’d never met, just knowing human nature, I might have responded differently,” Yolanda said.

Jessica gave an important analogy relating to what Yolanda had said, but stressed the importance of being able to identify in some way with the other participants:

“You know when you go and watch a musical play or performance there is just a different level of meaning to you, if you know one of the performers versus being a global...you know, just being an audience member. And, I probably...maybe that is a dumb analogy, but I’d rather respond when I can picture student A and student B and some of their other behaviors. I can see where that was really carried out in some of their other behaviors. Or, putting that person, or character together with that comment, and it didn’t really match. And so, yeah, if you had taken away that personal effect of the online dialogue, I don’t think I would have been nearly as interested in that.”

Jessica further explored the idea of knowing something about or identifying with the other participants online as being important to relationships:

“I don’t know if there were any...I’m not sure if this is what you are asking...there weren’t any ‘get to know you’ activities... even a ‘submit a biography’...a paragraph that can give us a picture of the rest of you outside of what you were typing. Again, because it was a hybrid class, I’m not really that sure, but for me...if it were purely online, by all means. Just because of what I’ve said already... if it were just a character typing something on the computer, having something like... ‘I’m a mom of three...I’m 26 or 56...’ or ‘I live in the East vs. the South.’ Those things really influence that picture. I mean I think that without that picture of the person behind the typing, it becomes...you certainly aren’t as invested. I would not be as invested, I should say. And I could picture, sort of, the students that these women were working with. If you were at Brown University, or you were at a community college, or if you were at Stanford (SIC) or some other... or Johns Hopkins...I mean that really changes the dynamics of your responses. I think that...yes I’m rambling...the personal contexts...to be able to understand the paradigms and the context of where each of these responses were coming from, definitely enhanced it. I do think that personal identity of other people, yeah...that world the person belongs to...becomes important too. At least the dialogue opportunity...some qualitative...some subjective...some integration...and take a stand and reflect on it...that type of thing.”

At this point in the study, the importance of the students’ prior relationships with each other was becoming clearer. Jessica’s comments illustrate how relationship is important to have some identification with other students, thus creating a deeper connection and concern for how they form their online responses to each other.

It is apparent that relationships in the communities within the course were important to the participants in shaping how they interacted in the hybrid course. It was the foundation for why they cared about responding carefully and respectfully with each other. It was also important for most of the participants in having some identification in being able to picture the other participants in their mind and finding a way to relate to

each other online, in the absence of nonverbal cues typically exchanged in face-to-face interaction.

Reflective Nature/How and When Interact

Going into the study, I anticipated that the participants might see a clear difference in how they communicated online as opposed to in class. Each of the participants had something to say about the different nature of the hybrid course structure and although they were mixed in their opinions on whether or not they felt they and the others communicated any differently in the online portion as opposed to in class, they did agree on the reflective nature of how they communicated online. That is, they had more time to think about when and how they were going to communicate with their postings.

In the following excerpt of dialogue from the focus group, the students discuss their opportunities for communication in the hybrid course and the reflective nature of online:

Donna: Well, what worked for me was, having to give feedback on everybody else. I'd think about a theory or whatever we had been talking about that day, in a different way. That helped me a lot. In classroom discussion, not everyone puts their ideas and thoughts into the conversation because of the time restrictions. But, online we really had the opportunity for everyone to comment and hear their perspective. And, I thought that was really valuable.

Lori: Sometimes I have to think about it for a while...it was nice to be able to put it online and see everyone else's comment.

Amy: In a discussion (in class) sometimes you think later, 'Gee, I should have said that.' And you can do that online because you can take your time thinking about it.

To summarize, the opportunity to review what others had written first before responding existed. Whether they took advantage of this or not, they still had time to reflect on when and how they would respond.

Posting Timing and Guidelines

The participants also discussed that the ability to build upon their prior-relationships online was only as good as their ability to have opportunities to respond to each other's postings. The students had definite ideas about the hybrid nature of the course and how and when they should respond to their classmates online. Students were also eager to point out the need for everyone to participate online in a timely manner and that guidelines are an important part of course structure. If some students weren't motivated to respond early in the week, then the ability to create online dialogue with the late posters was difficult. Therefore, those relationships could not be built through the online dialogue and they could not learn from that person through interaction online. This was discussed in the student and instructor interviews and triangulated with the responses in the focus group.

Jessica summarized the timing and guideline theme in the following vignette:

“One thing is that you could see who...was more (motivated)...it was interesting because the same people would have their stuff submitted early in the week versus later in the week. There was a definite group of people who were consistently late. Or, we had to do it by midnight on Sunday and so sometimes people would submit it at the last hour, so it was like, ‘I can't respond to them and then they are just jumping through the hoops in order to be able to fulfill the commitment.’ And, it really didn't aid in the learning experience at all. Or sometimes it was sporadic in people's behaviors and, like I said, some people were very consistent. I think for me that developed a bias in terms of you know, this threaded discussion was to enhance

the learning and if you're going to go on at 11:00 every time and post last each week, you're not really contributing to the learning of the group. I could never respond because we had class Monday morning and you know I was not going to be out late.

Whereas in the classroom setting, you have people that are outspoken. I mean there is a different dynamic because you have people that are outspoken. The role of the instructor is to try to draw those things out and try to get a global participation. But, you can't really draw someone out if you give them until midnight on Sunday rather than to be done on a Thursday or a Friday. That certainly changes things."

Jessica brought up another point. And that was the importance of the instructor in providing guidance in the online discussion and drawing more students out in the dialogue. However, in the absence of guidelines or requirements to post earlier in the week, some participants are not going to be able to participate along with the others. Nor would the late posters be able to get responses to their own postings.

The theme of when participants timed their postings was also reiterated in the focus group. Through this open forum, they elaborated about postings, timing, and the need for additional guidelines:

Jessica: "...but I think not having deadlines is one of the things that came up in the individual interview...that not having the deadlines...sometimes it would be Thursday or later before there were more than a couple of people...and I wasn't very diligent about getting it done during the week. But, it made it hard in my little world."

Many of the students, like Jessica, indicated that the fact that there were no guidelines about when to post changed their capacity to be involved with one another. Therefore much of the multiple exchanges of dialogue threads were exchanged between the same people much of the time, with the late posters seeing little response.

In triangulating information from the instructor interview on the timing of postings, it was clear that Nancy recognized what the students articulated above as an issue with the structure of the class:

“Sometimes coming up with the questions and trying different ways to get them to interact with each other. That was very important to me that they did do that interaction. Some of the students were very good about posting responses immediately. Whereas I did find there were some students who tended to be toward the end. So I had to do some encouraging getting them posting at the early stage so they could get feedback.”

From Nancy’s standpoint, she felt that she provided the structure, the guidelines and the encouragement for posting. She did this by sending e-mails to the specific late posters.

Nancy’s comments regarding guidelines and structure were supported in part, by the course syllabus. Page three of the 30-page document included a section entitled: *Student Responsibilities for Own Learning*. Point one stated, “Students are expected to be on time and complete foci as scheduled.” However, it wasn’t specified if this was statement in application to online, in-class, or both. While much of syllabus dealt with technical issues; the responsibility of the instructor to give guidance and initiate learning activities; and the learner responsibility to actively participate, there were no specific guidelines for the timing of student responses online.

In general, the students welcomed what support and participation that the instructor had in the online discussion, however, most articulated a need for more instructor participation in guiding and re-directing the dialogue. They also felt that opportunities for online dialogue and relationship building could have been enhanced, if

the instructor had provided more guidelines for posting earlier in the week and instructions for responding to more than two participants.

Student Perception of Motivation and the Instructor as a Supporting Element

As Nancy had said, she felt like she had been supportive and encouraging in getting the students to participate. Whereas timing of the postings and discussion of guidelines was apparent, all of the students commented regarding the need for the instructor as a part for them in getting guidance, feedback, and lastly, staying motivated.

As Amy said, “Online, she would write something...usually it was something humorous. She wouldn’t say, ‘that’s right’...or ‘you know that’s wrong.’ It was mostly humor. She kind of just let us go, and she every once in a while she would put something in. But in our discussion, she wouldn’t participate a lot...it was mostly lecture.”

Linda commented similarly. “On the online portion of the class, the instructor posted the questions and for the most part, didn’t post any responses or comments. A couple of times she did and I guess I would have liked her to have posted more.”

As the instructor, Nancy said she believed in being positive with students. The following comment summarized her philosophy about the instructor involvement in the instructor participation.

“I think you have to be very positive towards how the students are responding. I’ve taken online courses and I’ve found that if an instructor is very positive toward the responses, the students are going to give you more and are going to be more willing to participate. But if you have an instructor who is not positive and says something negative or just one student...remember everyone is reading all of those responses. And, if you give them the impression that you’re coming down on even one student in an online course, I think that that can have negative effects. I think that if you’re going to say something negative or you may not even

be negative...or even if you're giving some encourage words to a student... that needs to be taken in an e-mail...especially online...that needs to be taken in an e-mail to that student. The faculty sets the tone a great deal.”

The theme of the instructor's level of participation was reiterated in the focus group. During their discussion, it was apparent that this topic made them reflective about their own style of instructing:

Amy: That's my quandary as an instructor...how much do I respond... and after the response is about the same after four times...I think that is stupid...so I start responding a lot in the beginning...O.K. they know I am here...so now I tail off. I don't know what the answer is.

Jessica: But that is a hard instructor role to have, though.

Yolanda: That's just it...I've not taught an online course before either...but you'd think the role would vary, number one with the kind of course being taught and the content you're teaching...and two, the level of student you're teaching whether it is undergraduate or a graduate student you are teaching.

Jessica: The lesson is for me...the first communicant is the instructor's question...that is the power...that sets the tone...it guides it...yeah... that's going to elicit a response...And that initial posting...poses the question. And I had teach online this semester for summer school. Having done that...it's like having done that, 'Gosh I really want to rephrase how I said that.' ...Because they answered that too superficially, or how do I get...based on their responses, how do I modify what I had to be...to guide That communication...like the first communicant is how I post that out there to the student...that's what guides everything else. My lesson from it was to have the students post by a certain date, and then they would respond to how ever many postings between Thursday and Saturday and no responses before Thursday would count and no responses after Wednesday would count.

The students had much to say about the importance of the instructor in supporting, directing, and re-directing student motivation. This issue raised the participants' awareness of the importance of the instructor role and the potential affect on how they might teach online in the future.

Humor and Leadership Not as Expected

Humor was one of the early concepts mentioned several times by the instructor. After visiting with Nancy, I suspected that this would be a major theme with the students. Although it was present, it did not materialize to the extent I had expected. Several of them were humorous during the interview process but the responses to my question, “Was there a class clown?” produced comments about humor being related to a class clown. I remember thinking as I asked each one of them that, they almost saw “class clown” as being an offensive phrase for them as serious educators. The earlier comment from Nancy was indicative of the other responses. “(She chuckled)...Class clown? I don’t know that I could say there was a class clown. I do think there were a couple of people, and one of them was myself, who sometimes used humor, because...we could get into some pretty deep discussions, both online and in class. I think there were a couple of people who would inject a little humor in there just to keep things from getting too heavy.”

An example of this type of exchange from the threaded discussion transcripts was as follows:

Lori:

Good example, Linda. I would have to say that I believe both of these to be very true. I believe your example with the governed behavior is very true. I don’t know if I have ever told my mom that though!!

Amy:

I’m intrigued by your example of shaping behavior, and I’m glad we don’t do it that way even though it’s a great example of shaping behavior and rewarding successive approximations. As far as rule-governed behavior, we do benefit from

the experience of others, but I'm still resisting the rigidity of my mother and my in-laws, even though I will be just like them in the future.

Nancy:

Amy,

I am sitting here thinking that I wouldn't let a student just hit me with a needle. Only once did I allow a student to try to start an IV on me and never again.

Nina:

Good example Ellen.

Nina :)

The above example illustrated the simple, but not overt humor that was injected through the use of the nonverbal cue/emoticon, the smiley face.

Similarly to the participant preference for "humor" versus a "clown," I had expected a leader to emerge in the class, but there were varying viewpoints about this as it related to the dynamics of relationships. Except for Linda identifying as the "leader," most took exception to there being a strong leader. Most viewed the time they each had to make their formal presentation in class as their time as the 'leader' or they viewed the instructor as the leader. Some leadership was supported in the discussion about the timing of the postings and who led off first in posting online. In the focus group, they also discussed other influences on how leadership occurred:

Jessica: One thing from the outcomes perspectives...and I threw out in the personal interview...I'll just put it out there again, was that I thought it was interesting for the BSN faculty to be a colleague now with your program director and there were times when I...again not very prevalent...I didn't know how that relationship...I felt like it did influence some of the dynamics.

Jessica: But for Linda...to still be your boss...and it seemed to me her responses were more managerial and coaxing...more supportive...and so

it was too, nursing faculty...and sometimes she would respond to me. But I wondered sometimes how much of that was her as a manager versus who she is as a student...or if that is just who she is. But that dynamic was interesting just to speculate on and what effect that had and whether from your perspective it was in the back of her head that Linda was your boss (chuckles) or if from your perspective...

(Amy in the background said...) It didn't influence me.

Jessica: Did she respond in a way...you know I was just curious to be in that type of relationship...and I think that there was two times in the class...I could feel her taking a stance...

Amy: Yeah.

Jessica: ...she was the leader...and it was by her position...

Amy: Sure...

Jessica: ...that the voice of authority came out.

Donna: I think we maybe would have felt different if we didn't have a good relationship with her normally...you know what I mean...so if it were more where she was kind of separate from us...but really there is so much interaction, we were really comfortable with her being there as a student.

Although there were some definite perceptions about leadership and the influences of the supervisor-subordinate relationship, it was clear from most of information from the interviews and focus group that no clear leader evolved. Rather, to me, group seemed to revert back to their dialogue about their comfort with each other and the underlying interpersonal relationships discussed earlier.

Chapter V

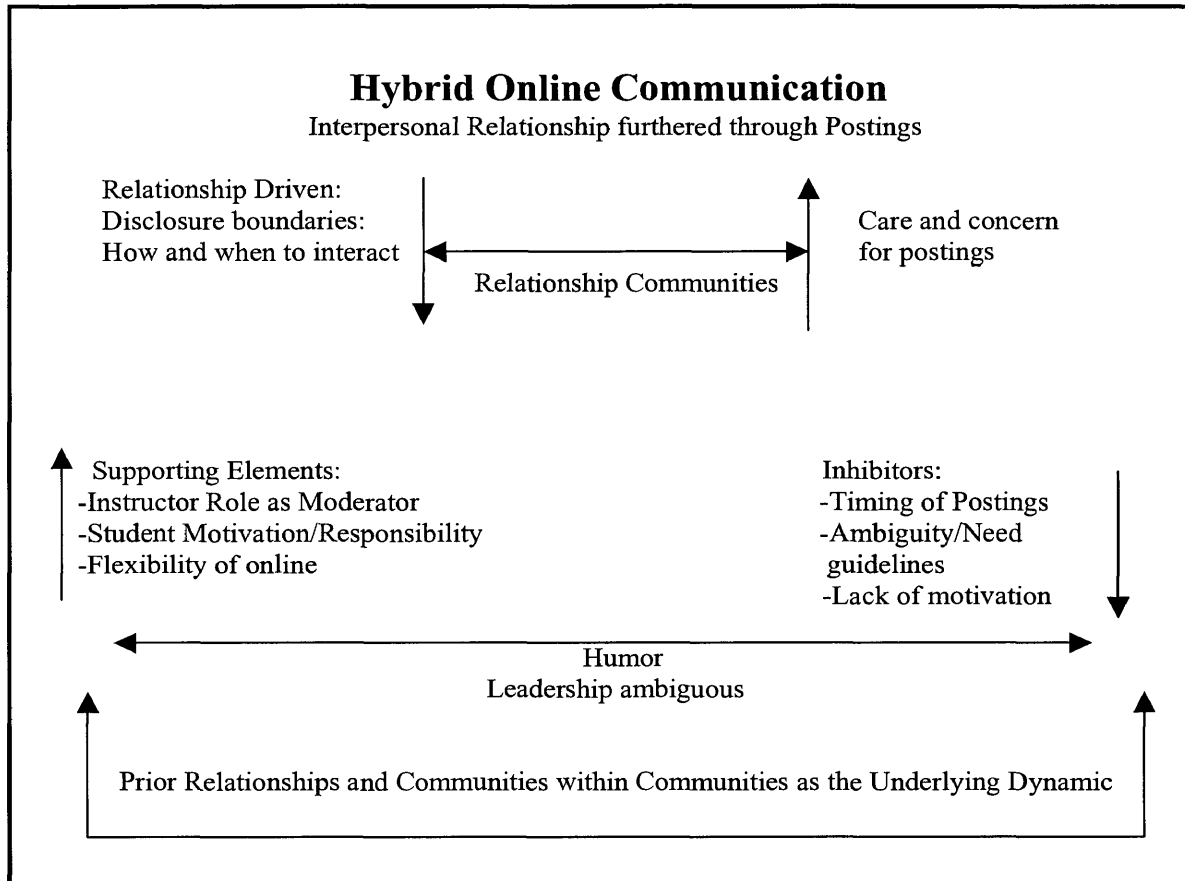
Discussion and Conclusion

Discussion

The purpose of this study was to take a qualitative approach in uncovering patterns which identify the aspects of CMC that were perceived to be most important and useful in the creation of effective instructor-student communication in online education. In studying these, integrated strategies involving both student and instructor perspectives can be furthered to provide more effective communication in online education courses.

In explaining the patterns that emerged, I felt that this case study evolved neatly on the foundation of interpersonal relationships, with dynamics that either helped shape what the NS 806 community became or hindered what might have been. In order to illustrate this, Diagram 2. (p. 89) was created to represent the case study dynamics.

As was stated, this case study represented a rather unique opportunity to look at blended learning, combining both classroom and online communication in a hybrid course. Not typical of the kind of courses the College usually provides, this class was made up of all female students who were also instructors. That brought added perspective for the instructors to elaborate on their own current and future teaching strategies online. Enhancing this was the prior relationships they each perceived that they brought with them into the course (Diagram 1.) This formed an underlying dynamic that appeared to drive other aspects of communication both online and in the physical classroom.

Diagram 2. Case Study Dynamics

The issue of when people posted, such as those students who were perceived as posting too late, and the need for additional deadlines and guidelines emerged as an inhibitor to more dialogue through postings to occur. In the absence of strict guidelines from the instructor on the timing of postings, those participants, who described themselves as well motivated, responded early, with others being perceived as less motivated, posting later. Most participants agreed that tighter guidelines from the instructor would have set the proper stage for creating additional points of dialogue through the threaded discussion.

As indicated in the literature, the instructor role was viewed by participants as being very supportive and instrumental in helping to drive the posting process, either

through additional feedback in the threaded discussion to direct and verify the student responses, or by the establishment of stricter posting guidelines.

While humor and leadership was a pattern it was not seen by the participants to be a major driver in the creation of communication for the NS 806 students. Rather, these elements seemed to emerge as naturally occurring. Humor was expressed as nonverbal behavior mainly on the part of the instructor in relating to the students. Leadership was occurring based on who posted first online, who was presenting in class or by virtue of their position in the pre-established community, such as Linda as the supervisor to Amy, Lori and Donna.

The major pattern that emerged was the interpersonal relationships in driving postings. This included care and concern for their postings, driven by their relationships and identification/connections with each other; how and when they would interact through their postings. The significance of the timing, crafting, and their reflection about how they would post or disclose was very important to the development of hybrid online communication.

All the students expressed their interests in making a strong effort with the hybrid class and particularly online. This was due to their prior-relationships that they held and their individual and collective desires to cooperate with each other in getting as much as they could of the course.

One other pattern was present and that was their appreciation for the flexibility that online CMC provided. However, it should be noted that lack of experience with online courses was at first difficult in the use of technology for Yolanda and Linda and

difficult access for Jessica, the idea of having time to reflect and respond online was important to all of the participants.

In placing this within the theoretical and CMC concepts that were introduced in the literature reviewed, this case study definitely played out like a game of charades with participants in interpersonal relationship communities within the larger course community Griffin (2003). In order for the game to be played, the communication within the hybrid course structure required a high degree of cooperation among the students and the instructor.

Theoretical Framework Supported

The students and instructor all had some kind of prior relationship coming in to the course and this emerged as a clear underpinning to how they communicated. The fact that they knew something about each other and because of the interpersonal relationship communities, their care for crafting and reflecting on how they would respond in their postings created an interesting dynamic.

In the socio-cultural context, learning takes place in a social and collaborative context (McLoughlin & Oliver, 1998). In the social cognitive context, symbolic meaning is created through social networks and internal motivational processes to elaborate on ideas within discussion (Bandura, 2001; Scott, 2002; Thomas 2002). This case study showed the importance of social relationships in the socio-cultural context. Through the participant's concern and care for construction of their postings subsequent dialogue was formed in the social cognitive context.

In the absence of prior relationships, the study indicated that some sort of discovery process to reveal more of the participant identity, such as student introductions and background information from which a student can identify or bond with as a support for why they should care about responding to others and furthering or deepening relationships to create meaning in the community. Therefore, in absence of prior-relationships from which an existing community is formed, having a student introduction, posting of voluntary student profiles, and photos could be an important element of future hybrid course design to support the CMC process.

This is also emphasized in the variables of interaction, course structure and learner autonomy aspect of Transactional Distance theory (Huang, 2002) and the Barnes (2003) idea of a circular model of human communication dependent on the knowledge of the receiver and the context of two-way interaction. Clearly in the study, the course structure providing opportunity for dialogue through postings was important. It needed to be provided by the instructor so that the two-way interaction could occur. The timing of when participants posted had a major impact on how much and the quality of communication that the participants felt they received. Therefore the extent of which the opportunities for dialogue and interactivity took place had an impact on how the participants perceived the communication in the course.

In support of the above, the students viewed the instructor's role as vital for creating the appropriate design elements of introductions, deadlines and guidelines. The students also articulated the importance of instructor participation in providing feedback, re-directing dialogue, and reminding them to post in a timely fashion. These results supported the body of scholarly literature indicating that instructor and student online

interaction as an essential element in keeping students involved in learning. The instructor role is important in allowing and regulating the flow of messages. The need for interactivity and the flow of messages needs to be regulated, but as this case study showed, it is difficult to regulate a real flow, if the structure of the course is not set up to naturally elicit frequent and timely responses and several points of potential interaction between all of the participants. In other words, the participants online would have had more opportunities for moving through more phases of interaction from sharing/comparing, negotiation and co-construction, testing and modification, and agreement (Banan-Ritland, 2002). Although these exchanges were present, in a limited fashion, most of the participants expressed a need for more responses from participants.

Dimensions of Social Structure Supported

Nonverbal Communication

The need for humor and a clear leader were supporting elements to relationships, seen by the students as a nice to have, but not necessary. The instructor placed more emphasis on her own use of nonverbal humor cues in how she attempted to connect with the students and make them feel comfortable. Other concepts of nonverbal interaction were expressed through the written word as represented in student use of agreement with one another and the care and concern for written politeness. With the prior relationships present, it was even more important to the participants to display more positive interactions in their written postings as opposed to outbursts or flaming. The review of the online postings indicated the presence of nonverbal cues such as acknowledgement, thoughtful questions, comparisons, and elaborations, supporting MacKinnon's (2002) research.

Most significantly in the interviews and the focus groups, participants were clear about the care that they took with their postings online. All of the participants expressed that their ability to edit their messages was a benefit in presenting their best answer and represent themselves in a more thoughtful way to get their point across as opposed to off-the-cuff or totally spontaneous responses or automatic agreement with others in the classroom portion. They did point out that the fact that that knowing each other was a benefit in understanding the person/identity behind the word. In addition, the ability to clarify or validate dialogue from the online portion to in class was also a benefit.

Gender-Related Communication

This case study presented several elements of identified women's needs in online learning communication supporting the literature (Furst-Bowe & Dittman, 2001; Sullivan, 2001; Tauplin & Jegede, 2001). Both in the individual interviews and focus groups the strong desire for the involvement of the instructor, interactions with other students, the flexibility of the medium in support of family lifestyles and to some extent technical assistance.

The students were favorable towards the flexibility of CMC and also discussed the ability to express or disclose more freely online as opposed to in class. The issue of self-discipline and self-motivation to post in a timely manner was strongly present. For half of the participants familiarity with the computer software was issue. This is also prevalent among females supported the literature (Zafeiriou, 2001).

Gendered language in social and interactive behavior was also present in the patterns, particularly in the examples of the online postings. More interactive

contributions, characteristic of females was prevalent, and at times, shorter contributions, including references to previous contributions. This supports the suggestion that relationships within the online community are influenced by gender (Barrett and Lally, 1998).

Identity

The participants expressed concern about additional information or identity material about each of the other participants, probably because they already had formed prior relationships. The need for having an up-front introductory piece for each individual was seen as something that would have added to the feeling of connectedness to certain individuals. However, participants were more concerned about how they presented themselves and took greater care to reflect on how they wanted to present their responses to each other. Therefore they took more time to analyze their “voice” in responses (Grubner, 1999). This was not to intentionally act any differently; rather they felt they responded in a different way than they did in class. This was very representative of the literature being mixed in this area (Barnes, 2003).

Student and Instructor Perceptions and the CMC Community

Previous literature discussed student and instructor perceptions of CMC as being essential in understanding what is important and how to keep students involved in learning. This case study supported the literature and emphasizes some key areas, particularly in the design of hybrid courses. The participants in this study articulated the clear expectation for feedback from instructors and peers in collaboration to create a solid

sense of community. Although these participants came with their communities pre-formed, they were eager for additional relationship building to occur. The following points from the literature were supported: 1) CMC needs to be monitored and moderated by the instructor by providing a strong guiding and re-directing presence in the online discussion; 2) CMC allows flexibility for students to reflect and create thoughtful responses; 2) Instructors and students share personal and professional data, stories, positive comments; 3) There is a strong need for more frequent and timely responses from peers and spontaneous responses from the instructor within threaded discussions, created in the structure of the course; 4) Provide a sense of community or belonging to others and showing respect by creating opportunities for self-disclosure and posting biographies ; 5) Instructor should design the course for opportunities for dialogue, frequency of discussion entries, and the contributions of multiple students within the course; 6) Feedback from the instructor supporting technical issues and the need for flexibility for work and family issues, especially for females; and 7) Course design should include clear directions/guidelines for postings that support more online dialogue and identity sharing.

Conclusion

This case study presented students and instructors perceptions and experiences in a hybrid course. This impacted their understanding of their role as current and future health care educators or advance practice nurses working online or in development of online hybrid courses in the future. Specifically, because the student participants were

also educators, they were able to gain a first-hand perspective of some key components in the design of future hybrid courses. Their personal experiences, combined with the focus group dialogue enabled them to reflect on their own current style of teaching and how they might teach online in the future. This directly addressed the central problem:

Central to the problem is that student and instructors may not automatically know how to communicate effectively with each other online. Therefore, studying the nature and complexities of computer-mediated communication (CMC) is essential in establishing integrated strategies for effective instructor-student interaction in online education.

This case study allowed a view from both the instructor and the student perspective in what their roles were in the communication process. This supported Northrup's (2002) conclusions that students have an expectation for feedback from instructors and collaboration with both peers and instructors for creating a sense of community. And as this case study showed, this hybrid course had a strong foundation for prior relationships, which formed communities within the course. This supports the notion that in absence of existing relationships, that interaction and collaboration through dialogue is crucial for the building of relationships and bonding. Specifically the participants in this case study pointed to a sense of bonding as a reason for strong, careful, distinct concern and responsibility in how they posted (communicated) online.

In addressing RQ 1: How do relationships form in the online portion of the class?

It was evident from the student interviews and focus group specifically, that the time and care they took to be respectful of each other and to respond in what they viewed as an appropriate manner, was very important. The building of relationships is hinged on

having appropriate deadlines or guidelines in class that drive when and how often is appropriate to respond enough through postings in order to generate meaningful dialogue.

Each person in the case study articulated a need to be responded to in what they felt was an appropriate manner. The fact that some people posted late caused some not to be responded to appropriately or often enough to make the students feel like there were opportunities to build on their relationships online. The results showed a high degree of care, concern, and need for continued bonding to be manifested through their postings. In absence of people responding in a timely fashion for others to give feedback to through postings, or to receive a response, many students can be left with wanting more relationship online and bonding may not occur. If bonding does not occur, that students may not care as much about the way they construct and interact within the interpersonal community.

In addressing the second research question:

RQ 2: What are instructor and student perceptions of relationships formed online as opposed to off-line?

There were mix opinions from the participants regarding how they participated differently online than off. The findings suggested that they did see differences in how they communicated in the classroom being more spontaneous as opposed to responses online being more reflective and crafted. There was some degree of concern for how they would be viewed by others in the different relationship communities by the way they interacted in each part of the hybrid course. Most significantly the results indicated the need for guidelines for timely and frequency of postings so additional dialogue would be

created. Participants perceived that additional relationship could have been built if there were more opportunity for online postings.

Therefore, an argument can be made for stronger implementation strategies for instructors in the design and the development of online courses that would include tighter guidelines and more frequent postings. In support of what Keller and Cernerud (2002) had concluded, the instructor for this case study indicated that as a result of this hybrid pilot course, she would, in future courses, create opportunities for student collaboration on focus items that would be presented in the online forum and opportunities for questions and answers from the other participants.

In summary, the researcher predicted that two significant themes would emerge from a student perspective. First, that both instructor-to-student and student-to-student communication would be key to the participant's perception of the experience. This in fact, did emerge as a theme in support of Sullivan's (2001) research suggesting that female students may feel the lack of interpersonal interaction more strongly than males. The discovery process with the students indicated a greater emphasis on the student-to-student relationships that were built upon through the online postings. Additional meaning for this all female participant group could have been constructed through additional opportunities to post, thus creating more dialogic communication threads. Instructor-to-student interactions were not seen as key to how well they might do in the course, but rather how well communication could drive students-to-student interaction. Therefore, as predicted, student-to-student relationships were perceived as most important to enhance the richness of the experience. The instructor-to-student interaction was important as a supporting element posting/dialogue opportunity.

Limitations and Future Direction

The case study, while unique with instructors as students and the hybrid nature of NS 806, was limited in some areas. First, it would have been useful to have conducted the study at the time of the actual course for the researcher to participate as an observer both in the classroom and online to gain a deeper perspective on communication differences between the two.

The small number of participants may also have been limiting, in that additional participants may have added a viewpoint from participants who did not have previous formed relationships. This could have produced a different outcome in how relationships were formed and an even deeper need for student introductions, deadlines, guidelines and instructor participation.

The focus group was limited by the absence of the student participant who was the supervisor (Linda) to three of the other participants. The discussion in the focus group could have produced additional perspective on whether or not the supervisor influenced the dynamics of participation in the course.

This case study served as a unique springboard study, serving the purpose of examining both student and instructor perceptions of CMC communication in the hybrid environment. As the blended approach to learning is emerging in medical education and specifically nursing, the insights gained in this study raise themes for future study. With the limited pool of qualified instructors, the use of hybrid courses could meet more of the interpersonal needs for women. Designing and implementing such courses using CMC effectively by providing many avenues of dialogue and the building of relationships can address student perceptions about online education. This could pave the way for

additional student enrollment into such courses and increase student satisfaction. More students to nursing programs is a way to increase the number of qualified nursing instructors and nurses to support clinical practice. It can also lead to continued course adaptation to meet the unique interpersonal relationship needs of female students.

Offering faculty experiences, similar to the one in this study, can be useful in the retention and productivity of faculty in support of online education. A study examining the importance of student introductions, deadlines for postings, and guidelines from the instructor for CMC interaction should be conducted to further the impact the development of online and hybrid online courses in education. Second, a future study examining online instructor perceptions of themselves as students having gone through an online course prior to instructing online may be useful in enhancing the instructor role in driving CMC interactions in their development of online courses.

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Appendices Summary:

An informed consent form (Appendix A) to protect the data and the participants in the course of this research and in line with IRB stipulations was used. An Invitation to Participate form (Appendix B) was also used.

Other appendixes included were as follows: Appendix C (Interview Questions - Instructor); Appendix D (Interview Questions - Student); Appendix E (Student Focus Group Questions); and Appendix F-(Clarkson College Consent for Study).

Timeline

After the researcher's committee approved the thesis proposal, it was submitted for IRB approval in May, 2004.

Interviews and focus groups were conducted in June, 2004. Following this, transcriptions were completed, coded and analyzed during July and August. Writing took place in September and was submitted for review by the committee in October. The thesis was completed in November.

Budget

The only items for budget purposes are audiotapes for the recordings and the purchase of several reams of paper. Six one-hour student interviews and one instructor interview were recorded. One 90-minute focus interview was recorded. Approximate budget: \$15.00.

IRB #223-04-EX Clarkson College IRB#: 04-07

Appendix A - Informed Consent

Consent for research study: Computer-Mediated Communication in Online Education: A Case Study of Instructor and Student Experiences and Perceptions in a Hybrid Online Course

The research is being conducted by Melodae Lane, under the direction of Dr. Jeremy Lipschultz, University of Nebraska, Omaha, School of Communication.

The purpose of this research is to take a qualitative approach in uncovering patterns which, identify the aspects of computer-mediated communication that are perceived to be most important and useful in creating effective instructor-student communication in online education.

Participation in this study is completely voluntary and there is in no way any requirement to participate. It is not part of course work and will have no effect on your course work or any course work evaluations.

The participant will be interviewed individually and participate in a focus group interview during the research project in order to uncover communication patterns related to experiences and perceptions following an online hybrid course. The participant may participate in an individual interview and a focus group, both of which will be tape recorded and transcribed by the researcher. Each participant should expect to spend 60 minutes in an individual interview and 90 minutes in a focus group with the other participants. Each participant will spend a total of two and one half hours of time involved in this study.

Threaded discussion and chatroom transcripts from the course will be reviewed as part of the study.

Throughout the project, the participant's real name will not be revealed and the researcher will maintain confidentiality of the participant's responses and actions. You should know, however, that there are some circumstances where the researcher may have to show information gathered from you in this project to other people. Someone from the University of Nebraska may look at or copy records that identify you.

There are no foreseeable risks to the participant stemming from this research. Students will receive no monetary compensation for their participation.

Participant

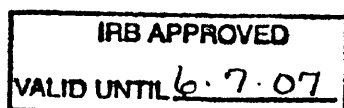
Date

For questions about this study, contact the principal investigator, Melodae Lane (402-552-6114), or her advisor, Dr. Jeremy Lipschultz (402-554-2563). For your rights as a research participant, call the Sponsored Programs and Research Office, University of Nebraska Omaha, 402-554-2286.

I have explained and defined in detail the research procedure in which the subject has consented to participate.

Principal Investigator

Date



Appendix B- Student Invitation to Participate

Dear Name,

I am working on a thesis in conjunction with my Master's in Communication program at the University of Nebraska at Omaha. The topic for my thesis is: *Computer-Mediated Communication in Online Education: A Case Study of Instructor and Student Experiences and Perceptions in a Hybrid Online Course*.

I have selected for my case study, the NS 806 Theories of Learning class that you completed. Clarkson College has approved me (as a Graduate student) to gain access to the online class for the semester Fall, 2003. I am inviting you to participate in the case study, which will focus on the entire class and the instructor. Your participating is voluntary and the attached Informed Consent form explains this more fully.

If any person does not want to participate in this study, then copies of the discussion sessions will be printed out and the your discussion will be deleted from the information prior to my review of the data.

I will be contacting you in-person to set up a time to explain this study to you completely. In the meantime, please feel free to e-mail or call me with any questions you may have.

Most Sincerely,

Melodae Lane
2-6114

Informed Consent Attachment

Appendix C – Interview Questions – Instructor

Behavior/Experience

1. How would you describe your experience teaching the online portion of the course?
2. What worked for you?
3. What was difficult?

Opinion

4. What is your opinion on how relationships were built with your students in the online portion of the class?
5. How were student-to-student relationships built?
6. How was that different than the off-line portion?
7. Was there a leader in the class? Was there a class clown? How were they different online?

Future

8. What should be done differently to help build relationships?
9. How do you think you will adjust teaching strategies to create opportunities for relationship building in future courses?
10. Is there anything else you can tell me that relates to this subject?

Feeling

11. How would you describe how you felt about the students?
12. Do you feel you acted differently online than off-line?
13. How do you feel the students related to you?
14. Who do you feel you had the best relationship with and why?

Knowledge

15. How would you describe your knowledge of computers and working online, prior to teaching a course online?

Sensory

16. Thinking back on it, what was the best conversation you had online and why?
17. What was it like when you logged on to the course for the first time to teach this course?

Present

18. What was it like at course end?

Demographic/Background

19. Demographically speaking, what else can you tell me about yourself?

Appendix D – Interview Questions – Student

Behavior/Experience

1. How would you describe your experience with the online portion of the course?
2. What worked for you?
3. What was difficult?

Opinion

4. What is your opinion on how relationships were built with the instructor in the online portion of the class?
5. How were student-to-student relationships built?
6. How was that different than the off-line portion?
7. Was there a leader in the class? Was there a class clown? Were they different online vs. offline?

Future

8. What should be done differently to help build relationships?
9. How do you think you will participate differently in future online courses?
10. Is there anything else you can tell me that relates to this subject?

Feeling

11. How would you describe how you felt about the other students online?
12. Do you feel you acted differently online than off-line?
13. How do you feel the students related to you?
14. How do you feel the instructor related to you?
15. Who do you feel you had the best relationship with and why?

Knowledge

16. How would you describe your knowledge of computers and working online, prior to taking this course online?

Sensory

17. Thinking back on it, what was the best conversation you had online and why?
18. That was it like when you logged on to the course for the first time to take this course?

Present

19. What was it like at course end?

Demographic/Background

20. Demographically speaking, what else can you tell me about yourself?

Appendix E- Student Focus Group Questions

1. What do you think about the online portion of this course?
2. What worked in the class?
3. What made it difficult?
4. Were people different online than off-line? Why?
5. What did online relationships contribute to the class?
6. As female graduate students, do you think you have more need for relationship online?
7. Do females bring their life experiences into online relationships more than in the classroom?
8. What kind of knowledge or guidelines do you need before working in the online portion of the class?
9. What role did the instructor play in developing relationships?
10. How does relationship contribute to graduate nursing courses?
11. For those of you who are currently undergraduate instructors, has your online experience through this class changed the way you might go about instructing in an online setting in the future?
12. What other impressions do you have about the online communication portion of this hybrid course?

Appendix F- Clarkson College Consent

May 25, 2004

Ms. Melodae Lane
101 S. 42nd St.
Omaha, NE 68131

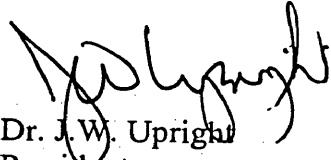
Dear Ms. Lane:

This letter is in response to your request to conduct your research study **Computer-Mediated Communication in Online Education: A Case Study of Instructor and Student Experiences and Perceptions in a Hybrid Online Course at Clarkson College.**

Specifically, you have permission to study the most recent Theories of Learning-NU 806 class, which involves approaching the instructor and students for the purposes of conducting interviews and a focus group. We understand that the students and instructor will be asked to participate on a voluntary basis, with the option not to participate at any point during the study.

We also grant permission to review threaded discussion transcripts and course documents such as the syllabus, handouts, online course assignments, and documents given by the instructor.

Sincerely,


Dr. J. W. Upright
President



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