INPUT QUALITY IN INTERNET DELIVERED EDUCATION AT A LARGE COMPREHENSIVE UNIVERSITY

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree
DOCTOR OF EDUCATION
May, 2006

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DELIVERED EDUCATION AT A

LARGE COMPREHENSIVE

UNIVERSITY

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DEDICATION

To my wife ~ *Patricia Ann Aceves, my True North, my friend, my wisdom, y mi amor.*

To my parents ~ *Joseph and Jessie Aceves, I thank you for my proud heritage, honor, and integrity.*

To my children ~ *Para mi hija, Arielle Isidora, mi estrella la luz de mi corazón.*
To Andy, Nick, Tim, and Andrea, may all of your wishes come true.

ACKNOWLEDGEMENTS

With great appreciation, respect and honor, I thank my doctoral committee Dr. Kenneth Stern (chair), Dr. Ed. Harris (dissertation advisor), Dr. Patrick B. Forsyth and Dr. John E Steinbrink for their guidance and wisdom.

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CHAPTER I

INTRODUCTION

Students in higher education are demanding academic programs that are convenient and accessible, and institutions meeting this demand for accessibility often overlook quality in their efforts to convert campus-based programs to an Internet format. Implementation of Internet-delivered education that is not grounded in sound educational practice or learning effectiveness will not produce the desired results (U.S. Department of Education, 2004). Expending resources to meet the demands of students, institutions become entrenched in the fear of being left behind in the marketplace, or find themselves embracing online education because online is the "new thing." These institutions should be developing clear, articulated objectives and assessing the effectiveness of these new ventures.

Statement of the Problem

Higher education institutions with existing distance education programs are investing more time, money, and energy in Internet-delivered education. From 2000-2001 alone, there was a 72% increase in distance education courses offered in the United

States (Department of Education, 2002). The National Center for Education Statistics (July, 2003) found that during the 2000-2001 academic year, 56% (2,320) of all 2-and 4-year Title IV-eligible, degree-granting institutions offered distance education courses. Among these, 90% offered an asynchronous and 43% offered synchronous Internet-delivered education. In addition, of those institutions that do offer distance education, 88% indicated in the next 3 years, that they planned to start using or increase the number of Internet-delivered education courses. For those institutions that do not plan to implement distance education programs, they identified lack of fit with institutional mission (24%), concerns about course quality (26%), and limited infrastructure to support distance education (24%) as factors preventing them from initiating a distance education program (Waits & Lewis, 2003).

Educators and researchers agree that quantity of programs and courses does not translate into quality; as the offering of Internet-delivered education expands, more research and emphasis must be placed on quality and effectiveness of these programs. The Institute for Higher Education Policy (2000) reports that a review of studies conducted on the quality of distance education programs had significant design flaws. Missing in the current literature, and evident in the concerns expressed by post secondary institutions, are discussions and evidence of the quality of Internet-delivered courses and programs (Merisotis & Phipps, 1999; Hensrud, 2001). This study focuses on the quality of Internet-delivered education at a large comprehensive university.

Need for the Study

With emerging magnitude placed on online learning by higher education and private corporations, and students who demand quality over quantity, citing that access alone is not enough, it is imperative that institutions recognize and concentrate on the demands of Internet-delivered education (Schenk, Frank, & Toland, 2004, Pendergast, & Kapitzke, 2004; Roland, 2003).

Along with an institution's plans to devote substantial resources to the development of Internet-delivered education, there comes a fiscal, ethical, and educational obligation to insure the institution, faculty, and staff are successful at delivering instruction in this new medium. If the institution, faculty, and staff are not successful in providing a quality Internet-delivered education, then it is important to identify the causes, and provide training where appropriate to correct whatever deficiencies are identified.

Purpose of the Study

The demand of distance education is increasing at a significant rate, and as a result, there is need for research measuring the quality of Internet-delivered education. Simply increasing the number of Internet-delivered courses does not by design equate to a quality program. For the purposes of this study, the description of a quality Internet-delivered education is one that addresses institutional support, course

development, teaching/learning, course structure, student and faculty support, and evaluation and assessment. This study seeks to close gaps in the research literature by assessing the perceived quality of an Internet-delivered education program at a large university using an instrument that is grounded in what current literature and national accrediting bodies have identified as the industry's best practices in this field. This study assesses these factors as an indicator of the quality and effectiveness of the institution.

Research Questions

This study asks one major research question with seven sub-questions. Research question: To what extent does the Internet-delivered education program meet the standards for quality distance education?

Research sub-questions:

To what extent does the Internet-delivered education program meet quality standards for institutional support?

To what extent does the Internet-delivered education program meet quality standards in course development?

To what extent does the Internet-delivered education program meet quality standards in the teaching/learning process?

To what extent does the Internet-delivered education program meet quality standards in course structure?

To what extent does the Internet-delivered education program meet quality standards in student support?

To what extent does the Internet-delivered education program meet quality standards in faculty support?

To what extend does the Internet-delivered education program meet quality standards in evaluation and assessment?

Significance of the Research

The findings of this case study contribute to the body of knowledge on faculty development and Internet-delivered education. The findings also provide data for practitioners at this institution on which to base decisions regarding revisions to procedures and faculty development activities that emphasize online education. The findings also establish baseline assessment data that may be used to initiate a longitudinal study to measure faculty development activities emphasizing online education.

Limitations of the Study

The results of this study may not necessarily reflect practices of faculty and staff elsewhere in the United States. Due to time and financial considerations, a convenience population of faculty and staff at a large state university, who taught or supported the

online program in the past 3 years, were surveyed in April 2005. Given this institution's proactive mission for the development of online education, the results of this study are useful only to other higher education universities with similar goals and objectives.

This case study focused on a large comprehensive state university in the Midwest. The participants surveyed were limited to faculty and staff who are involved with either teaching or supporting online education, and self evaluated their own perceptions of the program. The biases and researcher subjectivity were examined through the lens of a faculty member who is currently engaged in Internet-delivered education.

Research Assumption

The quality of Internet-delivered education at this institution is analogous to traditional on-campus education and worthy of investigation.

Organization of the Study

This case study is organized into five chapters. Chapter I identifies the problem, the purpose, and the objective of this study; this chapter also presents the hypothesis of the study, definition of terms, limitations, and delimitations of the study. Chapter II discusses the theoretical framework in the systems theory of assessment, research directly and tangentially related to Internet-delivered education. Chapter III discusses

methodology and research design. Chapter IV presents and analyzes the data collected from study surveys. Chapter V discusses the theoretical framework in application, findings and recommendations.

Outcomes and Benefits of the Research

The magnitude of this case study at this juncture in time for this institution is significant. The Bachelor of Applied Science in Aviation Maintenance Management, (coordinated by the researcher for the Aviation Department) and Master of Science in Applied Behavior Analysis (Community Psychology Department) were reviewed for program accreditation during 2004 (St. Cloud State University, April, 2004). Although both programs received accolades in the evaluation, the accreditation review surfaced several questions: Non-standardized faculty practices, curriculum design, technology, and organizational support. The accreditation team emphasized that these issues would be key areas of focus during the future institution-wide accreditation visit (Nelson, K, Georgina, D., & Littlejohn, R., May, 2004). The findings from this study will be instrumental in assisting the university to achieve full accreditation of all future online programs.

To date, this institution's online program offers over 150 internet based courses and five online degree programs: Master of Science in Applied Behavior Analysis, the Bachelor of Applied Science in Aviation Maintenance Management, the Bachelor and Master of Arts in Criminal Justice Studies, and the Bachelor of Elective Studies in Community Psychology.

Definition of Terms

Administrator: Person primarily engaged in direct administration of a credit granting, post-secondary distance education unit. This position would address the design, integration, and/or delivery of Internet-delivered education.

Asynchronous communication: “A time-delayed communication through some type of recording device. It is replayed at the convenience of the user” (Cyrs, 1997, p. 429).

Benchmark: “Used to describe the array of principles, strategies, and guidelines that have been recommend by many organizations concerned with quality distance education. In general, a benchmark is an institutional behavior that contributes to ensuring quality in technology-mediated distance education” (Phipps & Merisotis, as cited in Hensrud, 2001).

Best practice: Those elements that when combined, are considered essential for quality distance education program (Hensrud, 2001).

College-level certificate: Programs that offer post-baccalaureate, post-masters, first professional certificate, or certificates of at least 2 but less than 4 years in length (Knapp, et al. 2001).

Course development: The category of benchmarks that examine standards for course development, technology, and instructional materials (Phipps & Merisotis, 2000).

Course structure: The benchmarks in this category include policies and procedures that support and relate to the teaching/ learning process. They include guidelines on course objectives, availability of library resources, and student readiness for distance education (Phipps & Merisotis, 2000).

Degree program: Programs that offer an associates, bachelors, masters, doctorate, or first professional degree.

Distance education (DE) Unit: A program, department, facility, or institution providing university-level credit-granting education to distance learners.

Distance education (DE): Planned instructional delivery as a supplement to or separate from traditional classroom instruction. Occurring in a place different from the primary instructor, requiring special techniques of course design and instruction. Methods of technological communications, organization, and administrative arrangement (Moore & Kearsley, 1996).

Distance teaching: “The family of instructional methods in which the teaching behaviors are executed apart from the learning behaviors, including those that in a contiguous situation would be performed in the learners presence, so that communication between the teacher and learner must be facilitated by print, electronic, mechanical, or other devices” (Moore, 1988, p.35).

Evaluation and assessment: These benchmarks include policies for how an organization evaluates its Internet-based distance education program. These include outcomes assessment and collection of data on enrollment and costs (Phipps & Merisotis, 2000).

Faculty support: These benchmarks address activities that assist faculty in teaching online. Included are guidelines for faculty transition, peer mentoring, and continued assistance throughout the teaching process (Phipps & Merisotis,2000)

Faculty: Full-time and part-time faculty who have taught online.

Histograms, 2D: Two dimensional histograms present a graphical illustration of the frequency distribution of the selected variables allowing the reader to examine various aspects of a distribution *qualitatively*. An example from this study, distribution is bimodal (2 peaks), suggesting that these findings are not undivided, but possibly have disagreeing responses from respective categories.

Instructional academic staff: Professionals who work with faculty and support staff to apply university knowledge and resources, i.e. student services, course developers, or instructional/visual designers.

Likert Technique: Respondents are presented with a set of attitude statements. They are then asked to express agreement or disagreement of a five-point scale to measure attitude. Each degree of agreement is given a numerical value from one to five. Thus a total numerical value can be calculated from all the responses (Likert, 1932).

Post-secondary institution: Tertiary accredited, public, private, or governmental credit granting academic institution offering the equivalent of a baccalaureate (four year) degree.

Quality: A degree or grade of excellence. In this study, "quality is determined by the extent to which specific benchmark criteria for successful distance education are met" (Hensrud, 2001).

Student support service: “All the institution’s interactions with the student except those conveying instructional content” (Mehrotra, Hollister, & McGahey, 2004, p. 115).

Student support: This category includes guidelines for student services such as admissions, advising, financial aid, library resources, technical support, and others (Phipps & Merisotis, 2000).

Synchronous communication: “A communication in real time that is not time-delayed” (Cyrs, 1997, p. 449).

Teaching/learning process: This category of benchmarks includes those process activities related to pedagogy. Included are standards for interactivity, collaboration, and research methods (Phipps & Merisotis, 2000).

WCET: Western Cooperative for Educational Telecommunications

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Internet Education has evolved into a viable and inventive delivery system for higher education playing a major role in university outreach and training. Those institutions that respond effectively and adapt themselves to function within this environment, leveraging resources to meet “education on demand” students will prosper; those who fail to respond will drive themselves out of business.

Olcott (1994) writes:

> Within this environment, technology will be a tool for competitive advantage that can leverage new markets for institutions as well as redefining faculty time and workload. Low-end technologies integrated into innovative instructional formats will dominate the design agenda for higher education courseware. Public and private partnerships will become reality rather than politically correct rhetoric to harness the collaborative potential of telecommunications. Education’s utilitarian application will define its quality and contribution to society. Finally, just as technology has already blurred the

> distinction between home and work via the Internet, the web, and remote access to the workplace, technology will transform the home into a learning community where students, parents, teachers and employers alike will participate in education as part of a vast distributed learning system. (p. 11)

The American model of education originates with Socrates, wherein a student and a teacher engage in a face-to-face exchange of ideas. They exchange not only words but also nuances of body language and intonation. The student makes mistakes and the teacher corrects misunderstandings. The teacher develops and sustains a representation of how the student is progressing, while the student develops an understanding of what is being taught. When the communication between the two is rich and interactive, a learning relationship develops and flourishes (Saran &, Neisser 2004). In distance education, institutions must examine the whole learning experience, including teacher pedagogical skills, student technical knowledge, and technology support; all of which encompass an anthology of interrelated systems (Moore & Kearsley, 1996).

The focus of this study is to assess the quality of the Internet-delivered education program at The Institution. The standards are founded in a study of the characteristics of online best practices and principles. The study assesses the Internet-delivered education program, using the standards which have been incorporated into a survey instrument. Pursuant to the investigation of the above focus, this literature review is centered on four major areas of interest: Defining distance education; factors affecting the quality of Internet-delivered education within higher education; theoretical framework of assessment and evaluation of Internet-delivered education; and the principles and best practices in Internet-delivered education.

Defining Distance Education

Internet-delivered distance education has taken advantage of a momentous medium in order to convey knowledge around the world. In the United States, the edification of online educators has fallen behind the emphasis institutions are giving this emerging discipline. The concepts of “distance education" or "distance learning" have been applied interchangeably by many different researchers to a great variety of programs, providers, audiences, and media. Its characteristics are the separation of teacher and learner in space and/or time (Perraton, 1988), the volitional control of learning by the student rather than the distant instructor (Jonassen, 1992), and noncontiguous communication between student and teacher, mediated by print or some form of technology (Keegan, 1986, 1988; Garrison & Shale, 1997).

Before one can decipher the literature on online education, it is imperative to recognize that researchers do not use one single term but several. As Belanger and Jordan explain, “a major problem confronting research interest in studying distance learning, or professional interest in evaluating and implementing distance learning, is that the literature presents a wide variety of distance learning terms” (Belanger & Jordan, 2000, p.7). Further they state, “the plethora of terms ... that describe related or similar phenomena make it more difficult to absorb the relevant literature on the subject” (p.8). A few of the terms cited by Belanger and Jordan (2000) include: asynchronous learning networks, computer assisted instruction, computer mediated education, computer mediated training, distance education, distance learning, distance training, open learning, open learning environments, open university, virtual learning, virtual universities, and

web-based instructional systems. To simplify discussion, this researcher will use "Internet-delivered education" as the terminology for this study.

The earliest definition of distance education is one in which the student and instructor are geographically separated (Armstrong, 1998). This definition defines distance education methods that were first used in the 1800s, when distance education was comprised of correspondence courses, and later, courses broadcast over the radio. Contemporary distance education courses include at least one communication instrument, or increasingly, a combination of high technology communication instruments such as audiotapes, intranets, online training, and videoconferencing (Abernathy, 1998). The communications may be "synchronous (real time, with fixed meeting times equivalent to classroom instruction) or asynchronous (no fixed time or location and students not in communication with the instructor or each other at the same time)" (Morrison & Guenther, 2000 Pg 14). Gasaway (1998) explains that communication may also be a combination of synchronous and asynchronous offerings.

Moore (1987), made the first attempt in America to define and assign distance education to a family of instructional methods, where teaching methods are executed apart from the learning behaviors. These teaching methods would be performed in the learner's presence so that the communication between the learners would be facilitated by print, electronic, mechanical, or other devices (Moore, 1987).

Keegan (1988) considered four definitions of distance education in an attempt to identify a universal explanation of distance education. The first definition conceded to Moore's concept of distance teaching. The second advocates Holmberg's approach that distance education should include all levels and forms of study, which are not under the

constant and direct supervision of instructors present with their students. Keegan then reviewed a third definition by Otto Peters, who noted the crucial role of technology in distance education. Peters viewed distance education as an industrialized form of teaching and learning in which knowledge is communicated to numerous students, regardless of their geographic location, exclusively through technological channels. Keegan's fourth and final consideration in defining a definition of distance education examined a 1971 French law that defined distance education as education which does not imply a physical teacher assigned to where knowledge is distributed, or in which a teacher is present only on occasion or for selected tasks (Holmberg, 1986, 1989;Keegan, 1988, 1993).

Based on Keegan's review of these four definitions, six factors were identified in creating a universal definition of distance education:

1) Separation of instructor and learner, as opposed to face-to-face, traditional methods of instruction.

2) Influence of an educational organization, which differentiates distance education from private study.

3) Utilization of technical media to unite teacher and student and contain the educational subject matter.

4) Accessibility of two-way communication to ensure effective communication between student and teacher.

5) Provision of socialization and educational opportunities through occasional meetings.

6) Creation of a fundamental separation of distance education from other pedagogical theories through participation in an education discipline.

Garrison and Shale (1997), argued that Keegan's definition was too narrow, did not complement the existing reality of advances in distance education circulation technologies, or its future possibilities. While not offering their own definition of distance education, they outlined what they considered to be important aspects of the distance education process. Distance education, they stated, implies the noncontiguous connection between and among teacher and students and must involve mutual communications. Technology is necessary to develop the relationship between instructors and students.

Moore and Kearsley (1996) described distance education as, "planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements" (p. 2). Online education has been described as distance education that is conducted through a series of computer networks (Hensley, 2003).

The Higher Learning Commission, a part of the North Central Association of Colleges and Schools, defines distance education, for the purposes of accreditation review, as a formal educational process in which the majority of the instruction occurs when student and instructor are not in the same place. Instruction may be synchronous or asynchronous. Distance education may employ correspondence study, or audio, video, or computer technologies.

Theoretical Framework

Moore's (1987) theory of distance education underscores the importance of a distinct method of pedagogy, which examines teaching distance education at a theoretical level. Building on the work of others before him, his theory combines the importance of both structure and dialogue in the pedagogical framework. Relating these concepts to Internet-delivered education, learner autonomy is central to the theory of transactional distance (Moore & Kearsley, 1996, Hensrud, 2001).

Traditionally, theoretical constructs in distance education have been considered in the context of an educational project, which was entirely separate from the traditional, classroom-based, classical instructional model. In part to justify, and in part to explain the phenomenon, theoreticians like Moore, Holmberg, Keegan and Rumble explored the underlying assumptions of what it is that makes distance education different from traditional education (Moore, 1973, 1987; Holmberg, 1986, 1989; Keegan, 1986; and Rumble 1986). With an early vision of what it meant to be a non-traditional learner, these pioneers in distance education defined the distance learner as one who is physically separated from the teacher (Rumble, 1986) has a planned and guided learning experience (Holmberg, 1986), and participates in a two-way structured form of distance education which is distinct from the traditional form of classroom instruction (Keegan, 1988).

Moore and Kearsley (1996) added to the theoretical body of knowledge in this discipline through additional research, combining their theory of transactional distance with a systems model describing distance education. Their systems model included an in-depth look at distance student needs, the instructional design process, and the intended

delivery modes. The possible delivery components include a variety of media: print, one and two-way audio/video, and computer-mediated delivery (synchronous and asynchronous). Their research indicated that by separating the instructional design process from the actual teaching process, the course designers and the faculty could co-create a distance learning course that would utilize the expertise of both and allow them to focus their efforts on creating a quality learning environment for the students. The result was a learning environment that is not bound by time or geographic location (Hensrud, 2001). Add to this an administrative function (someone to run the distance education programs) and program assessment (learning outcomes and student services), all pieces of this system are in place to allow quality to be achieved and measured. Breakdowns in the system occur when pieces are missing or not functioning in tandem with the others (Moore, 1993; Kearsley and Moore, 1996).

A Systems Approach

Moore and Kearsley (1996) defend three reasons why using a systems approach is important to the theory and practice of distance education:

1) A systems approach provides both a conceptual tool and a holistic approach to program evaluation:

> Each component process in a distance education institution, unit, program or consortium may be may be developed and operated independently to some degree, but good quality requires that the development and operation of each component be controlled in such a way that is fully integrated with the

development and operation of all the other components, making each supportive of the other (p.6).

2) The systems approach allows institutions to make a valid and reliable analysis of each unit:

A distance education institution, unit, program, consortium or individual course can be analyzed or described as a system. [This] includes the subsystems of knowledge sources, design, delivery, interaction, learning and management. The more integrated these are in practice; the greater will be the effectiveness of the distance education organization (p.17).

3) A systems approach is holistic:

As organizations become more understanding of the benefits of adopting a total systems approach to distance education, there will be an impact on teachers, learners, administrators, and policy makers. Significant changes will occur in the way education is conceptualized, funded, designed, and delivered. Not the least of these will be opening of access and improvement in quality (p.18).

Influencing the Input Quality of Internet-Delivered Higher Education

Higher education institutions with existing distance education programs are investing more time, money, and energy in Internet-delivered education. From 2000-

2001 alone, there was a 72% increase in distance education courses offered in the United States (Department of Education, 2002).

In a 2000-2001 study conducted to provide national estimates on distance education at 2-year and 4-year Title IV-eligible, degree-granting institutions, 89-90% of all 2-and 4-year public institutions offered distance education, with 12% indicating they planned to start offering distance education programs within the next three years. Larger institutions (10,000 or more enrollments) showed the largest growth in Internet-delivered education programs (47%), whereas programs at mid-sized institutions (3,001 to 9,999 enrollments) grew at the rate of 34% and smaller institutions (fewer than 3,000 enrollments) grew at a rate of 22% in the year surveyed. Of those institutions conducting distance education programs, 88% indicated plans to begin or increase the use of entirely asynchronous Internet-delivered courses as the primary mode of instructional delivery for their distance education programs. Sixty-two percent of institutions indicated that they planned to increase the use of synchronous Internet-delivered education courses as a primary mode of instruction in distance education programs (Waits & Lewis, 2003). During the same time frame (2000-2001), 19% of all 2-and 4-year institutions had degree or certificate programs designed to be completed totally through distance education, offering an estimated 2,810 college level degree programs. Of these 1,570 (56%) were undergraduate degree programs and 1,240 (44%) were graduate/first professional degree programs (Waits & Lewis, 2003).

Faculty and Staff

Although student achievement in distance education courses is generally as high as that of students in traditional classrooms (Moore & Kearsley, 1996; Webster & Hackley, 1997), faculty may be reluctant to participate in Internet-delivered education due to a number of perceived issues (Kagima, 1998; Olcott, 1994; Ditzenberger, 1976) identified six faculty barriers to teaching Internet-delivered courses:

1) Reluctance to participate in distance education because they are not comfortable using new technology and may feel intimidated by the threat of their courses being monitored by the institution without their consent or knowledge.

2) Perceived differences of priorities in program implementation. Administration may focus on the need for additional equipment, whereas faculty may be more interested in the need for additional time for course development and preparation.

3) Faculty may view Internet-delivered education as a less effective, dehumanizing, and a compromise to the educational system.

4) Individual faculty members may be reluctant to try innovative instructional technologies without the approval of peers and administrators.

5) Online education must be presented to faculty, staff and administrators in a way that will make them appealing. If there are problems with a new instructional communications technology during demonstration or during initial use by faculty, the credibility of the innovation may be damaged irreparably.

6) Phased implementation of an Internet-delivered education program and the technology supporting it is likely to garner greater faculty buy-in. They are more likely to try it when there have been successes in other areas.

Administrators must understand that the barriers affecting the adoption or rejection of new ideas can "have a significantly negative effect on faculty participation in distance education" (Betts, 1998, p.195). Faculty participation was found to be greater in schools where deans were involved in and supportive of distance education. Administrators actively involved in creating distance education programs found that faculty were more likely to embrace new programs when they were rewarded, when their "buy-in" was sought, and when all "key players" were identified and understood their roles in the new process before implementation (Duning, Kekerix, & Zaborowski, 1993). Although it is possible to convince faculty members to revise the teaching methods with which they are most comfortable, "it [will take] time, support, and a consistent message for the metamorphosis to occur" (Westbrook, 1998, p. 154). In addition, faculty perception of how their organization supports their work highly influences their motivation and commitment to the process. In turn, motivation and commitment lead to improved work performance. With a greater understanding of the perceived barriers and attitudes toward distance education by both administrators and faculty, more realistic decisions can be made for planning intervention strategies and predicting the success or failure of distance education programs (Hinson & Bordelon, 2004; Kamin & Hagenhoff, 2004).

Curriculum Design

Characteristics identified by students and faculty as having the greatest impact on the perceived effectiveness of the program included: student motivation, faculty dedication to courses/teaching/students, relevance of content to career, ease of access to technical support, and ongoing evaluations of the program and student academic progress. Critical issues which should be resolved prior to any implementation of distance education programs include the identification of effective teaching methods and pedagogy, ensuring access, communicating expectations, and level of support (Buchanan, 2004; Kirby, 1999; Mauldin, 2001).

Regardless of teaching method or pedagogy used, many authors argue that higher education organizations need to reevaluate their teaching values and mission (Wellburn, & Claeys, 2004; Watts, 2003; Beck, & Schornack, 2004). Peterson and Dill (1997), in Schnitz and Azbell, predicted that societal changes would require a new paradigm, rethinking the basic educational delivery, research processes, and functions. This view suggests that higher education organizations should not just alter how they perform their traditional tasks, but question whether these tasks and their missions are in line with the newly emerging environment (Schnitz & Azbell, 2004; Seavey, 2003; and Kochtanek, Seavey, & Wedman, 2003).

Accreditation and Best Practices

With the explosion of Internet-delivered education within higher education, many institutions have tied their funding to quality measures. Institutions who were pioneers in the quality movement researched the characteristics of standards and suggested institutions adopt policies for quality design, development, and delivery of these programs (Hagenhoff, & Knust, 2004; Levy, & Ramim, 2004; and Moore, 1987, 1988, 1990). Chickering and Ehrmann (1996) each proposed quality standards for distance education; Chickening and Ehrmann , working under the auspices of the American Association of Higher Education (AAHE) put forth the 1987 *Seven Principles for Good Practice in Undergraduate Education*. Soon thereafter, the Western Cooperative for Educational Telecommunications (WCET), Western Interstate Commission for Higher Education (WICHE), and the Institute for Higher Education Policy (IHEP) began drafting standards for Internet-delivered education (WICHE, 1997; WCET, 2001; and Hensrud, 2001).

As regional accrediting bodies begin insisting that higher education address assessment and evaluation, standards and guidelines have become increasingly useful tools for campuses to evaluate their own progress toward these goals. The Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs and the Best Practices for Electronically Offered Degree and Certificate Programs both utilize a systems approach and have been adopted as guidelines by the Higher Learning Commission of the North Central Association (WICHE, 1997; WCET, 2001).

Phipps and Merisotis (2000) conducted a meta-analysis of the benchmarks for quality Internet-delivered education and identified seven key areas that emerged as essential for effective programs: Institutional support, course development, the teaching/learning process, course structure, student support, faculty support, and evaluation and assessment. While these criteria are not inclusive of all standards that have been developed, these seven criteria are present in most, if not all, quality standards for Internet-delivered education (Moore & Kearsley, 1995; Kovacs, 2003).

Taxonomy of Best Practices and Benchmarks

Institutional Support. Three institutional support criteria were identified in the research literature as critical to the success of Internet-delivered education programs (Phipps & Merisotis, 2000). They include: A documented technology plan; a reliable technology delivery system; and a centralized system to support the Internet-based education infrastructure. First, a documented technology plan that includes electronic security measures must be in place and operational to ensure quality of service, integrity of the information system, and data privacy. Students should have the ability to access their course materials and information from a variety of Internet browsers, without jeopardizing personal or system security and offer a user-friendly interface (including log-in/out procedures) (Boettcher, 2004).

Second, online instructional materials should be reviewed and revised on a regular schedule so that instructors, authors, and designers can ensure that the course

packages are current and accurately reflect changes in textbooks, exams, hyperlinks, etc. , and are in line with the department's curricular standards (Carroll, Neale, & Isenhour, 2004; Phipps & Merisotis, 2000). Department level review is vitally important to the quality and rigor of online degree programs and all development and approval processes should be subject to departmental review to ensure discipline and curricular integrity (Inglis, Ling, & Joosten, 2002; and NEA Online, 1998; and Lewis, et al 1997, 1999). The third component is a centralized system to support the distance learning infrastructure and technology, which comes out of an organizational commitment to developing a quality distance learning environment. (Phipps & Merisotis, 2000).

Course Development. Three essential criteria have been cited as critical components of the course development benchmark. Each campus should adopt guidelines which offer faculty and program developers minimum standards for course development, design, delivery, and learning outcomes (Howard, Discenza, & Turoff, 2004; Phipps & Merisotis 2000). Much of the literature on quality standards focuses on faculty as key decision makers in regard to developing policies and procedures for distance learning programs; (American Federation of Teachers, 1998; American Association of University Professors, 1999; and WCET, 2005). The second criterion deals with instructional materials. It is essential that instructional materials be reviewed periodically to ensure they meet program standards (Phipps & Merisotis, 2000). Academic standards for programs or courses delivered online should be the same as those delivered on the campus where they originate (Inglis, Ling, & Joosten, 1999, 2002). In 1999 the National Education Association (NEA) approved guidelines for ensuring quality distance education courses,

including an assertion that the content must meet state and local standards and be subject to the normal process of collegial decision-making (NEA online, 1999).

Third, courses must be designed to require students to engage themselves in analysis, synthesis, and evaluation as standard design principles for course and program requirements (Moore & Kearsley, 1996). The design of the course and the software used should include features that help support and define boundaries for online interaction (Buchanan, 2004; Harasim, Hiltz, Teles, & Turnoffs, 1995).

Teaching/Learning Process. In order for online teaching to be effective, educators must be learner-centered reflective practitioners (Gibson, 1998), and that "the diversity of learners, learner's needs, learning contexts, and modes of learning must be recognized if learning activities are to achieve their goals" (Gibson, 1996, p.11). The first of these three components is student interaction with faculty and other students, which can be facilitated through a variety of ways, including voice-mail and/or e-mail. Technology should provide interactive opportunities that will motivate students, and should be two-way, voluntary, and collaborative (Chickering & Ehrmann, 1996). Communication, by necessity should be meaningful and relevant for students, and should be explanatory as well as confirmatory (Anderson & Garrison, 1998).

Moore and Kearsley (1996) include interaction as a critical component in their model of distance education. Van Dusen (1997) indicates that social interaction is an important pedagogical tool in both traditional and online instruction, and that asynchronous communication allows students the opportunity for greater deliberation and response. Important interactions should include learner-content, learner-instructor,

learner-learner, and learner-interface interactions (Moore & Kearsley, 1996; Van Dusen, 1997).

A second component of the teaching/learning process concerns constructive and timely feedback to students. Students need frequent opportunity to perform and receive feedback and be offered opportunities to reflect on what they have learned (Chickering & Ehrmann, 1996). Positive feedback and praise of the student's achievements by instructors are important for increased student completion and success (Verduin & Clark, 1991; Moore & Kearsley, 1996). Third, students must be instructed in the proper methods of effective research, including assessment of the validity of resources (Phipps & Merisotis, 2000). Critical thinking skills are considered an essential outcome of higher education, and students in online programs must be able to evaluate the plethora of information that is available to them in the virtual environment. Gibson (2000) notes that collaborative learning experiences foster higher-order thinking skills and help learners examine value systems.

Students and teachers must be more information-literate in order to succeed in future jobs. As such, Rakes (1996) indicates the student must be involved in discovering information in a resource-based learning environment, which includes the ability to: Know when there is a need for information; to identify information needed to address a given problem or issue; to locate the needed information; to organize the information; and to use the information effectively to address the problem or issue (p. 52).

Course Structure. The course structure benchmarks include four criteria (Phipps & Merisotis, 2000). First, before starting an online program, students must be advised about the program to determine (1) if they possess the self-motivation and commitment to

learn at a distance and (2) if they have access to the minimal technology required in the course design (Moore & Kearsley, 1996; Verduin and Clark, 1991; Cyrs 1997). The Western Cooperative for Educational Telecommunications (WCET) (2005) indicates that students must have the knowledge, technical skills, and background needed to undertake a distance learning program. Students should be provided with well-written course objectives and learning outcomes, which should be summarized in a clearly written, straightforward statement (Phipps & Merisotis, 2000; Moore & Kearsley, 1996).

Third, students must have access to sufficient library resources and library support, that may include a virtual library accessible through the World Wide Web (Phipps & Merisotis, 2000; WCET, 2005; NEA, 1997). The fourth component looks at faculty and students' expectations regarding student assignment completion and faculty response time (Phipps & Merisotis, 2000). One of the primary reasons for student dissatisfaction and low completion rates is delayed faculty response to student questions and assignments/exams. Setting expectations in the beginning of the class regarding grading and feedback on assignments is essential. Students expect fair and objective grading, feedback, encouragement, reassurance, constructive criticism, and timely response (Cole, Coats, & Lentell, 1986).

Student Support. The area of student support includes four essential criteria. First, the primary information that students must receive includes admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services (Phipps & Merisotis, 2000; Berge, 1998). Second, students should be provided with hands-on training and information to aid them in securing material through electronic databases, interlibrary loans, government archives, news services, and other

sources (Phipps & Merisotis, 2000; WCET, 1997). Third, throughout the course or program, students must have access to technical assistance, including detailed instructions on the use of electronic media, practice sessions prior to beginning the course, and convenient access to technical support staff (Phipps & Merisotis, 2000; WCET, 1997; American Council on Education, 1996). Fourth, questions directed to student services personnel should be answered accurately and quickly, with a structured system in place to address student complaints (Phipps & Merisotis, 2000; NEA Online).

Faculty Support. In the area of faculty support, the literature reveals four criteria, including technical assistance, transition to online teaching, training, and written resources. First, faculty should be encouraged to use available technical assistance and support for course development, including instructional design. Software and hardware should be user-friendly and allow for efficient and effective use (Chickering & Ehrmann, 1996). Second, faculty should be offered training in online pedagogy, as they are assisted in the teaching transition. Like students, faculty should have the opportunity to assess the entire online teaching experience, including training, technology, and their satisfaction with the online teaching process (Berge, 1998); Moore & Kearsley, 1996). Third, training and assistance offered to faculty should include peer mentoring and feedback, and should continue throughout the progression of the online course (Phipps & Merisotis, 2000; Rockwell, Schauer, Fritz, & Marx, 1998).

The fourth and final aspect of faculty support indicates that all faculty should be provided with written resources explaining policies and procedures for managing issues that arise from student use of electronically accessed data (Phipps & Merisotis, 2000).

Evaluation and Assessment. The final three benchmark criteria come under the title of evaluation and assessment. The program's educational effectiveness and teaching/learning process must be assessed, including student learning outcomes, student progress, course completion rates (Buchanan, 2004) and program retention (Moore & Kearsley, 1996), and student and faculty satisfaction (Phipps & Merisotis, 2000; WCET, 1997). Program evaluations can include data on enrollment, costs, student applications, enrollment trends, and use of technology (Moore & Kearsley, 1996). As noted previously, the intended learning outcomes should be reviewed regularly to ensure clarity, utility, and appropriateness.

Accreditation and Online Program Standards

The *Best Practices for Electronically offered Degree and Certificated Programs* were developed by the eight regional accreditation standards for the regional accrediting commissions in evaluating and assessing online programs and degrees (Middle States Association of Colleges and Schools, New England Association of Schools and Colleges, North Central Association of Colleges and Schools, Northwest Association of Schools and Colleges, Southern Association of Colleges and Schools, Western Association of Schools and Colleges). Developed in response to the emergence of technologically mediated instruction, these best practices address seven areas of institutional activity significant to electronically offered degree and certificate programs:

Expressing in detail what currently constitutes best practice in distance education they seek to address concerns that regional accreditation standards are not relevant to the

new distributed learning environments, especially when those environments are experienced by off-campus students. The Best Practices, however, are not new evaluative criterion. Rather they give explanation to how the well-established fundamentals of institutional quality found in regional accreditation standards are applicable to the emergent forms of learning; that their content would find application in any learning environment. Taken together those essentials reflect the values, which the regional commissions foster among their affiliated colleges and universities. that education is best experienced within a community of learning where competent professionals are actively and cooperatively involved with creating, providing, and improving the instructional program; that learning is dynamic and interactive, regardless of the setting in which it occurs; that instructional programs leading to degrees having integrity are organized around substantive and coherent curricula which define expected learning outcomes; that institutions accept the obligation to address student needs related to, and to provide the resources necessary for, their academic success; that institutions are responsible for the education provided in their name; that institutions undertake the assessment and improvement of their quality, giving particular emphasis to student learning; that institutions voluntarily subject themselves to peer review. (Higher Learning Commission / NCA, 2005, p.52)

North Central Association/Higher Learning Commission

While it is important to understand the complexity of these seven criteria for quality in distance education, it is equally important to understand the accreditation

Guidelines by which institutions of higher education examine their quality or effectiveness of online programs. For this a brief discussion of the North Central Association's (NCA's) self-study process is necessary. The following section explores some of the concepts of the NCA self-study process and relates them to this study of online distance education.

North Central Association of Colleges and Schools was founded in 1895 and is committed to helping to improve education through the self-evaluation process (NCA Online, 2005). This requires that institutions examine what they are doing and how they are doing it, through a formal self-study process. The purpose is to assess strengths and weaknesses, and to develop a plan to build on those strengths and to eliminate weaknesses.

The accreditation process focuses on the entire institution, but it is necessary to examine each of the institution's component parts. The process of the self study includes: begin with a plan, focus on the whole institution, permit wide involvement, build naturally on existing self-evaluation, identify the institution's strengths and areas that need improvement, produce a self-study report (NCA, 2005).

In addition to the traditional self-study process, in 1999 NCA initiated the Academic Quality Improvement Project (AQIP) that is focused on the re-accreditation process (AQIP online, September, 2005). This project is focused on quality improvement principles and uses a number of tools that are valued for quality improvement in business and industry. Again with AQIP, quality improvement involves self-assessment. This self-assessment is present in the studies on quality in distance education programs, which is focus of this paper. Recently, NCA became interested in the best practices for online

distance education programs. As such, they adopted a series of best practices and guidelines for electronically offered degree and certificate programs that provide a self-assessment framework for institutions that wish to deliver this type of education (NCA Higher Learning Commission online, April 2, 2001). That the following guidelines are to be used by institutions involved in online distance education programs in their self-assessment process.

There are five assumptions for the basis of NCA Principles:

1) The electronically offered program is provided by or through an institution that is accredited by a nationally recognized accrediting body; 2) The Institution's programs holding specialized accreditation meet the same requirements when offered electronically; 3) The Institution may be a traditional higher education institution, a consortium of such institutions, or another type of organization or entity; 4) These Principles address programs rather than individual courses; and 5) It is the Institution's responsibility to review the educational programs it provides via technology in terms of its own internally applied definitions of these Principles (WICHE, 1997)

NCA Guidelines

Curriculum and Instruction. a) Each program of study results in learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded; b) An electronically offered degree or certificate program is coherent and complete; c) The program provides for appropriate real-time or delayed interaction between faculty and

students and among students; and d) Qualified faculty provides appropriate oversight of the program electronically offered.

Institutional Context and Commitment a) The program is consistent with the institution's role and mission; and b) Review and approval processes ensure the appropriateness of the technology being used to meet the program's objectives.

Faculty Support. a) The program provides faculty support services specifically related to teaching via an electronic system; and b) The program provides training for faculty who teach via the use of technology.

Resources for Learning. The program ensures that appropriate learning resources are available to students.

Students and Student Service. a) The program provides students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technological competence and skills, technical equipment requirements, availability of academic support services and financial aid resources, and costs and payment policies; b) Enrolled students have reasonable and adequate access to the range of student services appropriate to support their learning; c) Accepted students have the background, knowledge, and technical skills needed to undertake the program; and d) advertising, recruiting, and admissions materials clearly and accurately represent the program and the services available.

Commitment to Support. a) Policies for faculty evaluation include appropriate consideration of teaching and scholarly activities related to electronically offered programs; and b) The institution demonstrates a commitment to ongoing support, both

financial and technical, and to continuation of the program for a period sufficient to enable students to complete a degree/certificate.

Evaluation and Assessment; a) the institution evaluates the program's educational effectiveness, including assessments of student learning outcomes, student retention, and student and faculty satisfaction. Students have access to such program evaluation data; and b) The institution provides for assessment and documentation of student achievement in each course and at completion of the program.

The Institution

The institution where this study was conducted is the State's second largest university, enrolling more than 15,000 students during the 2004-2005 academic year, with some of their programs that accredited for 134 years, draw over 900 international students from 84 countries (St. Cloud State University Admissions Information, 2004).

The university has its origins as a normal school for teacher training, later becoming a teaching college and later a university. As the most highly accredited university in the state, the faculty are recognized for their commitment to teaching excellence.

As part of its mission and strategic plan, the institution is committed to creating access to quality academic programs for students who are not able to come to campus. The university's Center for Continuing Studies seeks to "bring students to the University by taking the University to students." Distance students at the university include under-

served adults in rural areas, working parents, professionals, high school students, and incarcerated students.

The distance courses and programs offered are supported through each of the five academic colleges: The College of Education, the College of Science and Engineering, the H.R. Herberger College of Business, the College of Fine Arts and Humanities, and the College of Social Sciences. The Institution's Center for Continuing Studies has offered "self paced" correspondence courses to distance students for over 30 years. In 2000, the Center offered 45 different self-paced courses to approximately 750 students who were primarily located in the state and region. The program has grown both in numbers of courses and students. In 2004-2005, the Center offered over 150 different courses with nearly 5000 enrollments from as close as the local city to as far away as Pakistan, Africa, Canada, and England (St. Cloud State University Online Self Study, 2004).

A 1996 review of the Center for Continuing Studies by an outside consulting team noted (St. Cloud, 2004):

The reputation of the University provides a strong base for expanding the continuing education effort…The President and senior administrators are committed to expanding the University's outreach to the community and understand the role that Continuing Studies can contribute in achieving that goal.

The Institution has a strong information technology infrastructure for supporting technology delivered education. The hardware and software capacity coupled with technical expertise and faculty support are strengths that the university can capitalize on to expand its Continuing Studies role throughout the state. University administration

appears willing to make necessary changes needed to facilitate the entrepreneurial requirements of a growing continuing education activity. (p.5)

Online Teaching Process at the Institution

Many of the individuals in this study who have taught online for a number of years were considered "early adapters" to online pedagogy and technology, and wanted to experiment with new ways of teaching and learning, while still maintaining their regular course load on campus in the traditional classroom. A clause in the faculty collective bargaining agreement allows the opportunity to teach online courses without affecting the faculty member's regular teaching load; essentially, they are teaching on their own time. The specific contract language describes these "packaged" courses as qualifying for additional compensation, above and beyond the employee's normal salary, with no limits on the number of courses or students they can serve in this capacity. Opportunities to experiment with teaching and technology, and earn additional compensation, have proven an attractive outlet for these early adapters, as well as newcomers to technology who identified a need to serve students at a distance.

Motivation and Incentives for Online Faculty

Parker (2003), in an analysis of over 100 articles, concluded that faculty generally teach Internet-delivered education courses for intrinsic rewards, identified as self-

satisfaction, flexible scheduling, and a wider audience; and for extrinsic rewards Stipends, decreased workload, release time, and new technology. The National Education Association (NEA) reports that 63 percent of America's college instructors develop and teach distance courses with no financial remuneration (as cited in Parker, 2003). The report goes on to point out that even though development time is greatly increased in distance education, most colleges see that as a part of the standard faculty workload. While monetary rewards are uncommon, more and more colleges and universities are offering development support through other sources (Brown and Betts, as cited in Parker, 2003).

On-load vs. Off-load

After six years, the University's online program grew from a handful of correspondence courses to over 150 online courses, and five entirely online degree programs. During this same time, on-campus enrollments remained at or near capacity. Faculty member's ability to teach an online course as part of their regular teaching load had not been possible because of the need for colleges to staff the traditional campus courses.

The Center for Continuing Studies offered teachers wishing to teach online, the ability to do so, in an off-load capacity.

Restrictions

The university allows academic departments to initiate and enforce restrictions on whether or not online courses are offered within their departments. The ability to offer any course online (whether on-load or off-load) requires approval from the department chairperson (after bringing the issue to department meetings) and the college dean. Faculty and departments retain the right to set course enrollment size and whether or not traditional campus-based students may enroll in the class. Many faculty, not wanting to attract traditional students from their on-campus sections, permit only non-traditional or distance students into their online courses (those who would otherwise not attend on campus during the day).

The Hensrud Study

The original study examined the quality of an online distance education program at a small, comprehensive university in Northwest Wisconsin. The university had recently embraced the use of Internet-based education and was in the process of expanding its Extended Degree Program by offering the program throughout the United States rather than only to students in Wisconsin and Minnesota.

The specifics of the original study compared with this proposed replication study:

Hensrud Study	*Current Study*
N=20	N=130
Males = 10, Females = 8, UNK =2	Males = 60, Females = 40
Ages: 20-40 = 3; 41-60 = 11; 60+ = 5	Ages: 20-40 = 3; 41-60= 94; 60+ = 3
Faculty = 13; Staff = 7	Faculty = 70; Staff = 30
Experience: < 3 years = X; > 3 years = X	Experience: < 3 years = X; > 3 years = X

The results of the Hensrud (2001) survey indicated that this program met the quality criteria in four of seven categories: institutional support, teaching/learning process, course structure, and student support. The quality criteria were not met in three of seven categories: faculty support, evaluation and assessment, and course development. Descriptive statistics were used to describe the overall study results, and patterns of response were examined between faculty (instructional staff) and non-instructional staff. Variation in quality indicators was found among specific courses in the program, and as a result, the author recommended that areas of weakness be examined and strategies for improvement implemented. Hensrud's findings were specific to the faculty and staff experiences at that institution and are not generalizable to the current study.

The Hensrud Instrument

The survey instrument, "Quality of Internet Based Distance Education" (Hensrud, 2001) was developed based on input from benchmarks and research conducted by the Institute for Higher Education Policy (IHEP), Western Cooperative for Educational

Telecommunication (WCET), Middle States Association of Colleges and Schools, and the Southern Regional Electronic Campus.

This instrument was chosen for this study because of its alignment with the Higher Learning Commission's "Principles of Good Practices in Electronically Offered Degree and Certificate Programs" and outlines the same benchmark criteria evaluated by this instrument. The Quality Measures Survey (Hensrud, 2001) was developed in accordance with the *Standards for Educational and Psychological Tests and Manuals*, specifically with regard to content validity. Face validity (whether or not the test appears to be relevant for a given purpose) is not an accurate measure of the validity of this instrument, and should not be considered as such. The content validity for the instrument was developed accordingly: The assessment domain utilized for this instrument was drawn from the best practice standards conceived by WICHE and WCET and are explicated in Chapter III.

The best practices developed by WICHE and WCET are the standards that the NCA Higher Learning Commission uses in determining quality distance education programs. St. Cloud State University is accredited by the NCA/HLC, and in order to offer online degree programs, required specific accreditation by the HLC in this area. As such, St. Cloud State University subscribes to the best practices as set forth by its accrediting body.

Chapter Summary

In summary, the literature supports the use of seven broad benchmark criteria as essential for quality distance education programs. While some studies used the term benchmark, others used the terms 'best practices', or 'essential characteristics' of distance education programs. What is common among all studies is that there are standards or criteria that exist to ensure that institutions are delivering quality programs.

With emerging magnitude placed on online learning by higher education and private corporations, along with students who demand quality over quantity, it is imperative that institutions recognize and concentrate on the demands of Internet-delivered education (Schenk, Frank, & Toland, 2004, Pendergast & Kapitzke, 2004)

This institution is poised to become a leader in Internet-delivered education, and its program enrollments are growing rapidly (on average 30-40% per year). The University's first online program accreditation, conducted in 2004 indicated concerns about growth and placed emphasis on the need for measures to monitor quality on an on-going basis. Educators, administrators, and researchers agree that, as the online education industry grows; more research and emphasis must be placed on quality and effectiveness rather than hardware, software, and connection speeds.

The Institute for Higher Education Policy reports that few studies have been conducted regarding the quality of distance education programs, and those studies reviewed had significant design flaws (as cited in Merisotis & Phipps, 1999). Missing from the literature are the discussion, research, and reflections on online theories, models, and effective standards for quality online education (Watts, 2003; Wallace, 2003;

Wallace & Van Fleet, 2003; Stan Wee Hin & Subramaniam, 2004). This study helps to close gaps in the research literature by assessing the quality of an Internet-delivered education program at a large university using an instrument that is grounded in what the national accrediting bodies have identified as the industry's best practices in this field.

"If the distance learner is to succeed, we, as faculty must do more than provide access to information. We need to truly understand that learner, and design learning environments that facilitate learning, environments that enhance access to and success in higher education" (Gibson, 1998a, viii; Gibson, 1998). This study adds to the literature of quality online programs in several ways: First, it further validates a solid assessment instrument; second, it adds to the body of knowledge regarding evaluating online programs; and third, this study exemplifies a solid methodological approach that other campuses can use to evaluate and assess their own programs.

CHAPTER III

METHODOLOGY

Description of the Research Design

This study employed a descriptive quantitative design, utilizing empirical research methods. The systematic, empirical foundation of this study is important in attempting to gather and organize data, and evaluate the research questions (Black, 1999).

The descriptive nature of this study allows for the examination of an online education environment, and analyzing the relationship between variables is not the purpose of the study (Frankel & Wallen, 2003); therefore, no hypotheses are given.

Additionally, the study replicated on a larger scale, a 2001 study (Hensrud, 2001), using the same survey instrument. Permission was obtained by the author of the instrument and documentation is provided in the appendix. Replication on a larger scale helped develop the validity and reliability for this instrument for future use by other researchers, and added to the body of literature of online education.

The importance of the study at this juncture in time for this university is relevant to mention. Two of the above-mentioned online degree programs were reviewed for program accreditation during 2004. An upcoming institution-wide accreditation visit is

planned during 2005 and the results of this study are instrumental in assisting the university to achieve full accreditation of all future online programs.

The research question under examination is:

To what extent does the Internet-delivered education program meet the benchmark criteria for quality distance education?

Within this context, the following variables were examined against the seven benchmark criteria:

1. Institutional support
2. Quality course development
3. Teaching and learning process
4. Course structure
5. Student support
6. Faculty support
7. Evaluation and assessment

Statistical Model

Descriptive parameters were appropriate for use in this study because the design calls only for analysis of the independent variables, and no relationship between the variables were examined. Descriptive parameters were used for data analysis, measures of central tendency (mean and median), dispersion (standard deviation and variance) and distribution (skewness and kurtosis). These parameters were analyzed utilizing SPSS 13

for Windows and findings were presented using frequency tables, cross tabulation, descriptive narratives, and histograms with a normal curve.

The critical assumptions of this study include:

1) The respondents are truthful in responding to the surveys.

2) The quality of online distance education at this institution is worthy of investigation.

3) Themes that have been identified in the literature provide an appropriate conceptual framework from which to develop the research questions.

4) Administrators, faculty, staff, and students would find the results of the study informative and useful in their evaluation of the quality of the University's online program.

Description of the Population

The University is a large comprehensive university located in Central Minnesota, approximately 70 miles northwest of the urban centers of Minneapolis and St. Paul. This institution is a part of the State Colleges and Universities system, which is made up of seven comprehensive universities and 25 two-year community and technical colleges. Having the largest enrollment in the State Colleges and Universities system, the university population for the 2004-2005 academic year totaled over 15,000 students and over 4,000 enrollments in Internet-based courses.

All faculty who have taught asynchronous Internet-delivered courses from this campus in the past three years were included in the population. The majority of Internet-

delivered courses are taught through the Institution Online program. To date, the institution's Online program offers over 150 internet-delivered courses and 5 online degree programs: Master of Science in Applied Behavior Analysis, the Bachelor of Applied Science in Aviation Maintenance Management, the Bachelor and Master of Arts in Criminal Justice Studies, and the Bachelor of Elective Studies in Community Psychology. Each of these online degree programs have been or are in the process of being accredited by the State Colleges and Universities' Online program in cooperation with the Higher Learning Commission (HLC).

The population for this study included all faculty, staff, and administrators who taught or supported Internet-delivered education courses. Staff were included in the population since they provide the both the infrastructure and the student and faculty support pieces. The population size was 130. To gain the largest possible response rate, the entire population was surveyed.

Internet-delivered courses are offered through a variety of online platforms, including the course management system, Desire2Learn (D2L), which was adopted by the State Colleges and Universities system in 2004. Prior to D2L, the instructional management system WebCT was in place. Some faculty use email or web pages in which to conduct their Internet courses, and others use course management platforms provided by their textbook publishers.

The Instrument

The survey instrument, "Quality of Internet Based Distance Education" (Hensrud, 2001) was based on input from benchmarks and research conducted by the Institute for Higher Education Policy (IHEP), Western Cooperative for Educational Telecommunication (WCET), Middle States Association of Colleges and Schools, and the Southern Regional Electronic Campus.

This survey was chosen as suitable for evaluation of the University's online program because of its alignment with the Higher Learning Commission's (HLC) Best Practices in Electronically Offered Degree and Certificate Programs, which outlines the same benchmark criteria evaluated in this instrument. The HLC benchmarks are used by the accreditation team evaluating the university's online program, and this survey provides valuable insight into the quality of the overall online program.

The instrument was comprised of 28 items that evaluate each of the seven-benchmark criteria, and employed a Likert technique for measuring attitudes (1932). Respondents were presented with 28 statements, and asked to express agreement or disagreement on a five-point scale. Each degree of agreement was given a numerical value from one to five. A total numerical value was calculated from all the responses (Likert, 1932).

In addition to the survey questions, a demographic section consisting of five questions were included to describe the participants. The five demographic questions surveyed age, gender, position appointment, teaching experience, and involvement with online teaching and learning (Hensrud, 2001). The conclusion of the instrument asked

one open-ended question designed to elicit information on any related factors that the participants felt may not have been included in the survey. "This opportunity for qualitative response will give meaning to and reinforce the results of the Likert scale" (Hensrud, 2001, p. 67).

Validity, Reliability, and Credibility of Self-Report Data

Determining the validity and reliability of self-reported data can be difficult, but not impossible if conducted properly. Anderson (1981, as cited in Popham, 2000) indicates that using self-report affective measurement instruments in an educational setting is timely, useful, and common practice (Kuh et al, 2001). When using self-report measures, specifically in conjunction with a Likert-type scale, it is important to control for two factors: First, is to make certain that the respondents have the ability to provide accurate responses to the questions, and second, is to know your target audience and their willingness to answer honestly (Wentland & Smith, 1993). The current study has controlled for both of these common problems by offering respondents an option of indicating "don't know" and by allowing all respondents an easy opportunity to opt-out of the survey if they did not want to respond. Additionally, the population studied were all university professionals who would be expected to respond in an honest and forthright manner, and in fact, the literature indicates that responses tend to be accurate when answering knowledge-based or behavior-based questions (Bradburn & Sudman, 1988). Where the potential "halo effect" of self-reported data exists, most research shows that while it occurs, it is generally stable across all respondents (Pike, 1999).

In viewing the Input Quality in Internet-Delivered Education Survey as a self-reported instrument, the research shows that this information can be valid when five conditions are controlled for (Bradburn and Sudman, 1988; Brandt, 1958; Converse and Presser, 1989; DeNisi and Shaw, 1977; Hansford and Hattie, 1982; Laing, Swayer, and Noble, 1989; Lowman and Williams, 1987; Pace, 1985; Pike, 1995). These are: 1) the participants know the information that is being requested; 2) the question items are clearly worded and understandable; 3) the question items ask about recent or current events; 4) the participants believe that their responses are meaningful; 5) the participants do not believe that the questions are of a sensitive nature which could cause embarrassment.

Content and construct validity for this study were established when the original instrument was conceived. The Quality Measures Survey (Hensrud, 2001) was developed in accordance with the *Standards for Educational and Psychological Tests and Manuals*, specifically with regard to content validity. Face validity (whether or not the test appears to be relevant for a given purpose) is not an accurate measure of the validity of this instrument, and should not be considered as such. The content validity for the instrument was developed accordingly: The assessment domain utilized for this instrument was drawn from the best practice standards conceived by WICHE and WCET. The best practices developed by WICHE and WCET are the standards that the NCA Higher Learning Commission uses in determining quality distance education programs. St. Cloud State University is accredited by the NCA/HLC, and in order to offer online degree programs, required specific accreditation by the HLC in this area. As such, St.

Cloud State University subscribes to the best practices as set forth by its accrediting body.

Popham (2000) suggests that in determining content validity for an instrument, the "test-development operations should be designed to secure suitable content representativeness (p. 96)." In developing the Quality Measures Survey, Hensrud (2001) constructed the assessment domain specifically from these industry standard best practices, which served as the "suitable content representativeness." Additionally, the assessment domain was sent to content experts in distance and online education at the University of Minnesota who reviewed the survey items for suitability within this content domain.

The survey instrument was used to measure the extent to which the Internet-based distance education program at the University of Wisconsin-Superior met the benchmark criteria for quality distance education. The survey criteria were derived directly from the literature on quality distance education, and used the benchmark criteria described previously. Prior to administering the survey, Hensrud (2001) determined that an essential component of the study was to conduct a pretest to ensure the survey does what it is intended to do. The pretest was designed to elicit suggestions from a group that had experience with the topic and could provide suggestions based on other surveys and knowledge of the objectives of the study (Dillman, 2000). For validation of the instrument, Hensrud (2001) organized a group of experienced researchers in distance education at the Institute for Higher Education Policy who agreed to review the draft survey for content validity. The purpose of this review was to check content of the survey to ensure that the questions were consistent with the objectives of the study (Rea & Parker, 1997). These

individuals were selected because of their extensive experience in distance education research and their knowledge of policy issues for higher education. This method of evaluation was designed to examine the instrument and offer suggestions, if needed, for revision (Dixon & Martin, 1991).

In addition to this group of content experts, the survey was sent to the Center for Survey Research at the University of Minnesota where experts on survey research and design examined the instrument to ensure that it followed appropriate practices for quality survey research. Again, feedback was given verbally and the following suggestions were incorporated into the process*:* eliminate questions that appear to be asking for the same information more than once.

A third group of individuals was contacted by Hensrud (2001) at a third institution to conduct a pilot test (pretest) of the survey. The group of educators took the test as if they were actual participants in the study, and were then asked to provide feedback on the format of the questions and to offer any suggestions for changes. This group of faculty narrowed in on the one or two question items that may be asking more than one thing. There was some concern that all of the questions could only be answered in the affirmative; however, the results of the survey indicate that this was not the case. Upon review of the survey by these three groups, the Director of UW-Superior's Extended Degree Program granted permission to complete the study. Application was then made to the University of Minnesota's Institutional Review Board, which gave permission to administer the survey.

Threats to Validity of the Instrument

History. The potential for technological failure of either the email system or the survey system could have disrupted the timing of the survey, the response rate, or the data collection, and negatively affected responses. No technological failures occurred during the implementation of this study.

Maturation of subjects. The study was conducted over a short time frame and no maturation of subjects occurred.

Testing. The survey was administered one time only and did not seek to identify correlation between any variables.

Instrumentation. Results of the survey were tabulated by the Zoomerang™ product automatically and the instrument remained static.

Regression. The participants in this study did not come from a homogenous group, and represented a variety of roles within the university. Results fell within the normal distribution.

Differential selection of subjects. The entire population was surveyed and there was no differentiation in the selection of subjects.

Mortality. The timing of the administration was critical to reducing the mortality threat for this study. The survey commenced after spring break (March) and concluded prior to the end of the term (April).

Anonymity of Results. Results of the survey did not contain individual participant information and all information was aggregated. Results were distributed to the campus community via the Center for Continuing Studies web site, and were distributed to

administrators and support staff through the Teaching, Learning, and Technology Roundtable (TLTR) committee. Data remained on the Zoomerang™ web site for 30 days, accessible only to the researcher. All reporting information remained confidential and locked in the researcher's office through completion of the research project.

Threats to Reliability of the Instrument

Test-retest reliability. The survey questionnaire was administered once to this population.

Equivalent-forms reliability. As a measure of consistency for this instrument, this administration of the questionnaire was considered equivalent to the original instrument used and was given to a comparable population (university faculty teaching online and staff supporting the online program). While the instrument and population were comparable, the researcher has accounted for an increase in faculty members' online expertise that may not have existed to the same extent in the original 2001 study. The number of faculty teaching online and the number of courses taught online at this institution increases each year, and the possibility that the faculty who teach online may be familiar with these types of assessments may skew results toward the positive.

Scorer/rater reliability. The questionnaire was scored automatically by the Zoomerang® survey application software, eliminating all but data-entry errors on the researcher's part. To avoid any data-entry errors as the questions and response scale were created, the researcher, at least one colleague, and the dissertation advisor reviewed the questions after being entered and prior to administration.

Data Collection Procedures

Data collection began upon approval of each University's Institutional Review Boards. The Director of Distributed Learning at the Center for Continuing Studies and the Dean of Learning Resources and Technology Services provided listings of faculty who taught Internet-delivered courses from Fall 2003 to Spring 2005 and the names of the support staff that provided support services to the program during this same time frame. Faculty and staff names were coded numerically to mask individual identities. All results were aggregated and no individual results were distinguishable.

The survey was distributed to all participants who were identified using the procedures described above. Since the official campus communication medium is email, an online version of the survey was made available using the Zoomerang ™ online survey product (http://www.zoomerang.com), was emailed to all participants at their campus email address. Participants were asked to complete the survey, with a reminder message sent after 1 ½ weeks. Participants not responding within the given time period were reminded again at 2 ½ weeks and allowed an additional 1 ½ weeks to respond. The survey closed after four weeks. Results from the Zoomerang™ online survey were downloaded by the researcher on the closing date into SPSS 13 for Windows. The surveys were made available the first week in April 2005 and closed after four weeks, in May, 2005.

Data Scoring Procedures

During the administration of the instrument for this study, as surveys were completed, data were downloaded directly into the SPSS v13 for Windows statistical analysis software. The open-ended question responses were organized into the final column. Using the Likert techniques, a 5-point scale was organized as follows: 1 = Strongly Disagree, 2 = Disagree, 3= Neutral or Not Applicable, 4= Agree, 5= Strongly Agree. There was also an option to mark "Don't Know."

CHAPTER IV

DATA ANALYSIS

Introduction

The purpose of this chapter is to present the findings of the survey, "Input Quality in Internet Delivered Education at a Large Comprehensive University," which examined the respondent's perceptions of the quality of the University's online distance education program. The survey instrument was emailed to a population of 130 administrators, faculty, and staff in April 2005. Response rate was 67%, N= 87.

Utilizing the instrument developed in Hensrud's (2001) study provided the organizational framework, which examined the perceptions of respondents regarding the quality of Internet-delivered distance education at this institution during the 2004-2005 academic year. The self-assessed perception of quality was determined by the degree of agreement or disagreement to statements about the distance education program. Sub-questions in the survey examined institutional support, course development, teaching/learning, course structure, student support, faculty support, and evaluation and assessment.

This chapter describes the demographics of the participants, then offers a review of the results organized around one research question with seven sub-questions. The descriptive statistical analysis used frequency distributions, measures of central tendency, and dispersion to describe and examine the four categories of respondents, by level of appointment: Administration, faculty, academic instructional staff, and support staff. The data analysis addresses each survey question in turn by examining responses to questions in each of the seven sub-questions. The census results are followed by the qualitative open-ended responses to add clarity to the data that emerged from the quantitative analysis.

Demographic Profile of Respondents

The demographic section was used to help describe the population of the study. This section reports the demographic data gathered from the research instrument. The demographic data compiled from the survey provides a profile of the participants and includes the following information: (a) type of appointment, (b) gender, (c) age, (d) overall teaching experience, and (e) experience with online teaching/ learning. The demographic section provided a picture of the individuals involved in online distance education at the institution.

This study examined the administrators, instructional academic staff, faculty, and support staff who were involved in the University's Internet-delivered distance education program during the 2004-2005 academic year. A total of 130 participants received the survey, with 67% (N = 87) responding. This study compares and contrasts descriptive

statistics (means, standard deviation, frequency, and percent) of the groups and then aggregates the data to provide an overall picture of the quality of the Internet-delivered education at this institution.

Level of Appointment

All four appointment categories were represented in this study, with faculty and support staff comprising the largest group of respondents. Three administrators, one instructional academic staff person, 60 faculty, and 23 support staff responded. Figure 4.1 portrays the level of appointment and gender of respondents. One area of concern arose in the fact that only one respondent self-identified as instructional academic staff. Hensrud (2001) chose to display data not by individual levels of appointment, but rather by instructional or non-instructional categories. This researcher chose to allow each level of appointment to stand alone on the potential for future study. If, in the future, this study is replicated once again, other respondents may choose to self-identify in these same categories, and leaving them as-is in this study provides researchers with a baseline of responses to draw upon.

Table 4. 1
Frequency Table, Level of Appointment

	Frequency	*Percent*
Administration	3	3.4
Instructional Academic Staff	1	1.1
Faculty	60	69.0
Support Staff	23	26.4
Total	87	100.0

Gender

In terms of the gender of the respondents, there were more males (47) than females (40) who responded to the survey. Figure 4.1 portrays level of appointment and gender of respondents.

Table 4. 2
Frequency Table, Gender

	Frequency	*Percent*
Male	47	54.0
Female	40	46.0
Total	87	100.0

Age

In terms of age, there were 2 respondents in the 20-30 age group, 21 in the 31-40 age group, 30 in the 41-50 age group, 27 in the 51-60 age group, and 7 who were 61 + years old. Figure 4.2 portrays the level of appointment and age of respondents.

Table 4. 3
Frequency Table, Age

	Frequency	*Percent*
20-30	2	2.3
31-40	21	24.1
41-50	30	34.5
51-60	27	31.0
60+	7	8.0
Total	87	100.0

Total Years of Teaching Experience (Traditional and Online)

In terms of total years of teaching experience, including both traditional and online, 9 respondents had 1-5 years of total teaching experience, 13 had 6-10 years of total teaching experience, 18 had 11-15 years of total teaching experience, and 28 had 15 + years of total teaching experience. In addition, 19 respondents indicated that this question was not applicable. Figure 4.4 portrays the level of appointment and total years of teaching experience of respondents.

Table 4. 4
Frequency Table, Years of Teaching Experience (Traditional and Online)

	Frequency	*Percent*
not applicable	19	21.8
1-5 years	9	10.3
6-10 years	13	14.9
1-15 years	18	20.7
15+ years	28	32.2
Total	87	100.0

Years of Online Teaching Experience

In terms of strictly online teaching experience, 12 had less than 1 year of experience teaching online, 18 had 1-2 years of experience teaching online, 25 had 3-5 years of experience teaching online, and 32 had 5+ years of experience teaching online. Figure 4.3 portrays the level of appointment and years of online teaching experience.

Table 4. 5
Frequency Table, Teaching Experience (Online)

	Frequency	*Percent*
less than 1 year	12	13.8
1-2 years	18	20.7
3-5 years	25	28.7
5+ years	32	36.8
Total	87	100.0

Research Questions

This study examined the quality of Internet-delivered distance education at this University by focusing on the measures developed in Hensrud's (2001) study, which was substantiated in the literature. The research question asked, "To what extent does the Internet-delivered education program meet the quality standards for distance education?"

This section reviews the research question, its seven sub-questions, and presents the results of the survey as they relate to each question and sub-theme. Descriptive parameters were used for data analysis, measures of central tendency (mean and median), dispersion (standard deviation and variance) and distribution (skewness and kurtosis). These parameters were analyzed utilizing SPSS 13.0 for Windows and the findings are illustrated using frequency tables, cross tabulation, descriptive narratives, and histograms to illustrate the extent that the Internet-delivered education program meets the quality standards for distance education. The results are presented for each question, and the data are then tabulated into four categories, analyzed by level of appointment: administration, instructional staff, faculty, and support staff. It is important to note that although there were a limited number of respondents that self identified as administrators and instructional academic staff, their data are included in the aggregate statistics.

Subjects were asked to consider the level of agreement for the quality standards. The extent of agreement with all subsequent sections was determined by having the respondents rate the items on a five-point Likert scale with 1 indicating "strongly disagree"; 2, "disagree"; 3, "neither agree nor disagree"; 4, "agree"; and 5, "strongly agree." Respondents also had the option of answering, "don't know" if they did not have

sufficient knowledge to answer the question. In examining the data, it is important to note that the responses of "don't know" are reported in counts, but are but not included in descriptive statistical calculations. The researcher has interpreted the means as: 1.0-1.7= Strong level of disagreement; 1.8 – 2.5 = Moderate level of disagreement; 2.6-3.3 = Lack of agreement; 3.4 – 4.1 = Moderate level of agreement; and 4.2-5.0, Strong level of agreement.

Research Sub-question #1, Institutional Support: To what extent does Internet-delivered education at this institution meet quality standards for institutional support?

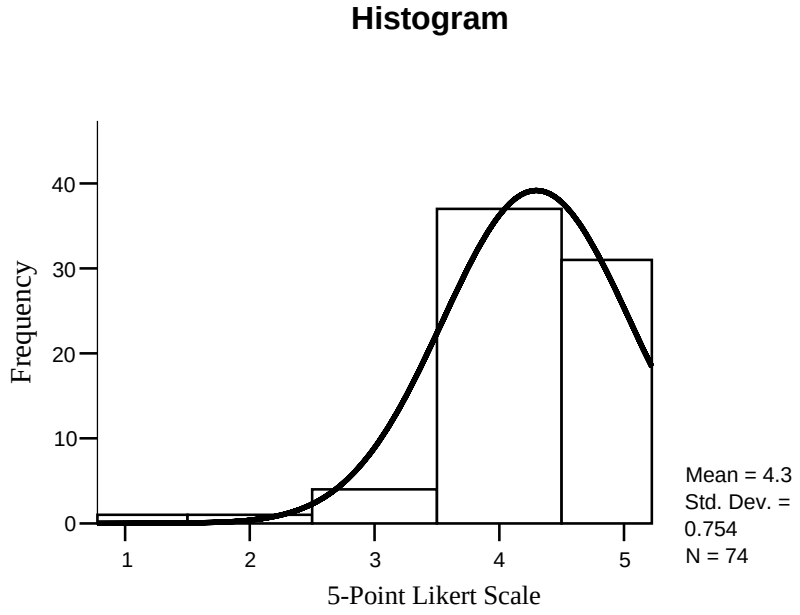
The program met the criteria for quality in the area of institutional support. Data to answer the questions pertaining to institutional support were taken from survey questions 1 – 3 and addressed the factors related to institutional support for online distance education. By indicating a level of agreement or disagreement with these three questions, we are provided with an overall indication of how the respondents perceived this quality criterion. A comparison of means and frequencies of responses from questions 1, 2, and 3 indicate that there is strong agreement in the perceptions of all respondents of the three statements pertaining to institutional support indicating that Internet-delivered education met the quality criteria to a moderate degree.

It is important to note that the “don’t know” responses were removed from the computations and are reported as such. Of significance in this criteria are the similar means in all three statements and yet while there is a general agreement for all three

questions pertaining to institutional support, there is variance between statements in the qualitative written responses section of the questionnaire.

Survey Question 1: Is there a documented technology plan, that includes electronic security measures (i.e., password protection, encryption, back-up systems) that is in place and operational? The mean score for the 87 respondents was 4.3; 13 indicated they did not know the answer to this question and another 4 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 1 disagreed, 37 agreed, and 31 strongly agreed that a documented technology plan is in place. Figure 4.1 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.1
Histogram, Question 1



Appointment Level Analysis. From the perspective of the three administrators, results indicated that 1 agreed and 2 strongly agreed that a documented technology plan is in place and operational ($\mu = 4.67$).

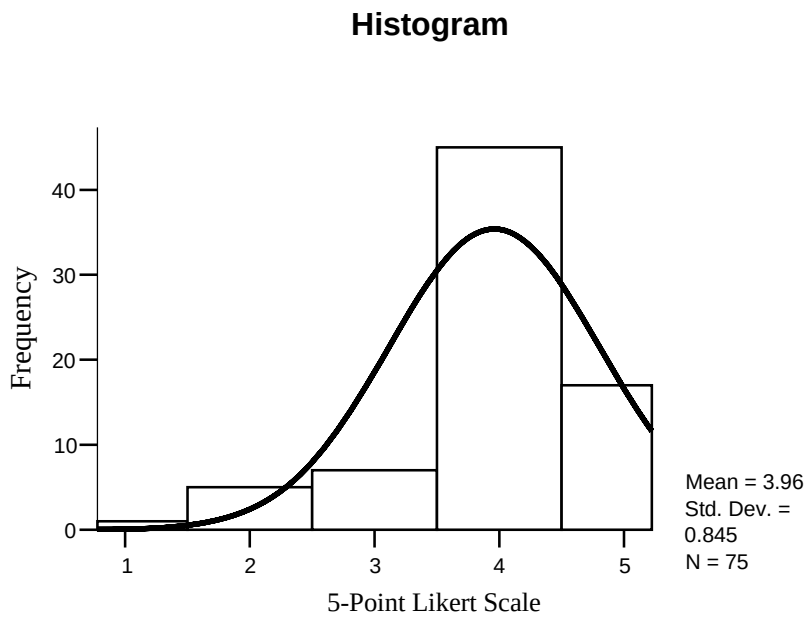
From the perspective of the one instructional academic staff, results indicated that 1 strongly agreed that a documented technology plan is in place and operational ($\mu = 5.0$).

From the perspective of the 60 faculty, 10 respondents indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. One strongly disagreed, 26 agreed, and 21 strongly agreed that that a documented technology plan is in place and operational ($\mu = 4.32$).

From the perspective of the 23 support staff, 3 respondents indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. Results indicated 1 disagreed, 10 agreed, and 7 strongly agreed that a documented technology plan is in place and operational ($\mu = 4.33$)

Survey Question 2: Is the reliability of the technology delivery system as fail-safe as possible? The mean score for the 87 participants was 3.96; 12 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 5 disagreed, 45 agreed, and 17 strongly agreed that reliability of the technology system was as fail-safe as possible. Figure 4.2 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.2
Histogram, Question 2



Appointment Level Analysis. From the perspective of the 3 administrators, results indicated that 2 agreed, and 1 strongly agreed that that the technology system was as fail-safe as possible ($\mu = 4.33$).

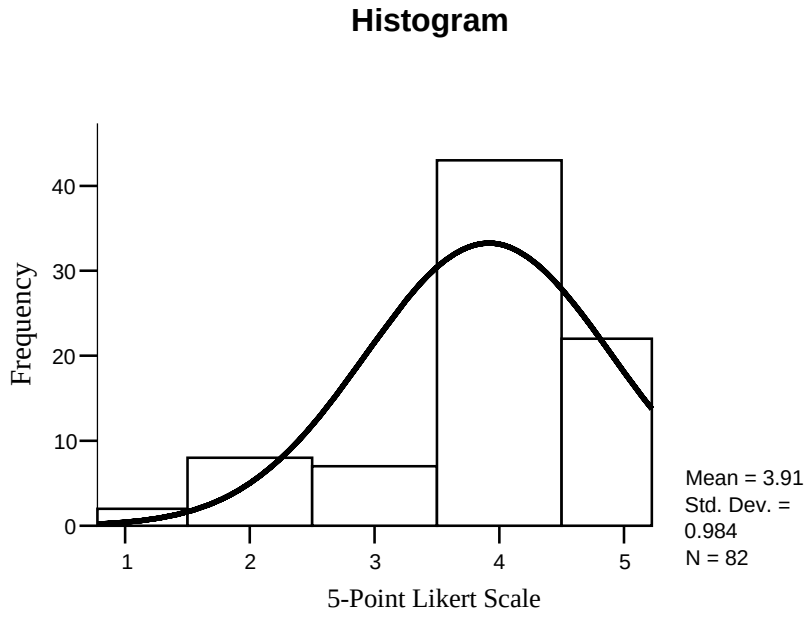
From the perspective of the one instructional academic staff, 1 strongly agreed that the technology system was as fail-safe as possible ($\mu = 5.00$).

From the perspective of the 60 faculty, 10 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 4 disagreed, 30 agreed, and 10 strongly agreed that that the technology system was as fail-safe as possible ($\mu = 3.88$).

From the perspective of the 23 support staff, 2 respondents indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. Results indicated 1 disagreed, 13 agreed, and 5 strongly agreed that a documented technology plan is in place and operational ($\mu = 4.05$).

Survey Question 3: Is there a centralized system that provides support for building and maintaining the distance education infrastructure? The mean score of the 87 participants was 3.96; 5 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 8 disagreed, 7 agreed, 43 agreed, and 22 strongly agreed that a centralized system provides support for building and maintaining the distance education infrastructure. Figure 4.3 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.3
Histogram, Question 3



Appointment Level Analysis. From the perspective of the 3 administrators, 2 agreed and 1 strongly agreed that that a centralized system provides support for building and maintaining the distance education infrastructure ($\mu = 4.33$).

From the perspective of the one instructional academic staff indicated a strong agreement that a centralized system provides support for building and maintaining the distance education infrastructure ($\mu = 5.0$).

From the perspective of the 60 faculty, 4 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 8 disagreed, 27 agreed, and 14 strongly agreed that a centralized system provides support for building and maintaining the distance education infrastructure ($\mu = 3.00$).

From the perspective of the 23 support staff, 1 respondent indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. Results indicated 14 agreed, and 6 strongly agreed that a documented technology plan is in place and operational ($\mu = 4.18$).

Research Sub-question #2, Course Development: To what extent does Internet-delivered education at the University meet quality standards in course development?

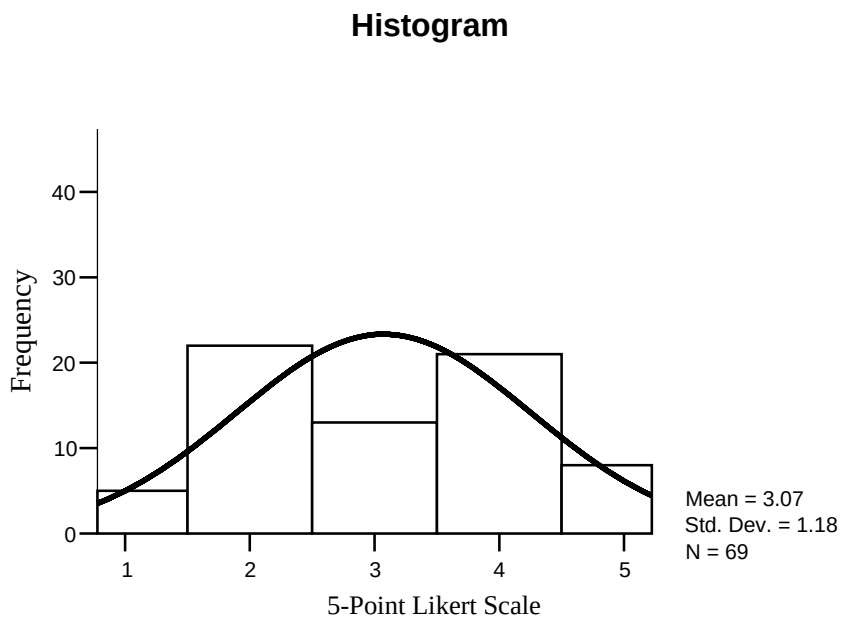
The University's program did not meet the criteria for quality in course structure. Data to support this question came from survey questions 4-7, which address the development of course materials for online distance education. Overall, the respondents presented a mixed agreement on course development, resulting in a bimodal distribution of responses indicating that the University did not meet the quality standards in course development.

Of the four questions that assessed the support of course development, the first three questions found divided results between faculty and staff. For example, in question four, 31.7 % of faculty disagreed and 30.4% of support staff agreed, which indicates that support staff perceive that resources for course development exist, but are not utilized or known by faculty. The high number of support staff that reported they didn't know if support for course development existed indicates that there is a communication breakdown between all levels of faculty and staff.

Of significance in this section were the high numbers of respondents that "don't know" and "neither agreed nor disagreed" to statements pertaining to course development. In addition, a comparison of faculty and staff for each of these four questions indicates that there is variation in the perceptions of the respondents to their levels of agreement or disagreement with each question pertaining to course

Survey Question 4: Guidelines regarding minimum standards are used for course development, design, and delivery. The mean score of the 87 participants was 3.07; 18 respondents indicated they did not know the answer to this question and another 13 neither agreed nor disagreed. Results indicated 5 strongly disagreed, 22 disagreed, 21 agreed, and 8 strongly agreed that guidelines regarding minimum standards are used for course development, design, and delivery. Figure 4.4 portrays the population perceptions graphically using a histogram with a bimodal curve.

Figure 4.4
Histogram, Question 4



What this graph is indicating is that there are two distinct means within this distribution that are important to investigate. In this instance, a bimodal distribution could indicate that there is strong heterogeneity within the population with two distinct modes (as this data clearly indicates differences in the means between faculty and staff).

Appointment level analysis. From the perspective of the three administrators, 1 indicated they did not know the answer to this question, 1 disagreed, and 1 strongly agreed that guidelines regarding minimum standards are used for course development, design, and delivery ($\mu = 3.50$).

The one academic instructional staff member disagreed that guidelines regarding minimum standards are used for course development, design, and delivery ($\mu = 2.00$).

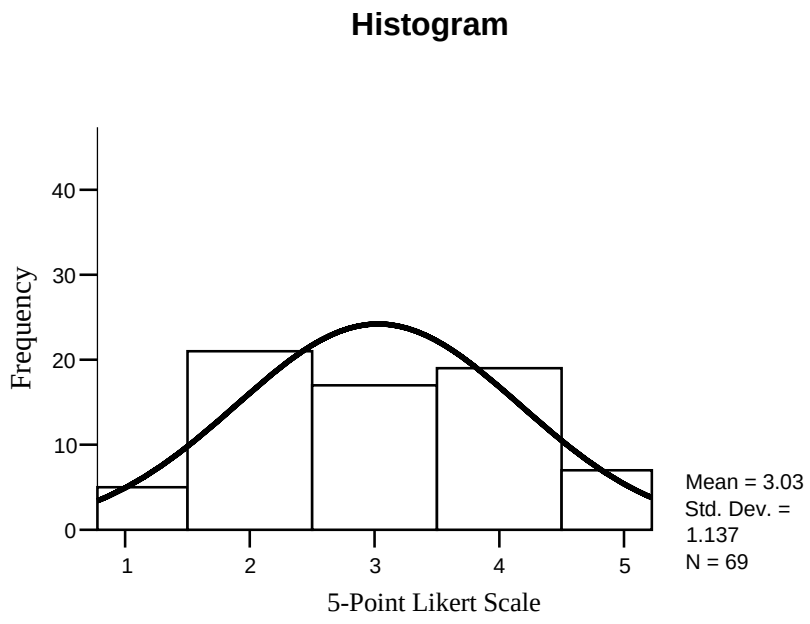
From the perspective of the 60 faculty, 7 respondents indicated they did not know the answer to this question and another 11 neither agreed nor disagreed. Results indicated 4 strongly disagreed, 17 disagreed, 15 agreed, and 6 strongly agreed that

guidelines regarding minimum standards are used for course development, design, and delivery (μ = 2.88).

From the perspective of the 23 support staff, 11 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 3 disagreed, 3 agreed, and 3 strongly agreed that guidelines regarding minimum standards are used for course development, design, and delivery (μ = 3.56).

Survey Question 5: Learning outcomes determine the technology being used to deliver course content. The mean score of the 87 participants was 3.03; 18 respondents indicated they did not know the answer to this question and 17 neither agreed nor disagreed. Results indicated that 5 strongly disagreed, 21 disagreed, 19 agreed, and 7 strongly agreed that learning outcomes determine the technology being used to deliver course content. Figure 4.5 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.5
Histogram, Question 5



Appointment Level Analysis. From the perspective of the 3 administrators, 1 indicated they did not know the answer to this question, 1 strongly disagreed, and 1 agreed that learning outcomes determine the technology being used to deliver course content ($\mu = 2.67$).

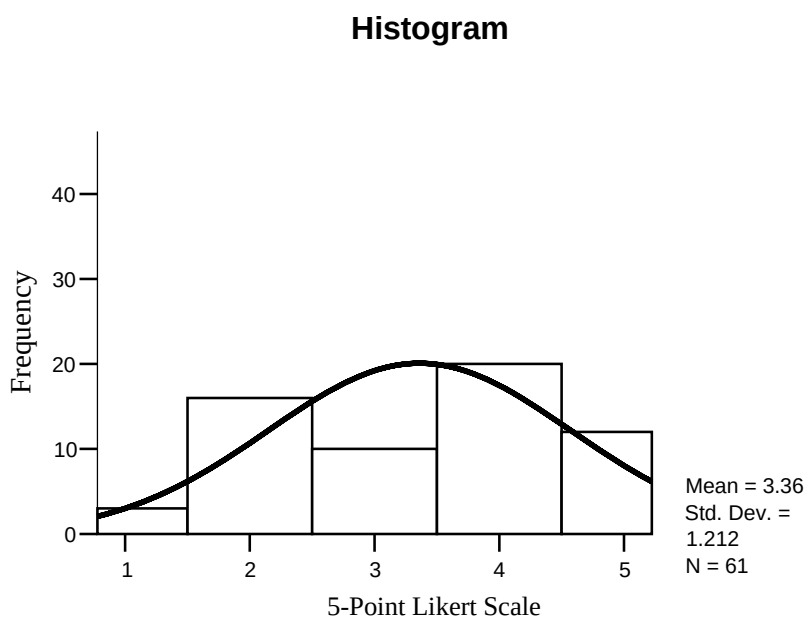
From the perspective of the one instructional academic staff, results indicated the respondent disagreed that learning outcomes determine the technology being used to deliver course content ($\mu = 2.00$).

From the perspective of the 60 faculty, 7 respondents indicated they did not know the answer to this question and another 11 neither agreed nor disagreed. Results indicated 4 strongly disagreed, 17 disagreed, 11 agreed, and 4 strongly agreed that guidelines learning outcomes determine the technology being used to deliver course content ($\mu = 3.04$).

From the perspective of the 23 support staff, 11 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 3 disagreed, 3 agreed, and 1 strongly agreed that learning outcomes determine the technology being used to deliver course content ($\mu = 3.04$).

Survey Question 6: Instructional materials are reviewed periodically to ensure they meet program standards. The mean score of the 87 participants was 3.36; 26 respondents indicated they did not know the answer to this question and another 10 neither agreed nor disagreed. Results indicated that 3 strongly disagreed, 16 disagreed, 20 agreed, and 12 strongly agreed that instructional materials are reviewed periodically to ensure they meet program standards. Figure 4.6 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.6
Histogram, Question 6



This data again clearly indicates a bimodal distribution. One mode occurs between means of 1.5-2.5 and the other between means of 3.5 and 4.5. One group appears to disagree and another appears to agree with the statement in this question. It would appear, given this distribution, that there may be two distinct populations within this census. While this is not the case, it begs further investigation as to why there is broad discrepancy in the perception of this quality indicator.

Appointment level analysis. From the perspective of the 3 administrators, results indicated that 1 did not know the answer to this question, 1 disagreed, and 1 agreed that instructional materials are reviewed periodically to ensure they meet program standards ($\mu = 3.00$).

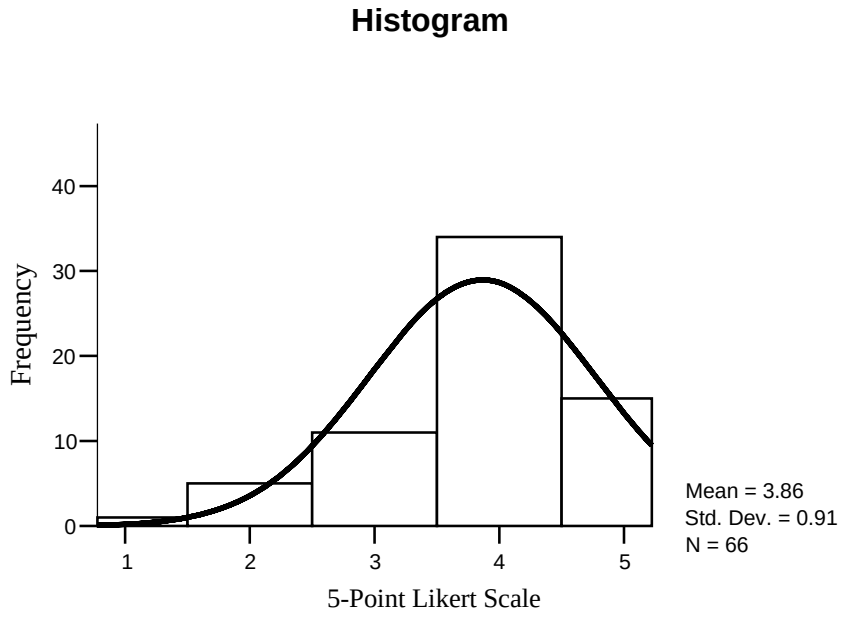
From the perspective of the one instructional academic staff, 1 agreed that instructional materials are reviewed periodically to ensure they meet program standards ($\mu = 4.00$).

From the perspective of the 60 faculty, 14 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated that 3 strongly disagreed, 13 disagreed, 13 agreed, and 10 strongly agreed that instructional materials are reviewed periodically to ensure they meet program standards ($\mu = 3.30$).

From the perspective of the 23 support staff, 11 respondents indicated they did not know the answer to this question and another 3 neither agreed nor disagreed. Results indicated that 2 disagreed, 5 agreed, and 2 strongly agreed that instructional materials are reviewed periodically to ensure they meet program standards ($\mu = 3.58$).

Survey Question 7: Courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements. The mean score of the 87 participants was 3.86; 21 respondents indicated they did not know the answer to this question and another 11 neither agreed nor disagreed. Results indicated that 1 strongly disagreed, 5 disagreed, 34 agreed, and 15 strongly agreed that online courses at the University are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements. Figure 4.7 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.7
Histogram, Question 7



Appointment level analysis. From the perspective of the three administrators, 2 respondents indicated they did not know the answer to this question and 1 agreed that courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements ($\mu = 4.00$).

From the perspective of the one instructional academic staff, 1 agreed that courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements ($\mu = 4.00$).

From the perspective of the 60 faculty, 9 respondents indicated they did not know the answer to this question and another 9 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 4 disagreed, 23 agreed, and 14 strongly agreed that courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements ($\mu = 3.88$).

From the perspective of the 23 support staff, 10 respondents indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. Results indicated 1 disagreed, 9 agreed, and 1 strongly agreed that courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements ($\mu = 3.77$).

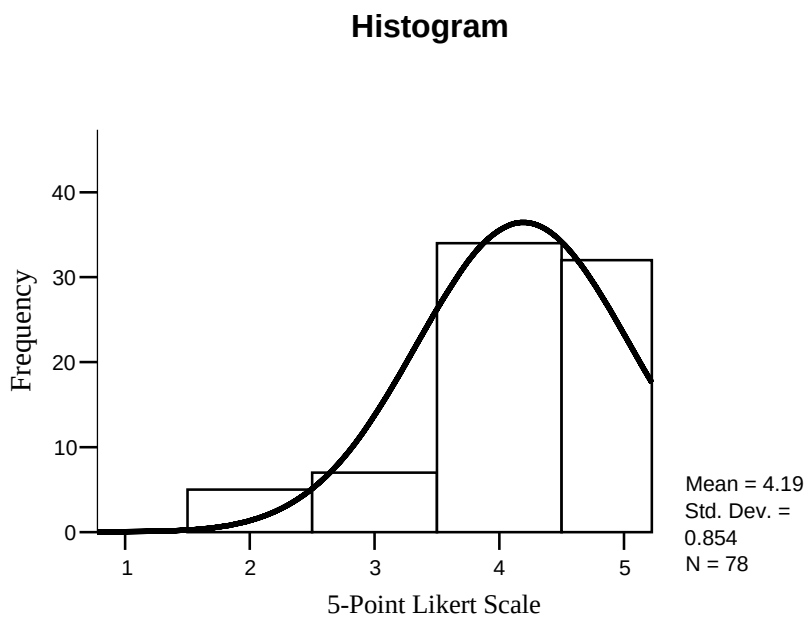
Research Sub-question #3, Teaching and Learning Process: To what extent does Internet-delivered education at this University meet quality standards in the teaching/learning process?

The University's program met the criteria for quality in teaching and learning process. Overall, respondents were in moderate agreement, indicating that their Internet-delivered education did meet the quality criteria for the teaching/learning process. Again, a high number of support staff reported they didn't know the answer to this question, indicating that there is a communication breakdown between academic and support areas of this program.

Survey Question 8: Student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/o e-mail. The mean score of the 87 participants was 4.19; 9 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 5 disagreed, 34 agreed, and 32 strongly agreed that student interaction with faculty and other students is an essential characteristic and is facilitated through a

variety of ways, including voice-mail and/or e-mail at the University. Figure 4.8 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.8
Histogram, Question 8



Appointment level analysis. From the perspective of the 3 administrators, results indicated that 2 agreed and 1 strongly agreed that student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail ($\mu = 4.33$).

From the perspective of the one instructional academic staff, results indicated the respondent strongly agreed that student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail ($\mu = 5.00$).

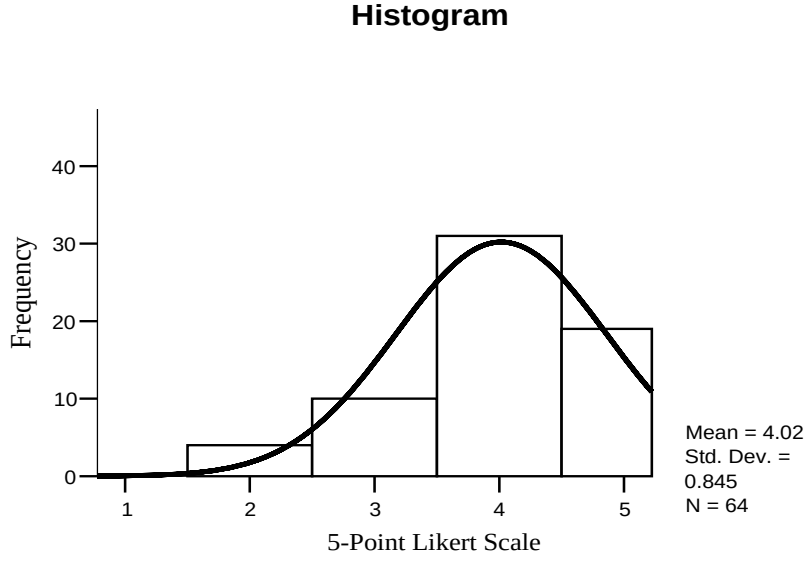
From the perspective of the 60 faculty, 3 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 5 disagreed, 27 agreed, and 19 strongly agreed that student

interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail ($\mu = 4.05$).

From the perspective of the 23 support staff, 6 respondents indicated they did not know the answer to this question and another 1 neither agreed nor disagreed. Results indicated 5 agreed and 11 strongly agreed that student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail ($\mu = 4.59$).

Survey Question 9 - Feedback to student assignments and questions is constructive and provided in a timely manner. The mean score of the 87 participants was 4.03; 23 respondents indicated they did not know the answer to this question and another 10 neither agreed nor disagreed. Results indicated that 4 disagreed, 31 agreed, and 19 strongly agreed that feedback to student assignments and questions is constructive and provided in a timely manner. Figure 4.9 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.9
Histogram, Question 9



Appointment level analysis. From the perspective of the administrators, 2 agreed and 1 strongly agreed that feedback to student assignments and questions is constructive and provided in a timely manner ($\mu = 4.00$).

From the perspective of the one instructional academic staff, results indicated the respondent strongly agreed that feedback to student assignments and questions is constructive and provided in a timely manner ($\mu = 5.00$).

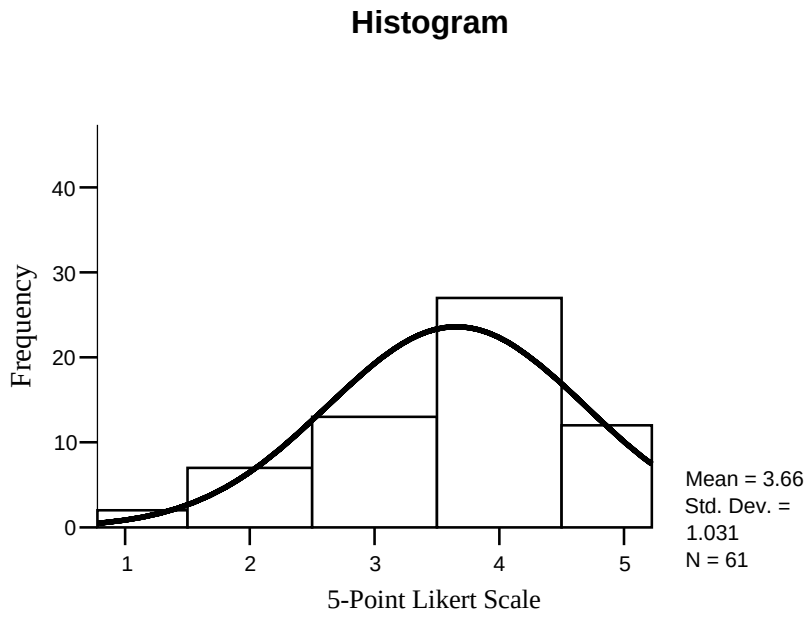
From the perspective of the 60 faculty, 3 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated that 5 disagreed, 27 agreed, and 19 strongly agreed student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail ($\mu = 4.10$).

From the perspective of the 23 support staff, 6 respondents indicated they did not know the answer to this question and another 1 neither agreed nor disagreed. Results indicated that 5 agreed, and 11 strongly agreed student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail ($\mu = 3.62$).

Survey Question 10 - Students are instructed in the proper methods of effective research, including assessment of the validity of resources. The mean score of the 87 participants was 3.66; 26 respondents indicated they did not know the answer to this question and another 13 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 7 disagreed, 27 agreed, and 12 strongly agreed students are instructed in the proper methods of effective research, including assessment of the validity of resources.

Figure 4.10 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.10
Histogram, Question 10



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question and 2 agreed that students are instructed in the proper methods of effective research, including assessment of the validity of resources ($\mu = 4.00$).

From the perspective of the 1 instructional academic staff, results indicated 1 agreed that students are instructed in the proper methods of effective research, including assessment of the validity of resources ($\mu = 4.00$).

From the perspective of the 60 faculty, 16 respondents indicated they did not know the answer to this question and another 8 neither agreed nor disagreed. Results indicated that 2 strongly disagreed, 7 disagreed, 17 agreed, and 10 strongly agreed that

students are instructed in the proper methods of effective research, including assessment of the validity of resources ($\mu = 3.59$).

From the perspective of the 23 support staff, 9 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated that 7 agreed, and 2 strongly agreed that students are instructed in the proper methods of effective research, including assessment of the validity of resources ($\mu = 3.79$).

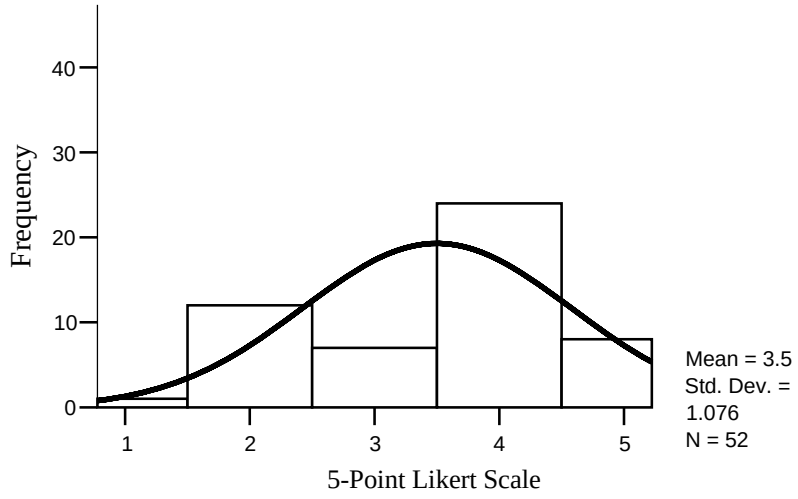
Research Sub-question #4, Course Structure: To what degree does Internet-delivered education at the University meet quality standards in course structure?

The University's program did not meet the criteria for quality in course structure. The respondents presented a variance in agreement on course structure, resulting in a bimodal distribution and a high level of "don't know," which indicate that a strong percentage of the population is not aware of course structure standards; therefore the institution did not meet the quality criteria for course structure.

Survey Question 11: Before starting an online program, do students receive information about the program to determine if they possess the self-motivation and commitment to learn at a distance? The mean score of the 87 participants was 3.50; 35 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 12 disagreed, 24 agreed, and 8 strongly agreed that before starting an online program, students are advised about the program to determine if they possess the self-motivation and commitment to learn at a

distance. Figure 4.11 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.11
Histogram, Question 11



The data generated from this question shows an uneven bimodal distribution that is skewed to the right. In this case, there appeared to be mixed perceptions, particularly within the responses from faculty. Where administrators and staff overall showed moderate agreement, the data from faculty do not show any consistency of perception, which has resulted in this uneven distribution.

Appointment level Analysis. From the perspective of the 3 administrators, 1 did not know the answer to this question, 1 disagreed, and 1 agreed that before starting an online program, students are advised about the program to determine if they possess the self-motivation and commitment to learn at a distance ($\mu = 3.00$).

From the perspective of the one instructional academic staff, indicated 1 agreed that before starting an online program, students are advised about the program to

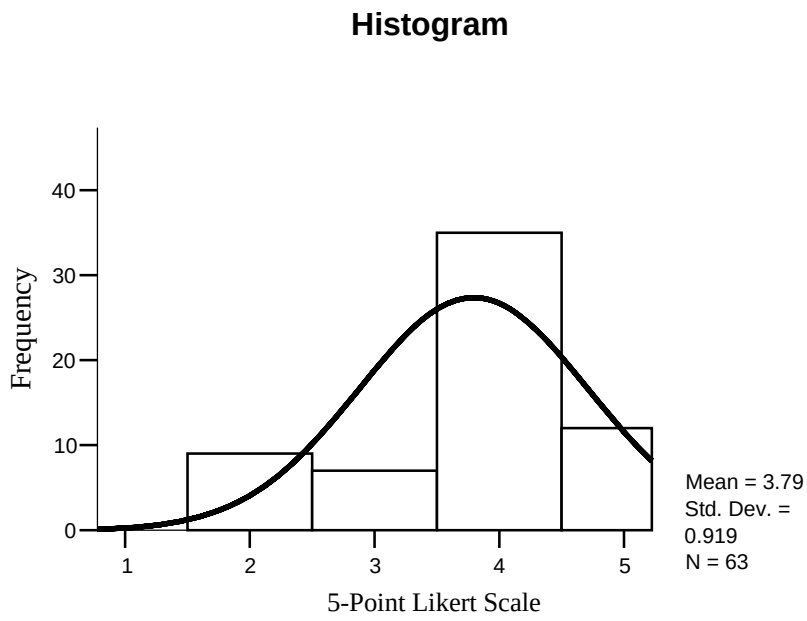
determine if they possess the self-motivation and commitment to learn at a distance (μ = 4.00). .

From the perspective of the 60 faculty, 20 respondents indicated they did not know the answer to this question and another 3 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 11 disagreed, 18 agreed, and 7 strongly agreed that before starting an online program, students are advised about the program to determine if they possess the self-motivation and commitment to learn at a distance (μ = 3.48).

From the perspective of the 23 support staff, 14 respondents indicated they did not know the answer to this question and another 4 neither agreed nor disagreed. Results indicated that 4 agreed, and 1 strongly agreed before starting an online program, students are advised about the program to determine if they possess the self-motivation and commitment to learn at a distance (μ = 3.67).

Survey Question 12: Before starting an online program, students are advised about the program to determine if they have access to the minimal technology required by the course design. The mean score of the 87 participants was 3.79; 24 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 9 disagreed, 35 agreed, and 12 strongly agreed that before starting an online program, students are advised about the program to determine if they have access to the minimal technology required by the course design. Figure 4.12 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.12
Histogram, Question 12



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question. Results indicated 2 agreed that before starting an online program, students are advised about the program to determine if they have access to the minimal technology required by the course design (μ = 4.00).

From the perspective of the one instructional academic staff, results indicated that 1 agreed that before starting an online program, students are advised about the program to determine if they have access to the minimal technology required by the course design (μ = 4.00).

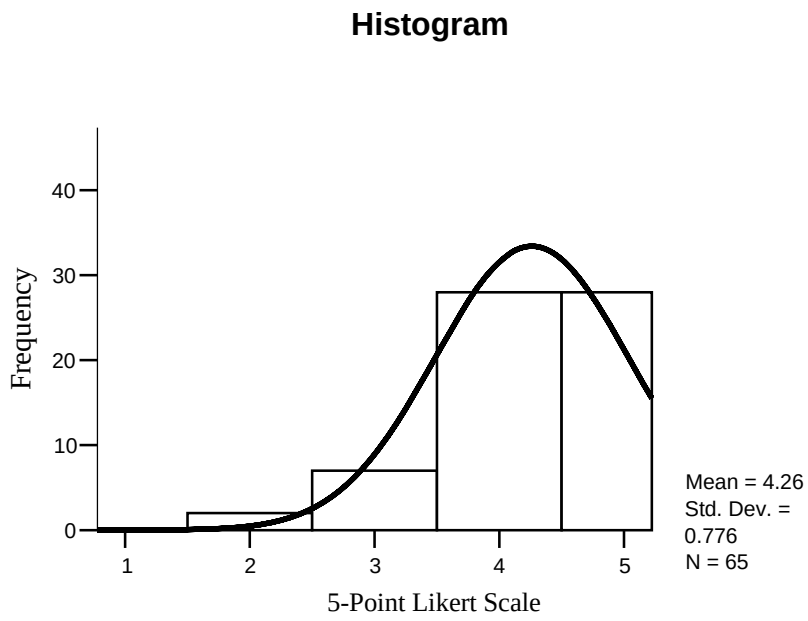
From the perspective of the 60 faculty, 12 respondents indicated they did not know the answer to this question and another 3 neither agreed nor disagreed. Results indicated that 0 strongly disagreed, 9 disagreed, 26 agreed, and 10 strongly agreed that

before starting an online program, students are advised about the program to determine if they have access to the minimal technology required by the course design ($\mu = 3.77$).

From the perspective of the 23 support staff, 11 respondents indicated they did not know the answer to this question and another 4 neither agreed nor disagreed. Results indicated that 6 agreed, and 2 strongly agreed that before starting an online program, students are advised about the program to determine if they have access to the minimal technology required by the course design ($\mu = 3.83$).

Survey Question 13: Students are provided with supplemental course information that outlines course objectives, concepts, and ideas. The mean score of the 87 participants was 4.26; 22 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated that 0 strongly disagreed, 2 disagreed, 28 agreed, and 28 strongly agreed that students are provided with supplemental course information that outlines course objectives, concepts, and ideas. Figure 4.13 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.13
Histogram, Question 13



Appointment level analysis. From the perspective of the 3 administrators, 2 agreed and 1 strongly agreed that students are provided with supplemental course information that outlines course objectives, concepts, and ideas ($\mu = 4.67$).

From the perspective of the one instructional academic staff, results indicated that 1 strongly agreed that students are provided with supplemental course information that outlines course objectives, concepts, and ideas ($\mu = 5.00$).

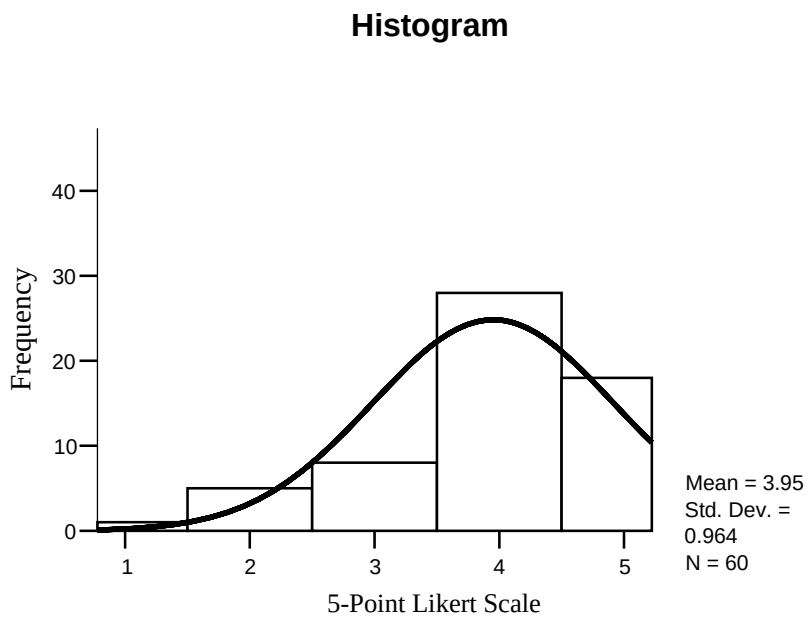
From the perspective of the 60 faculty, 10 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated that 0 strongly disagreed, 2 disagreed, 20 agreed, and 22 strongly agreed that students are provided with supplemental course information that outlines course objectives, concepts, and ideas ($\mu = 4.24$).

From the perspective of the 23 support staff, 12 respondents indicated they did not know the answer to this question and another 1 neither agreed nor disagreed. Results

indicated that 7 agreed, and 3 strongly agreed that students are provided with supplemental course information that outlines course objectives, concepts, and ideas (μ = 4.18).

Survey Question 14: Learning outcomes for each course are summarized in a clearly written, straightforward statement. The mean score of the 87 participants was 3.95; 27 respondents indicated they did not know the answer to this question and another 8 neither agreed nor disagreed. Results indicated that 1 strongly disagreed, 5 disagreed, 28 agreed, and 18 strongly agreed that learning outcomes for each course are summarized in a clearly written, straightforward statement. Table 4.21 displays counts and percentage of all four categories (levels of appointment) regarding the perception that learning outcomes for each course are summarized in a clearly written, straightforward statement. Figure 4.14 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.14
Histogram, Question 14



Appointment level analysis. From the perspective of the 3 administrators, 2 agreed and 1 strongly agreed that learning outcomes for each course are summarized in a clearly written, straightforward statement (μ = 4.33).

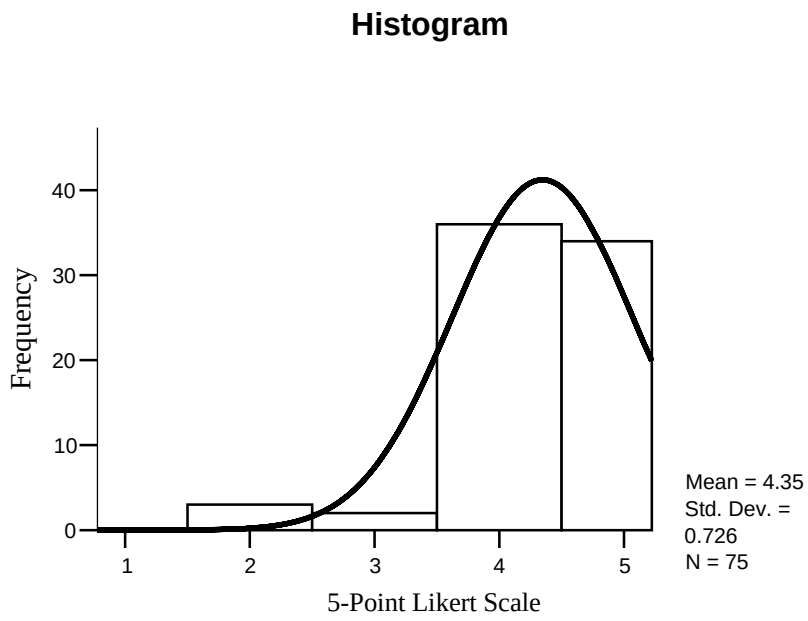
From the perspective of the one instructional academic staff, results indicated 1 strongly agreed that learning outcomes for each course are summarized in a clearly written, straightforward statement (μ = 5.00).

From the perspective of the 60 faculty, 14 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 5 disagreed, 21 agreed, and 14 strongly agreed that learning outcomes for each course are summarized in a clearly written, straightforward statement (μ = 3.91).

From the perspective of the 23 support staff, 13 respondents indicated they did not know the answer to this question and another 3 neither agreed nor disagreed. Results indicated 5 agreed, and 2 strongly agreed that learning outcomes for each course are summarized in a clearly written, straightforward statement (μ = 3.90).

Survey Question 15: Students have access to sufficient library resources hat may include a 'virtual library" accessible through the World Wide Web. The mean score of the 87 participants was 4.35; 12 respondents indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 3 disagreed, 36 agreed, and 34 strongly agreed students have access to sufficient library resources that may include a "virtual library" accessible through the World Wide Web. Figure 4.15 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.15
Histogram, Question 15



Appointment level analysis. From the perspective of the 3 administrators, all 3 agreed that students have access to sufficient library resources that may include a "virtual library" accessible through the World Wide Web ($\mu = 4.00$).

From the perspective of the one instructional academic staff, results indicated that 1 strongly agreed that students have access to sufficient library resources that may include a "virtual library" accessible through the World Wide Web ($\mu = 5.00$).

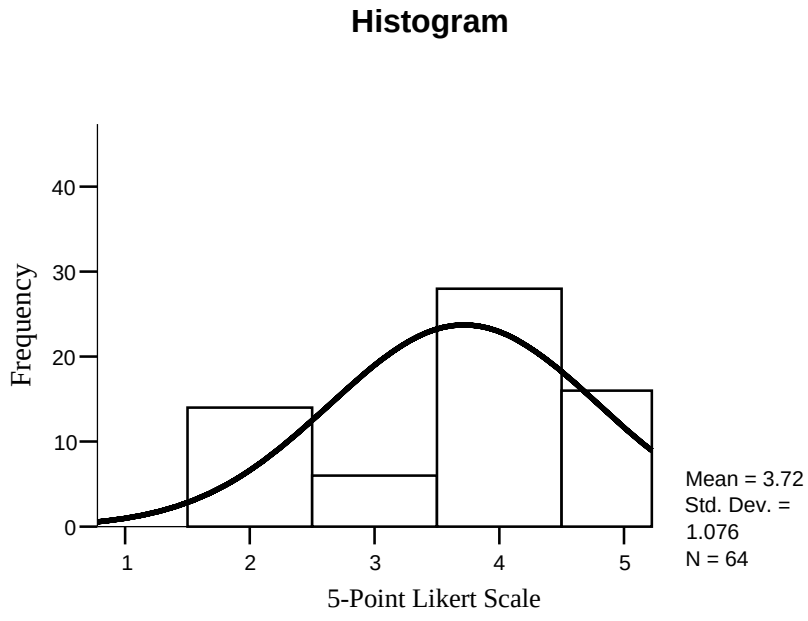
From the perspective of the 60 faculty, 7 respondents indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. Results indicated that 0 strongly disagreed, 3 disagreed, 27 agreed, and 21 strongly agreed that students have access to sufficient library resources that may include a "virtual library" accessible through the World Wide Web ($\mu = 4.25$).

From the perspective of the 23 support staff, 5 respondents indicated they did not know the answer to this question and another 0 neither agreed nor disagreed. Results

indicated 9 agreed and 9 strongly agreed that students have access to sufficient library resources that may include a “virtual library” accessible through the World Wide Web (μ = 4.50).

Survey Question 16: Faculty and students agree upon expectations regarding times for student assignment completion and faculty response. The mean score of the 87 participants was 3.72; 23 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 14 disagreed, 28 agreed, and 16 strongly agreed that faculty and students agree upon expectations regarding times for student assignment completion and faculty response. Figure 4.16 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.16
Histogram, Question 16



Another smaller bimodal distribution resulting from this question indicates mixed perceptions in this area. In this case, the most dissent is coming from administrators and

the most agreement from faculty. As the right mode is clearly larger than the left, there is less cause for concern from strongly mixed perceptions than if both modes were equally strong.

Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question, and 2 disagreed that faculty and students agree upon expectations regarding times for student assignment completion and faculty response ($\mu = 2.00$).

From the perspective of the one instructional academic staff, results indicated 1 strongly agreed that faculty and students agree upon expectations regarding times for student assignment completion and faculty response ($\mu = 5.00$).

From the perspective of the 60 faculty, 13 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated that 0 strongly disagreed, 8 disagreed, 21 agreed, and 13 strongly agreed that faculty and students agree upon expectations regarding times for student assignment completion and faculty response ($\mu = 3.83$).

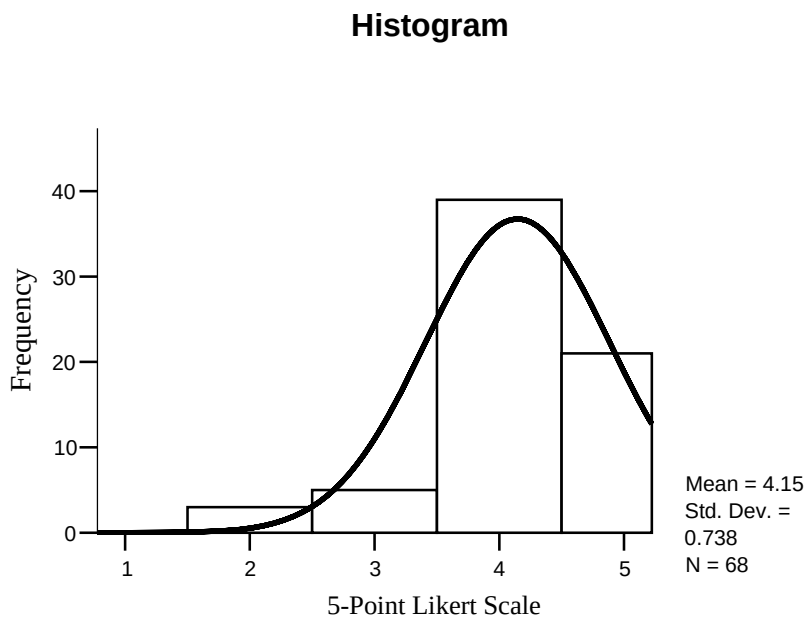
From the perspective of the 23 support staff, 9 respondents indicated they did not know the answer to this question and another 1 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 4 disagreed, 7 agreed and 2 strongly agreed that faculty and students agree upon expectations regarding times for student assignment completion and faculty response ($\mu = 3.50$).

Research Sub-question #5, Student Support: To what extent does Internet-delivered education at the University meet quality standards in faculty support?

The University's program did not meet the criteria for quality in student support. The questions of quality standards in student support received an overall moderate agreement from the respondents in three of the four questions; the exception was in question 18, which received a low level of agreement when the population was asked if students are provided with hands-on training and information to aid in securing research materials. Although the University has meet the criteria for student support for in three of the four question areas, the institution has not meet an agreeable level of support in providing students with hands-on training and information in securing research materials, indicating that the program did not meet all quality criteria's for the student support.

Survey Question 17: Students receive information about the program, (i.e.: admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services). The mean score of the 87 participants 4.15; 19 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 3 disagreed, 39 agreed, and 21 strongly agreed students receive information about the program, (i.e.: admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services). Figure 4.17 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.17
Histogram, Question 17



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question and 2 strongly agreed that students receive information about the program, (i.e.: admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services) ($\mu = 5.00$).

From the perspective of the one instructional academic staff, results indicated 1 strongly agreed that students receive information about the program, (i.e.: admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services) ($\mu = 5.00$).

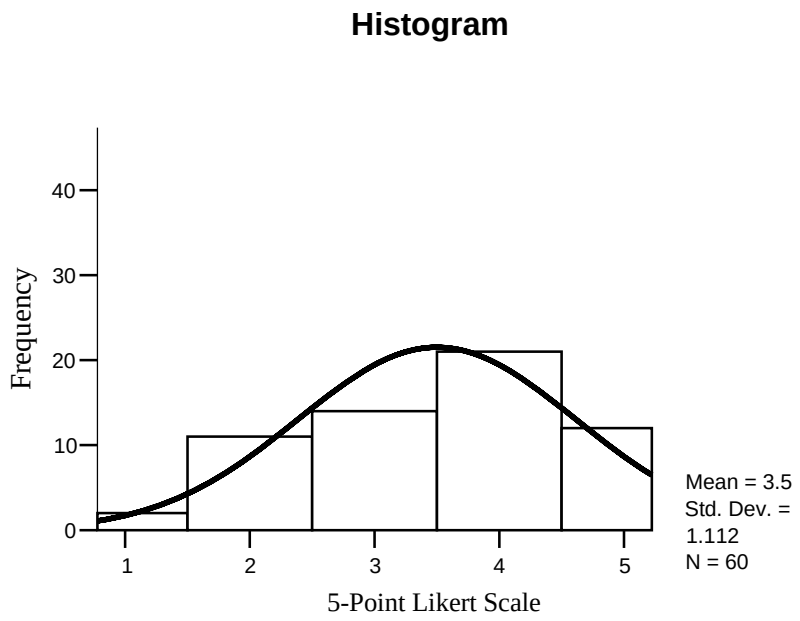
From the perspective of the 60 faculty, 12 respondents indicated they did not know the answer to this question and another 4 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 3 disagreed, 27 agreed, and 14 strongly agreed that

students receive information about the program, (i.e.: admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services) ($\mu = 4.08$).

From the perspective of the 23 support staff, 6 respondents indicated they did not know the answer to this question and another 1 neither agreed nor disagreed. Results indicated 12 agreed, and 4 strongly agreed that students receive information about the program, (i.e.: admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services) ($\mu = 4.08$).

Survey Question 18: Students are provided with hands-on training and information to aid them in securing research materials through such resources as electronic databases, interlibrary loans, government archives, news services, and other sources. The mean score of the 87 participants is 3.50; 27 respondents indicated they did not know the answer to this question and another 14 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 11 disagreed, 21 agreed, and 12 strongly agreed students are provided with hands-on training and information to aid them in securing research material through such resources as electronic databases, interlibrary loans, government archives, news services, and other sources. Figure 4.18 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.18
Histogram, Question 18



Appointment level analysis. From the perspective of the 3 administrators, 2 respondents indicated they neither agreed nor disagreed and 1 agreed that students are provided with hands-on training and information to aid them in securing research material through such resources as electronic databases, interlibrary loans, government archives, news services, and other sources ($\mu = 3.33$).

From the perspective of the one instructional academic staff, results indicated 1 strongly agreed that students are provided with hands-on training and information to aid them in securing research material through such resources as electronic databases, interlibrary loans, government archives, news services, and other sources ($\mu = 5.00$).

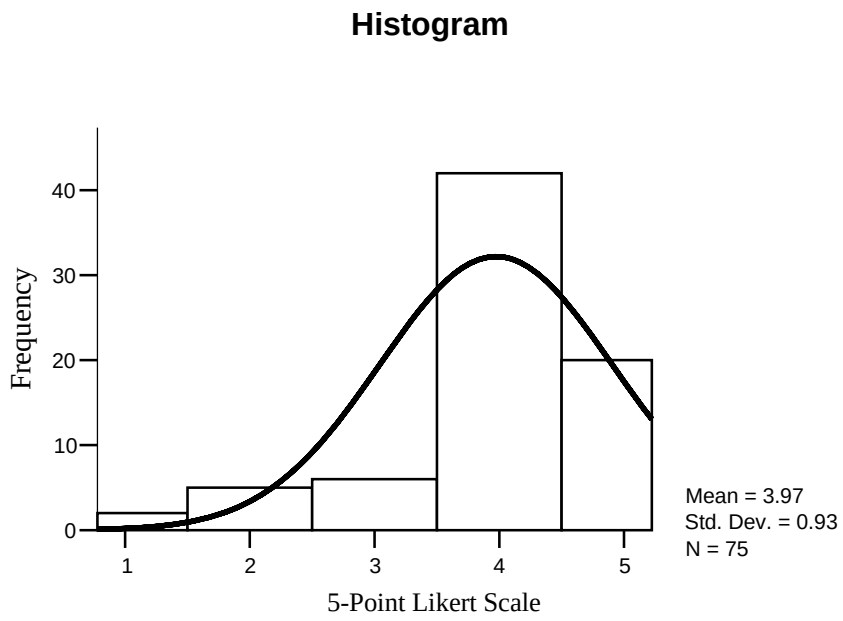
From the perspective of the 60 faculty, 22 respondents indicated they did not know the answer to this question and another 8 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 10 disagreed, 12 agreed, and 6 strongly agreed that students are provided with hands-on training and information to aid them in securing

research material through such resources as electronic databases, interlibrary loans, government archives, news services, and other sources ($\mu = 3.84$).

From the perspective of the 23 support staff, 5 respondents indicated they did not know the answer to this question and another 4 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 1 disagreed, 8 agreed, and 5 strongly agreed that students are provided with hands-on training and information to aid them in securing research material through such resources as electronic databases, interlibrary loans, government archives, news services, and other sources ($\mu = 3.94$).

Survey Question 19: Throughout the duration of the course/program, students have access to technical assistance. Technical assistance may include detailed instructions regarding the electronic media used, practice sessions prior to the beginning of the course, and/or convenient access to technical support staff. The mean score of the 87 participants was 3.97; 12 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 5 disagreed, 42 agreed, and 20 strongly agreed students throughout the duration of the course/program, students have access to technical assistance. Figure 4.19 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.19
Histogram, Question 19



Appointment level analysis. From the perspective of the 3 administrators, 2 respondents strongly agreed and 1 agreed that throughout the duration of the course/program, students have access to technical assistance ($\mu = 4.67$).

From the perspective of the one instructional academic staff, results indicated that 1 strongly agreed throughout the duration of the course/program, students have access to technical assistance ($\mu = 5.00$).

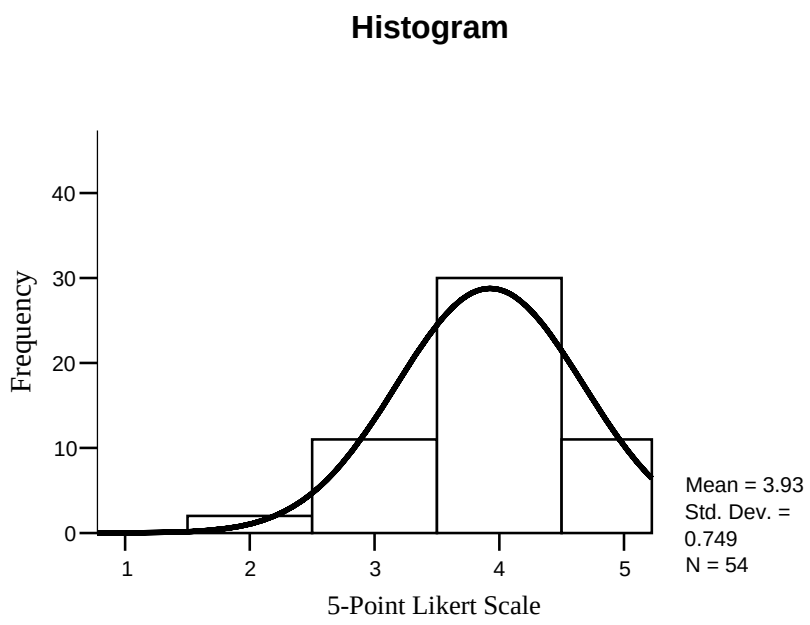
From the perspective of the 60 faculty, 9 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 5 disagreed, 26 agreed, and 13 strongly agreed that throughout the duration of the course/program, students have access to technical assistance ($\mu = 3.84$).

From the perspective of the 23 support staff, 3 respondents indicated they did not know the answer to this question and another 1 neither agreed nor disagreed. Results

indicated 15 agreed, and 4 strongly agreed that throughout the duration of the course/program, students have access to technical assistance ($\mu = 4.15$).

Survey Question 20: Questions directed to student service personnel are answered accurately and quickly, with a structured system in place to address student complaints. The mean score of the 87 participants was 3.93; 33 respondents indicated they did not know the answer to this question and another 11 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 2 disagreed, 30 agreed, and 11 strongly agreed students throughout the duration of the course/program, students have access to technical assistance. Figure 4.20 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.20
Histogram, Question 20



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question, 1 agreed and 1 strongly agreed that questions directed to student service personnel are answered

accurately and quickly, with a structured system in place to address student complaints (μ = 2.00).

From the perspective of the one instructional academic staff indicated that 1 agreed questions directed to student service personnel are answered accurately and quickly, with a structured system in place to address student complaints (μ = 4.00).

From the perspective of the 60 faculty, 26 respondents indicated they did not know the answer to this question and another 11 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 15 agreed, and 7 strongly agreed questions directed to student service personnel are answered accurately and quickly, with a structured system in place to address student complaints (μ = 3.82).

From the perspective of the 23 support staff, 6 respondents indicated they did not know the answer to this question and another 0 neither agreed nor disagreed. Results indicated 1 disagreed and 13 agreed, and 3 strongly agreed that technical assistance in course development is available to faculty, who are encouraged to use it (μ = 4.06).

Research Sub-question #6, Faculty Support: To what extent does Internet-delivered education at the University meet quality standards in student support?

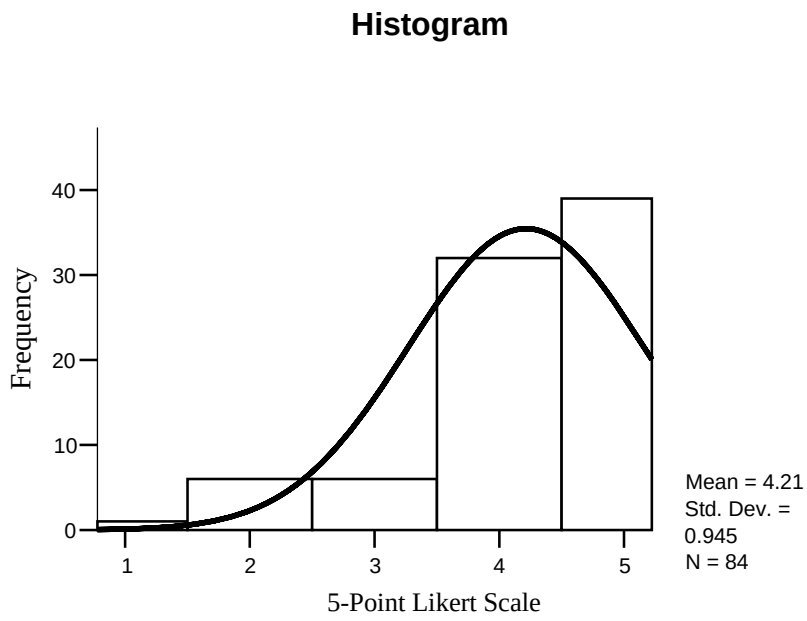
The University's program did not meet the criteria for quality in faculty support. A comparison of the data of each of these five questions indicates that there is variation in the perception of the respondents to their level of agreement or disagreement with each question pertaining to faculty support. There is not a clear sense that the distance

education program has met the quality criteria for faculty support. It has met the criteria for technical assistance in course development, and faculty assisted during transition from classroom to online instruction; however, other the other two areas of faculty support need improvement.

The perceptions of the respondents indicated there are moderate disagreements that faculty peer mentoring, assistance throughout the progression of the online course, or written resource to deal with student issues of electronically assess data. The exception within this sequence of questions was question 21, which indicated that over 70% of the population had moderate or high levels of agreement that technical assistance in course development is available, and which they were encouraged to use.

Survey Question 21: Is technical assistance in course development available to faculty, who are encouraged to use it? The mean score of the 87 participants was 4.21; 3 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 6 disagreed, 32 agreed, and 39 strongly agreed that technical assistance in course development is available to faculty who are encouraged to use it.

Figure 4.21
Histogram, Question21



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent agreed and 2 strongly agreed that technical assistance in course development is available to faculty, who are encouraged to use it ($\mu = 4.67$).

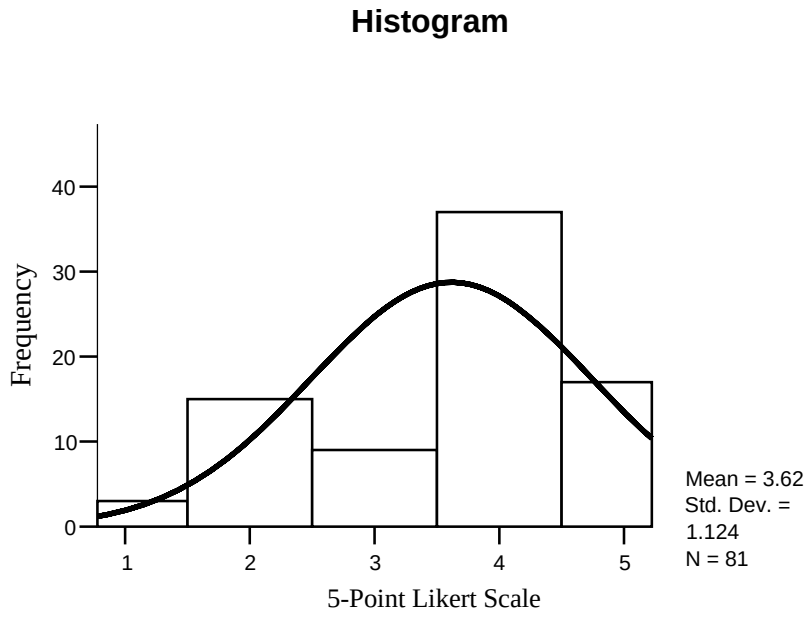
From the perspective of the one instructional academic staff indicated that 1 strongly agreed that technical assistance in course development is available to faculty, who are encouraged to use it ($\mu = 5.00$).

From the perspective of the 60 faculty, 0 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 6 disagreed, 22 agreed, and 25 strongly agreed that technical assistance in course development is available to faculty, who are encouraged to use it ($\mu = 4.07$).

From the perspective of the 23 support staff, 3 respondents indicated they did not know the answer to this question and another 0 neither agreed nor disagreed. Results indicated 9 agreed and 11 strongly agreed that technical assistance in course development is available to faculty, who are encouraged to use it ($\mu = 4.55$).

Survey Question 22 – Are faculty members are assisted in the transition from classroom teaching to online instruction? The mean score of the 87 participants was 3.62; 6 respondents indicated they did not know the answer to this question and another 9 neither agreed nor disagreed. Results indicated 3 strongly disagreed, 15 disagreed, 37 agreed, and 17 strongly agreed that faculty members are assisted in the transition from classroom teaching to online instruction. Table 4.31 displays counts and percentage of all four categories (levels of appointment).

Figure 4.22
Histogram, Question 22



This question has generated a bimodal distribution, indicating that there are unusually mixed perceptions among the respondents. Clearly the majority of respondents

believe that faculty are assisted in the transition, there are mixed perceptions among faculty as to whether these services exists.

Appointment level analysis. From the perspective of the 3 administrators, all 3 agreed that faculty members are assisted in the transition from classroom teaching to online instruction ($\mu = 4.00$).

From the perspective of the one instructional academic staff, results indicated that 1 agreed that faculty members are assisted in the transition from classroom teaching to online instruction ($\mu = 5.00$).

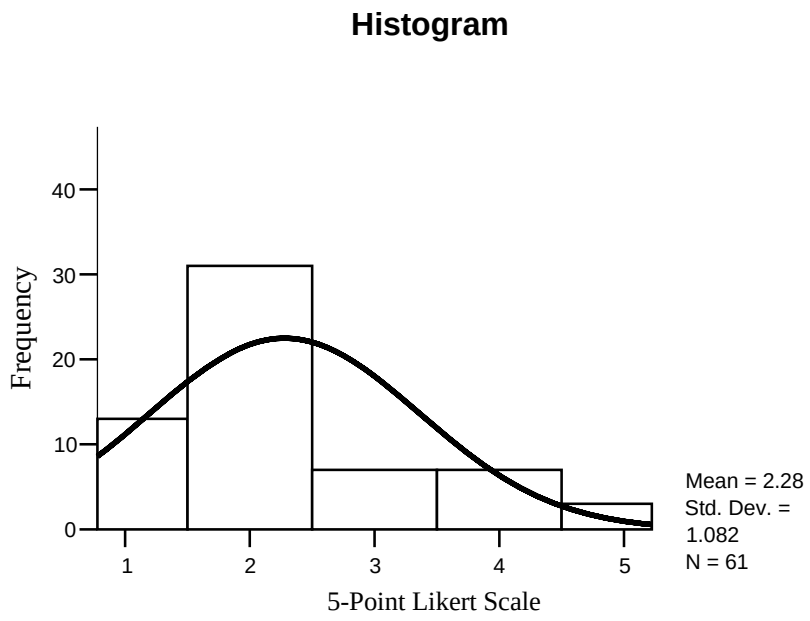
From the perspective of the 60 faculty, 1 respondent indicated they did not know the answer to this question and another 8 neither agreed nor disagreed. Results indicated 3 strongly disagreed, 14 disagreed, 21 agreed, and 13 strongly agreed that faculty members are assisted in the transition from classroom teaching to online instruction ($\mu = 3.46$).

From the perspective of the 23 support staff, 5 respondents indicated they did not know the answer to this question and another 1 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 1 disagreed, 12 agreed, and 4 strongly agreed that faculty members are assisted in the transition from classroom teaching to online instruction ($\mu = 4.06$).

Survey Question 23: Faculty members are assessed during the transition from classroom teaching to online instruction. The mean score of the 87 participants is 2.28; 26 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 13 strongly disagreed, 31 disagreed, 7 agreed, and 3 strongly agreed that faculty members are assessed during the transition

from classroom teaching to online instruction. Table 4.30 displays counts and percentage of all four categories (levels of appointment).

Figure 4.23
Histogram, Question 23



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question and 2 disagreed that faculty members are assessed during the transition from classroom teaching to online instruction ($\mu = 2.00$).

From the perspective of the one instructional academic staff, indicated that 1 neither agreed nor disagreed that faculty members are assessed during the transition from classroom teaching to online instruction ($\mu = 5.00$).

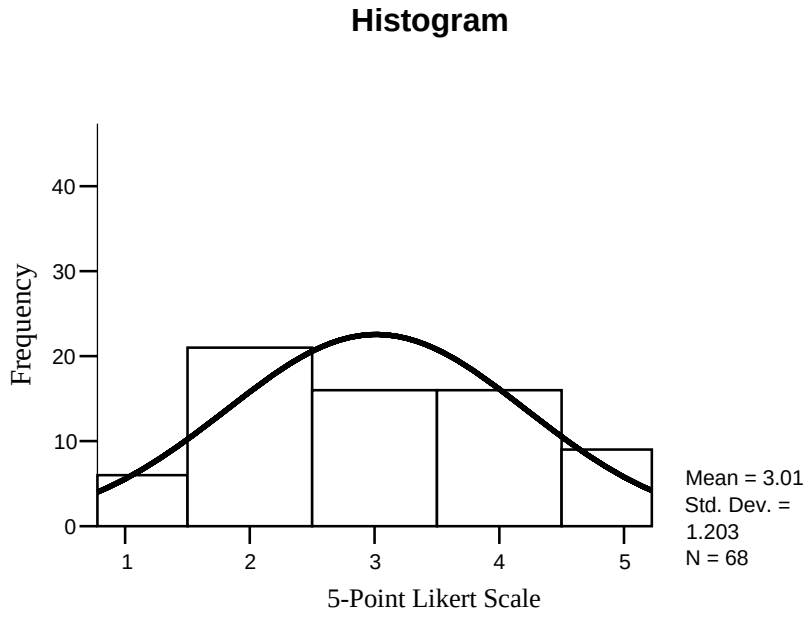
From the perspective of the 60 faculty, 11 respondents indicated they did not know the answer to this question and another 3 neither agreed nor disagreed. Results indicated 12 strongly disagreed, 28 disagreed, 3 agreed, and 3 strongly agreed that faculty

members are assessed during the transition from classroom teaching to online instruction ($\mu = 2.12$).

From the perspective of the 23 support staff, 14 respondents indicated they did not know the answer to this question and another 3 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 1 disagreed, 4 agreed, and 0 strongly agreed that faculty members are assessed during the transition from classroom teaching to online instruction ($\mu = 3.11$).

Survey Question 24 – Does instructor training and assistance, including peer mentoring, continues through the progression of the online course? The mean score of the 87 participants was 3.01; 19 respondents indicated they did not know the answer to this question and another 16 neither agreed nor disagreed. Results indicated 6 strongly disagreed, 21 disagreed, 16 agreed, and 9 strongly agreed that instructor training and assistance, including peer mentoring, continues through the progression of the online course. Figure 4.24 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.24
Histogram, Question 24



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question and 2 disagreed that instructor training and assistance, including peer mentoring, continues through the progression of the online course ($\mu = 2.00$).

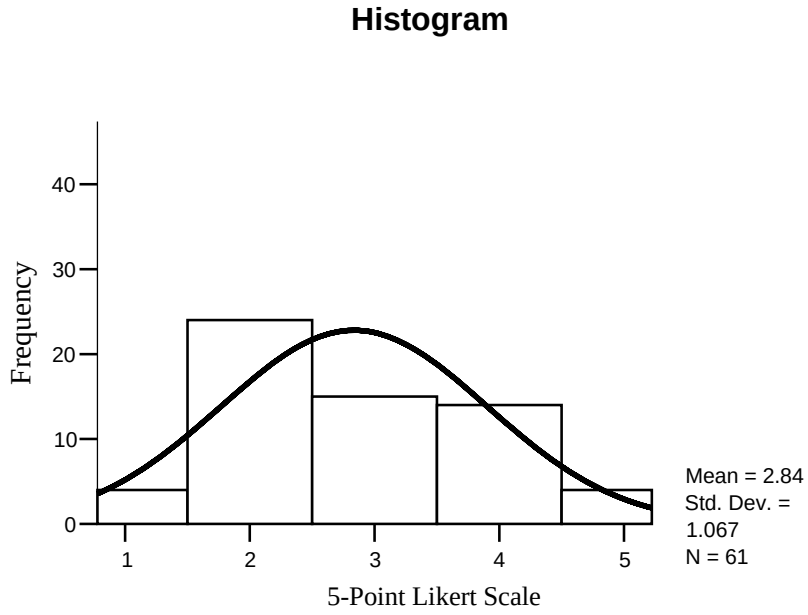
From the perspective of the one instructional academic staff, indicated that 1 agreed that instructor training and assistance, including peer mentoring, continues through the progression of the online course ($\mu = 4.00$).

From the perspective of the 60 faculty, 8 respondents indicated they did not know the answer to this question and another 11 neither agreed nor disagreed. Results indicated 6 strongly disagreed, 19 disagreed, 9 agreed, and 7 strongly agreed that instructor training and assistance, including peer mentoring, continues through the progression of the online course ($\mu = 2.85$).

From the perspective of the 23 support staff, 10 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 6 agreed and 2 strongly agreed that instructor training and assistance, including peer mentoring, continues through the progression of the online course ($\mu = 3.77$).

Survey Question 25: Are faculty members are provided with written resources to deal with issues arising from student use of electronically accessed data? The mean score of the 87 participants was 2.84; 26 respondents indicated they did not know the answer to this question and another 15 neither agreed nor disagreed. Results indicated 4 strongly disagreed, 24 disagreed, 14 agreed, and 4 strongly agreed that faculty members are provided with written resources to deal with issues arising from student use of electronically accessed data. Figure 4.6 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.25
Histogram, Question 25



Appointment level analysis. From the perspective of the 3 administrators, 2 respondents indicated they did not know the answer to this question and 1 agreed that faculty members are provided with written resources to deal with issues arising from student use of electronically accessed data ($\mu = 4.00$).

From the perspective of the one instructional academic staff, Results indicated that 1 disagreed that faculty members are provided with written resources to deal with issues arising from student use of electronically accessed data ($\mu = 2.00$).

From the perspective of the 60 faculty, 15 respondents indicated they did not know the answer to this question and another 10 neither agreed nor disagreed. Results indicated 4 strongly disagreed, 22 disagreed, 6 agreed, and 3 strongly agreed that faculty members are provided with written resources to deal with issues arising from student use of electronically accessed data ($\mu = 2.60$).

From the perspective of the 23 support staff, 9 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated that 0 strongly disagreed, 1 disagreed, 7 agreed, and 1 strongly agreed that faculty members are provided with written resources to deal with issues arising from student use of electronically accessed data ($\mu = 3.57$).

Research Sub-question #7, Evaluation and Assessment: To what extent does the University's online program meet quality standards in evaluation and assessment?

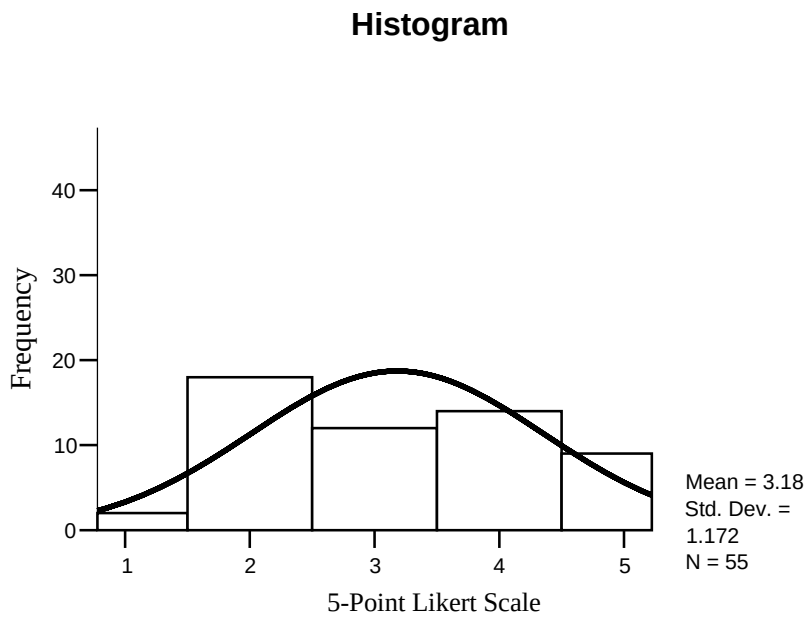
The University's program did not meet the criteria for quality in evaluation and assessment. A comparison of the data of each of the three questions indicates that there is

variation in the perception of the respondents to their level of agreement or disagreement with each question pertaining to evaluation and assessment. Although the general level of agreement of support staff was higher of that than faculty, there is not a clear sense that the distance education program has met the quality criteria for evaluation and assessment.

Respondents presented a mixed agreement on evaluation and assessment, resulting in a bimodal distribution of responses; for example, question 26 found 32% of faculty had some disagreement, while another 33% of faculty and 48% of support staff did not know the answer to the question, which represents a lack of standardized assessment standards.

Survey Question 26: Is the program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards? The mean score of the 87 participants was 3.18; 32 respondents indicated they did not know the answer to this question and another 12 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 18 disagreed, 14 agreed, and 9 strongly agreed that the program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards. Figure 4.1 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.26
Histogram, Question 26



Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question and 2 agreed that the program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards ($\mu = 4.00$).

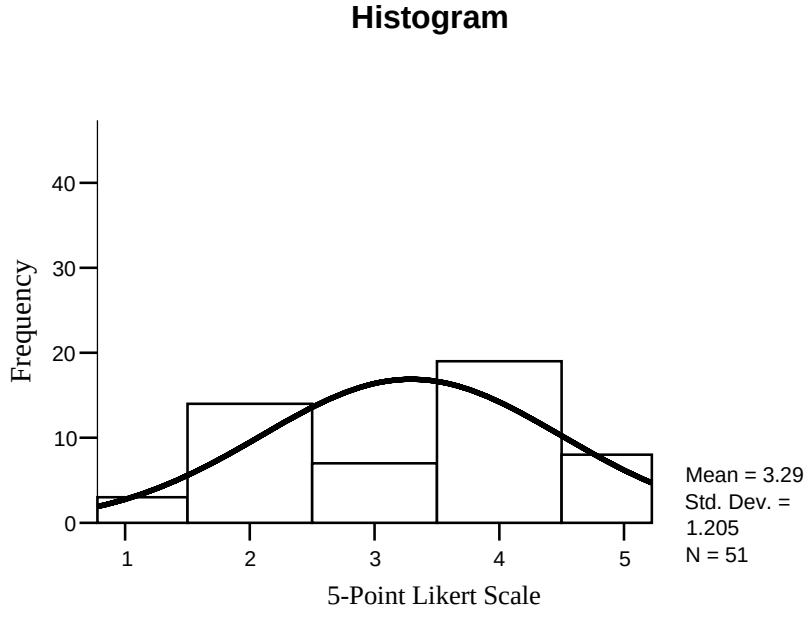
From the perspective of the one instructional academic staff, indicated that 1 agreed that the program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards ($\mu = 4.00$).

From the perspective of the 60 faculty, 20 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 2 strongly disagreed, 17 disagreed, 8 agreed, and 6 strongly agreed the program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards ($\mu = 2.98$).

From the perspective of the 23 support staff, 11 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 0 strongly disagreed, 1 disagreed, 3 agreed, and 3 strongly agreed that the program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards ($\mu = 3.67$).

Survey Question 27- Are data on program statistics (i.e., enrollment, costs, and/or successful/innovative uses of technology) used to evaluate program effectiveness? The mean score of the 87 participants was 3.29; 36 respondents indicated they did not know the answer to this question and another 7 neither agreed nor disagreed. Results indicated 3 strongly disagreed, 14 disagreed, 19 agreed, and 8 strongly agreed that data on program statistics (i.e.: enrollment, costs, and/or successful/innovative uses of technology) are used to evaluate program effectiveness. Figure 4.27 portrays the population's perceptions graphically using a histogram with a normal curve.

Figure 4.27
Histogram, Question 27



The final distribution has indications of dual modality, although not strong in either mode. Examination at an appointment level shows that the majority of respondents agree with the question, but there are strongly mixed perceptions among faculty which has resulted in this uneven distribution.

Appointment level analysis. From the perspective of the 3 administrators, 1 respondent indicated they did not know the answer to this question, 1 agreed, and 1 strongly agreed that data on program statistics (i.e.: enrollment, costs, and/or successful/innovative uses of technology) are used to evaluate program effectiveness (μ = 4.50).

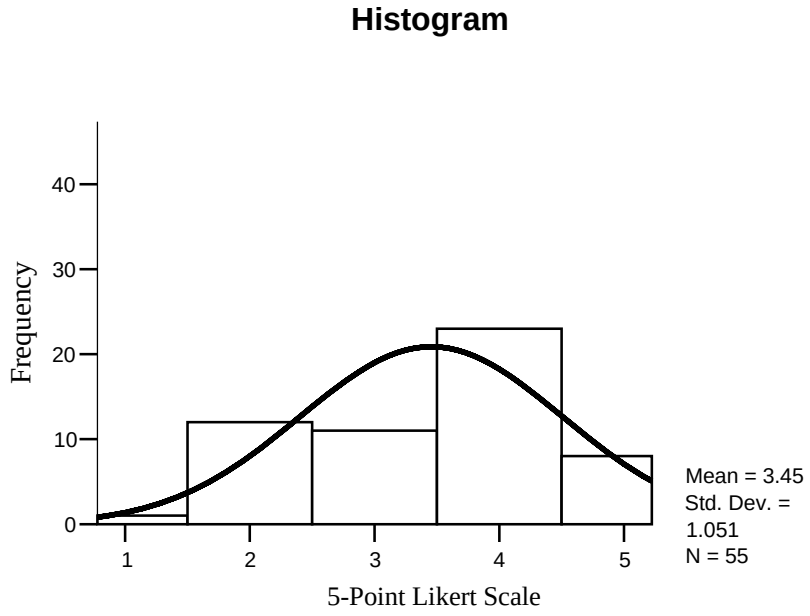
From the perspective of the one instructional academic staff, indicated 1 agreed that data on program statistics (i.e.: enrollment, costs, and/or successful/innovative uses of technology) are used to evaluate program effectiveness (μ = 4.00).

From the perspective of the 60 faculty, 26 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 3 strongly disagreed, 14 disagreed, 8 agreed, and 4 strongly agreed that data on program statistics (i.e.: enrollment, costs, and/or successful/innovative uses of technology) are used to evaluate program effectiveness (μ = 2.98).

From the perspective of the 23 support staff, 9 respondents indicated they did not know the answer to this question and another 2 neither agreed nor disagreed. Results indicated 9 agreed and 3 strongly agreed that data on program statistics (i.e.: enrollment, costs, and/or successful/innovative uses of technology) are used to evaluate program effectiveness (μ = 4.07).

Survey Question 28 – Are intended learning outcomes reviewed regularly to ensure clarity, utility, and appropriateness? The mean score of the 87 participants was 3.45; 32 respondents indicated they did not know the answer to this question and another 11 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 12 disagreed, 23 agreed, and 8 strongly agreed that intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness. Figure 4.28 portrays the population perceptions graphically using a histogram with a normal curve.

Figure 4.28
Histogram, Question 28:



Appointment level analysis. From the perspective of the 3 administrators, 2 indicated they did not know the answer to this question and 1 agreed that intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness ($\mu = 4.00$).

From the perspective of the one instructional academic staff, indicated 1 agreed that intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness ($\mu = 4.00$).

From the perspective of the 60 faculty, 18 respondents indicated they did not know the answer to this question and another 6 neither agreed nor disagreed. Results indicated 1 strongly disagreed, 1 disagreed, 18 agreed, and 6 strongly agreed that intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness ($\mu = 2.98$).

From the perspective of the 23 support staff, 12 respondents indicated they did not know the answer to this question and another 5 neither agreed nor disagreed. Results indicated 1 disagreed, 3 agreed, and 2 strongly agreed that intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness ($\mu = 3.67$).

Written Responses

The survey instrument included a brief qualitative response category for respondents who wanted to provide additional information in a narrative format. Forty six (35%) of the respondents commented in this area. The specific question they were asked was: What additional comments do you have about the online distance education program? Responses to the question are divided into six distinct categories: general comments about the program; institutional support; course development; faculty support; student support; and evaluation and assessment.

Comments: Overall:

"The online program has successfully undergone one online accreditation visit and is preparing for another full institutional review to offer online programs. This survey is helpful to identify areas of strengths and weaknesses."

"I hear positive feedback from students, and I've enjoyed creating my course under the campus and class instructional sessions offered."

"The online distance education is a well kept secret and is not given the due recognition it deserves by our campus."

"This is an excellent opportunity for those who otherwise might not have the ability to attend college to do so."

"Decent foundation (infrastructure), moderate support for faculty (training, workshops), uneven support for students (help desk, reference, virtual reference), little assessment (is there any coherent comprehensive assessment?), uneven investment (stronger on technology than for resources, innovation, support), few rewards (for creativity, time, professional or pedagogical development)."

Comments: Institutional Support

Agreement

"The staff in the Continuing Studies office are incredibly responsive and helpful in terms of setting up courses and providing information for improving online teaching."

"The faculty support through LRS Technology Services has been great!"

Disagreement

"We are still in the experimental stage in the implementation of online courses. We really do not know what we are doing yet. We simply know that we have to provide access for programs to students who cannot physically take courses in St. Cloud"

"More technical support is needed."

"More resources and time for developing distance course materials, especially for developing and incorporating streaming video and other innovative technologies is needed."

"Need much more support from reliable hardware and software."

"Administration has not really addressed release time for faculty to work on online programs."

"It takes a tremendous amount of time to develop and implement a course, it comes out of hide, there are no incentives or support for doing this."

"Too little institutional support for course development."

Comments: Faculty Support

Agreement

"Some institutional support via instructional support software (D2L). Otherwise individual faculty are on their own for development and assessment."

"The training and technical assistance for faculty has been outstanding".

Disagreement

"Instructors receive detailed information about how their students can access library materials, and there is a webpage to assist students."

“LR&TS has for at least 3 years offered to assist instructors by providing library use instruction for their online courses.”

“I have no information as to how other faculty or departments pursue on-line education.”

“We need more information on training distributed to online faculty.’

“I had to learn an awful lot by the seat of my pants.”

“I am teaching my first on-line course this semester (S05). I have found that all necessary entities do not necessarily speak to each other, making it confusing and frustrating. If I had one wish, it would be a handbook for faculty, who teach on-line, that would highlight the "go-to" people and departments/units that provide assistance.”

“It takes a tremendous amount of time to develop and implement a course, it comes out of hide, and there are no incentives or support for doing this.”

“Continuing Studies should consider paying faculty based upon their base pay--rather than per credit.”

“It seems to be added on to traditional education, but I see little in the way of a structured program.”

“Disjointed, chaotic. Many power struggles are involved. I am told to put courses online--told I have support--and given impossible deadlines. The support is worse than none--it consists of more meetings--without forward movement. The resources (classes in how to use a course management system for a particular part of online instruction) are spotty--too short--no one-on-one help--never at the point of need.”

“I know online instruction is a necessary bandwagon on which we must leap. I know it can be effective. I even enjoy teaching via online means. However, I am angered that development is something a professor is supposed to do "on the side" or with a few hours of release time. This is an insult to anyone who wants to teach effectively.”

Comments: Teaching/Learning

"Online is too often about access and not learning. We must do a better job to ensure that critical learning takes place."

"Need to support the expanding online programs and it is time to think about some ways of enhancing the quality of the online courses offered."

Comments: Student Support

"Perhaps online students are receiving direct assistance from the instructor of the course, but chances are that the instructor is not an expert at accessing, using, or evaluating these resources. I have had distance students come to the Reference Desk for assistance with their research assignments; these students have commented that there was no help offered through their online course."

"We are still in the experimental stage in the implementation of online courses. We really do not know what we are doing yet. We simply know that we have to provide access for programs to students who cannot physically take courses in St. Cloud."

Comments: Evaluation and Assessment

"My own department has created departmental templates and quality criteria."

"Oversight and substantial support are neither robust nor common enough."

"Quality of instruction and energy of faculty will be erratic as long as distance education is an undervalued add-on accomplished "out of hide."

"For standardization of all classes, there should be a booklet (30 pages) that includes three sections: 1} basic operations for faculty operation of D2L. 2} customizing D2L to faculty needs and course function. 3} storing, editing, grading, and correspondence processes and delivered to every faculty user of the system."

Written Responses

Mirroring the quantitative questions from the survey, the extra time and effort needed to prepare and teach an Internet-delivered education course was a theme that occurred throughout the written responses, respondent's comments reported that there were disincentives to teaching Internet-delivered courses. The most frequently reported discouragement was that courses took significantly more time and effort than teaching traditional courses. The other disincentives listed were the lack of recognition and/or financial compensation for the extra effort required and the instructional challenges caused by the experimental stage in the implementation of the new delivery method.

The majority of the written responses (13) were in response to faculty support issues, offering up encouragement on the support that is provided, but more noteworthy was the dissatisfaction expressed in terms of too little time, too few resources, and what was perceived as a "disjointed" and "chaotic" program structure, with parties not communicating with one another. Nine comments were directed toward institutional support, with participants responding with some praise and some frustration over the level of support given to the faculty and the program. Specific recommendations offered include technology support and time and resources for faculty to develop courses. Five responses offered general comments in support of the Internet-delivered program; three

comments were mixed on evaluation and assessment efforts, both individually and programmatically. Two comments each were offered for teaching/learning and student support. While positive overall, they suggested the need to do more, and do better.

Despite the above-mentioned drawbacks, there is an identified need to provide access to students who cannot physically come to campus, and Internet-delivered courses proved an excellent opportunity for those who otherwise might not have the ability to attend college. Also a few respondents did report being generally satisfied with teaching Internet-delivered education courses. A few more were most satisfied with the training for faculty in using the delivery method, the technical support for faculty, and with the services provided by the Center for Continuing Studies.

Chapter Summary

The results of the survey and from the written responses have identified some clear, and some not-so-clear perceptions of this Internet-delivered education program. Several key pieces of information from this data should be highlighted: In several sections of the survey, large numbers of respondents indicated "don't know." While the respondents may not have known the answer to the question, the answer itself speaks volumes in terms of the implications to the program. A bimodal distribution in the survey resulting from several of the questions begs further investigation, either in terms of the program or the instrument.

Finally, small numbers of respondents within levels of appointment should be addressed in future studies, with consideration given to collapsing these categories if smaller populations are surveyed.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

The final chapter of this study includes three sections: 1) summary of the methodology; 2) discussion of research results, and; 3) recommendations for future actions.

Summary

Internet-delivered education is quickly becoming the predominant method to deliver courses (National Center for Educational Statistics, 2003). The problem under investigation in this study involved higher education institutions with existing distance education programs who have invested time, money, and resources in developing Internet-delivered education. Although educators and researchers agree that quantity (of programs and courses does not equal quality, we find that as Internet-delivered education expands, more research and emphasis must be placed on ensuring the quality and effectiveness of these programs.

With this University's plans to devote substantial resources to the development of Internet-delivered education, there comes a fiscal, ethical, and educational obligation to

insure that the programs it delivers to students are of the same quality as its traditional campus-based programs. If the faculty and staff do not perceive its programs as meeting the quality criteria, then it is important to identify those areas to denote time and resources to improve the quality of our institutions.

Chapter I establishes a framework of the replication study by describing the problem, the need, and purpose of the study. For the purposes of this study, the description of a quality Internet-delivered education is one that addresses institutional support, course development, teaching/learning, course structure, student and faculty support, and evaluation and assessment. This study sought to close gaps in the research literature by assessing the quality of an Internet-delivered education program at a large university through replication of Hensrud's (2001) study.

This study examined one major research question and seven sub-questions: To what extent does Internet-delivered education at this University meet the quality standards for quality distance education?

Research sub-questions:

1. To what extent does the Internet-delivered education program meet quality standards for institutional support?
2. To what extent does the Internet-delivered education program meet quality standards in course development?
3. To what extent does the Internet-delivered education program meet quality standards in the teaching/learning process?
4. To what extent does the Internet-delivered education program meet quality standards in course structure?

5. To what extent does the Internet-delivered education program meet quality standards in student support?

6. To what extent does the Internet-delivered education program meet quality standards in faculty support?

7. To what extent does the Internet-delivered education program meet quality standards in evaluation and assessment?

Chapter II provided a thorough review of the literature in distance education as well as a review of the statistics of the industry, including growth of programs and enrollments. This chapter further enhanced the framework of the study by examining the many definitions of distance education, with the resulting definition of distance education that implies the noncontiguous connection between teacher and student, which may employ correspondence study, audio, video or computer technologies.

Chapter III outlined the methodology used in the study. The population is defined, the research design and instrument are explained, and data collection and analysis are outlined.

Chapter IV explained the findings of the research which are organized around the seven research sub-questions. Results were analyzed to identify the major themes for the overall population.

Discussion

Synthesis of Theory and Practice

This research utilized a systems theory framework to analyze and validate the Internet delivered education program at this university. Beginning with Moore's theories of transactional distance education and applying Moore and Kearsley's (1996) systems theory to this specific online program, this case study has succeeded in evaluating the Internet-delivered education program both conceptually and holistically. Utilizing Hensrud's (2001) survey instrument, which was validated through extensive review of the accreditation and best practices literature, the seven component parts of the program were identified as institutional support, course development, teaching and learning, course structure, student support, faculty support, and evaluation and assessment.

At the start of this research, the University's online program was clearly operating as discrete components, as evidenced by the results of this study's analysis of the perceptions of the faculty and staff who work with the program. Communication gaps between and within groups indicates that while faculty and staff are committed to delivering a quality product for students, key information about quality and services to both faculty and staff are not well communicated within the institution. As the results of this research also indicated, the evaluation and assessment piece of the program is as of yet under developed, however this study itself assists toward this goal.

Moore and Kearsley (1996) state, “as organizations become more understanding of the benefits of adopting a total systems approach to distance education, there will be an impact on teachers, learners, administrators, and policy makers (p.18). Specifically, the goals of this institution are to expand access and opportunity for quality distance education programs to students who otherwise could not attend on campus. In order to do this, the University must adopt a holistic systems approach to integrating these components. Strengths and weaknesses have been identified throughout this case study which can assist faculty, staff, and administrators in creating a well-integrated Internet-delivered education program.

As decision makers review the data presented here, communication needs to occur between all stakeholders so that these seven components can be interwoven into a future-focused program. In creating a holistic, well-integrated program, significant changes in the input quality of the Internet-delivered education program at this institution will “occur in the way education is conceptualized, funded, designed, and delivered. Not the least of these will be opening of access and improvement in quality” (p. 18).

Quality Criteria

The Internet-delivered education program at this University met the quality criteria for Internet-delivered education in two of the seven areas. Of the two areas that met the criteria, institutional support, and teaching and learning, responses are classified as high, moderate, or low agreement. High agreement indicates that the respondents strongly agreed with the statements pertaining to that quality criterion. Moderate

agreement indicates that they agreed with the statements, and low agreement indicted they agreed but to a lesser extent.

The remaining five categories did not receive favorable responses from respondents in this study. These areas included course development, course structure, student support, faculty support, and evaluation and assessment. Specifically, respondents disagreed with the statements pertaining to faculty support and evaluation, and had very low agreement with the course development criteria. These are the quality indicators where this institution should strive to improve. To assess the data presented in Chapter IV, each sub-question was examined, followed by a discussion of the significance of the findings.

Research Sub-question #1, Institutional Support: To what extent does Internet-delivered education at this institution meet quality standards for institutional support?

The program met the criteria for quality in the area of institutional support. Data to answer the questions pertaining to institutional support were taken from survey questions 1 – 3 and addressed the factors related to institutional support for online distance education. By indicating a level of agreement or disagreement with these three questions, we are provided with an overall indication of how the respondents perceived this quality criterion. A comparison of means and frequencies of responses from questions 1, 2, and 3 indicate that there is strong agreement in the perceptions of all respondents of the three statements pertaining to institutional support indicating that Internet-delivered education met the quality criteria to a moderate degree.

It is important to note that the "don't know" responses were removed from the computations and are reported as such. Of significance in this criteria are the similar means in all three statements and yet while there is a general agreement for all three questions pertaining to institutional support, there is variance between statements in the qualitative written responses section of the questionnaire.

Hache (2000) states that when University administrators commit to supporting Internet-delivered education, they must understand that the result will change their organizational culture. Internet-delivered education cannot be framed into the image of existing campus-based programs, where administrative and support systems were designed for traditional campus students (Moore, 1988, 1994). Internet-delivered education should both support and extend the roles of educational institutions. Increasingly, it is integral to the academic organization, with growing implications for institutional infrastructure (Moore, Thompson and Dirr, 1991; WCET, 2005).

Research Sub-question #2, Course Development: To what extent does Internet-delivered education at the University meet quality standards in course development?

The University's program did not meet the criteria for quality in course structure. Data to support this question came from survey questions 4-7, which address the development of course materials for online distance education. Overall, the respondents presented a mixed agreement on course development, resulting in a bimodal distribution of responses indicating that the University did not meet the quality standards in course development.

Of the four questions that assessed the support of course development, the first three questions found divided results between faculty and staff. For example, in question four, 31.7 % of faculty disagreed and 30.4% of support staff agreed, which indicates that support staff perceive that resources for course development exist, but are not utilized or known by faculty. The high number of support staff that reported they didn't know if support for course development existed indicates that there is a communication breakdown between all levels of faculty and staff.

Of significance in this section were the high numbers of respondents that "don't know" and "neither agreed nor disagreed" to statements pertaining to course development. In addition, a comparison of faculty and staff for each of these four questions indicates that there is variation in the perceptions of the respondents to their levels of agreement or disagreement with each question pertaining to course development.

Institutional planning for Internet-delivered education often focuses on budget and personnel, not on critical pedagogical issues (Berge & Smith, 2000; Bothel, 2001). Internet-delivered education is more than a teaching mode or method, it is a distinctive and coherent field of education (Keegan, 1986), focused on new delivery methods and pedagogical philosophy. Administrators have historically put narrow limits on ways to make technology effective while expecting broad outcomes (Hawkes & Cambre, 2000). What is not comprehended is that the technology is only a means of achieving a goal, not the goal in itself (Frances et al., 1999).

Porto and Aje (2004), assert that because faculty members play an integral role (in online course development, delivery, overall course quality, and the educational

experience), institutions need to provide additional support to this group. Training should be provided to course authors, providing expectations, and encouraging self-reflection about faculty member's own skills, work style, time, and suitability to develop an online class. Compensation and reward systems should be revised to respond appropriately to the needs of faculty involved in course development and encourage those who are not naturally driven to this task.

Research Sub-question #3, Teaching and Learning Process: To what extent does Internet-delivered education at this University meet quality standards in the teaching/learning process?

The University's program met the criteria for quality in teaching and learning process. Overall, respondents were in moderate agreement, indicating that their Internet-delivered education did meet the quality criteria for the teaching/learning process. Again, a high number of support staff reported they didn't know the answer to this question, indicating that there is a communication breakdown between academic and support areas of this program.

Crucial to both traditional and Internet-delivered education is the interaction between teacher and students. Hutchins, (2003) quoting Knowlton, argues for a student-centered approach when teaching Internet-delivered classes, suggesting that faculty use collaborative learning, where students guide the discussions and work in cohorts on assignments. The faculty, Hutchins quotes, "must take on the role of facilitator or coach rather than the sole giver of knowledge" (p.1). Kirby (1999) examined whether the

amount of interaction affects student satisfaction. The research cited that "a number of studies have shown that the single greatest factor affecting student satisfaction in distance education is the amount of interaction between the teacher and the students" (p.2). Further study by Kirby (1999) examined the instructional framework and design of two courses, one utilizing video teleconferencing and the other using online instruction. The results indicated:

> Meaningful interaction was achieved… through the instructor's careful planning of collaborative course activities that were specifically designed to support course objectives" (p.7).
>
> It is important to teach students to use interactive technologies such as e-mails, bulletin board, and chat before requiring them to use the technologies as well as reinforcing the use of these technologies (p.7).
>
> The problem confronted by the instructor is the issue of delayed and limited feedback to student. Instructors need to limit the class size in order to have adequate and meaningful feedback. (p.7).

Research Sub-question #4, Course Structure: To what degree does Internet-delivered education at the University meet quality standards in course structure?

The University's program did not meet the criteria for quality in course structure. The respondents presented a variance in agreement on course structure, resulting in a

bimodal distribution and a high level of "don't know," which indicate that a strong percentage of the population is not aware of course structure standards; therefore the institution did not meet the quality criteria for course structure.

Research Sub-question #5, Student Support: To what extent does Internet-delivered education at the University meet quality standards in student support?

The University's program did not meet the criteria for quality in student support. The questions of quality standards in student support received an overall moderate agreement from the respondents in three of the four questions; the exception was in question 18, which received a low level of agreement when the population was asked if students are provided with hands-on training and information to aid in securing research materials. Although the University has meet the criteria for student support for in three of the four question areas, the institution has not meet an agreeable level of support in providing students with hands-on training and information in securing research materials, indicating that the program did not meet all quality criteria's for the student support.

Colleges and universities have learned that the 21st century student is different, both demographically and geographically, from students of previous generations. These differences affect everything from admissions policies to library services. Reaching these students, and serving them appropriately, are major challenges, and today's institutions need to provide appropriate support services to distance students that are equivalent to services provided for its on-campus students.

Institutions need to clearly communicate the services that are provided, as well as information on how to access them. If the institution is unable to directly provide services, it needs to contract and/or outsource those services. Though some say that technology should not be the impetus to drive organizational change (Brown & Jackson, 2001; Hughes, 2001), others state that technology cannot be introduced into teaching without changing the ways other things are done in the educational process (Moore & Kearsley, 1996).

Research Sub-question #6, Faculty Support: To what extent does Internet-delivered education at the University meet quality standards in faculty support?

The University's program did not meet the criteria for quality in faculty support. A comparison of the data of each of these five questions indicates that there is variation in the perception of the respondents to their level of agreement or disagreement with each question pertaining to faculty support. There is not a clear sense that the distance education program has met the quality criteria for faculty support. It has met the criteria for technical assistance in course development, and faculty assisted during transition from classroom to online instruction; however, other the other two areas of faculty support need improvement.

The perceptions of the respondents indicated there are moderate disagreements that faculty peer mentoring, assistance throughout the progression of the online course, or written resource to deal with student issues of electronically assess data. The exception within this sequence of questions was question 21, which indicated that over 70% of the

population had moderate or high levels of agreement that technical assistance in course development is available, and which they were encouraged to use.

Cavanaugh's (2005) findings on time spent in the teaching process for both online and traditional classes indicated that the number of students in online classes predicts the time spent by the instructor at a directly proportional rate; online time-on-task is tied directly to course quality, and time demands for even small online courses exceed those for in-class courses. Faculty roles are becoming increasingly diverse and reorganized, and converting a traditional course to an online format requires more time and effort than preparation for traditional courses. Teaching an online course is more time intensive than that of a traditional course, and often, online faculty are flooded with emails from students asking questions about assignments and tests, even when the information is clearly provided in the course materials.

Carroll-Barefield and Murdoch (2004) noted the conversion (from traditional to online) of a 1credit hour course resulted in a 75% increase in design and development time, and a 125% increase in the time required to maintain the online course. Not only must faculty maintain updated course content, they must also learn new technologies to make the course content fit the online environment. Pachnowski and Jurczyk (2003) maintain those faculties who teach through distance learning are spending more time preparing the course and teaching it than their face-to-face counterparts, while receiving the same pay and benefits. In the first semester of new course development, 50% of faculty subjects reported spending more than 30 *additional* hours of prep time in developing online courses versus traditional courses.

Research Sub-question #7, Evaluation and Assessment: To what extent does the University's online program meet quality standards in evaluation and assessment?

The University's program did not meet the criteria for quality in evaluation and assessment. A comparison of the data of each of the three questions indicates that there is variation in the perception of the respondents to their level of agreement or disagreement with each question pertaining to evaluation and assessment. Although the general level of agreement of support staff was higher of that than faculty, there is not a clear sense that the distance education program has met the quality criteria for evaluation and assessment.

Respondents presented a mixed agreement on evaluation and assessment, resulting in a bimodal distribution of responses; for example, question 26 found 32% of faculty had some disagreement, while another 33% of faculty and 48% of support staff did not know the answer to the question, which represents a lack of standardized assessment standards.

Assessment for Internet-delivered education is not an end in itself but a vehicle for educational improvement. Assessment and evaluation work best when the program it seeks to improve has clear, explicitly stated purposes, and are used as tools for quality and accountability in student learning. These tools foster wider improvement when representatives from across the educational community are involved, and the assessment of student learning outcomes is a primary goal of the institution.

Recommendations

The findings presented in this chapter will provide the institution with a self-assessment to identify strengths and weaknesses in its Internet-delivered education program. Although not generalizable, this information may be used for other institutions who wish to examine their Internet-delivered education programs.

This is an appropriate study for this institution and offers the opportunity to begin the self-study process for an upcoming North Central Association accreditation visit. This section provides specific recommendations for the faculty involved in Internet-delivered education, the directors and deans associated with the online programs, and the leadership of the institution to improve the quality of their Internet-delivered programs. Based on the review of the literature and the findings from this study, the following actions are recommended.

Institutional Support

University and program administration should encourage the entire institution to adopt active strategies to ensure that all faculty are offered opportunities to learn and engage in Internet-delivered education practices. Colleges and departments should assess faculty needs and utilize technology resources to establish technology training to meet the specific needs of the colleges. This approach would create learning situations that

integrate organizational goals, encourage learning situations, collegial discussions and promote progressive learning (Padgett & Conceicao-Runlee, 2000).

Course Development

The University's Center for Teaching and Learning, Learning Resources and Technology Services, and the Center for Continuing Studies should actively engage faculty in the process of creating standards and goals for online course development. The Western Cooperative for Educational Telecommunication (WCET) Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs is a functional place to begin addressing these quality standards.

Faculty who are successfully using technology to deliver Internet education should be offered incentives to share their successes, in order to ensure each course and program results in learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded (WCET, 2005).

Teaching and Learning

The teaching/learning process at this institution is quite effective. Faculty should continue to provide constructive and timely feedback to students.

Course Structure

Advisors and faculty need to assess and advise new online students to determine if they have the motivation, commitment, and technology skills needed for Internet-delivered courses. These are essential to ensure that students are prepared for the challenge and opportunities of online environment.

Student Support

Prior to admitting a student to a program, advisors and faculty should be certain that the student is not only academically qualified but also prepared for the rigors of self-study and technology-mediated learning. Internet-delivered courses and programs need to be pedagogically effectual, accessible to students, receptive to different learning styles, and sensitive to the time and place limitations of the students (WCET, 2005). Online students need to be afforded the same accessibility privileges as traditional campus students. Secure payment arrangements, academic advising, timely notification on student progress, tutoring, career counseling and placement are all essential student support services for the online student.

Faculty Support

A system of faculty incentives and rewards should be developed cooperatively between faculty and administration, encouraging development efforts and recognizing achievement associated with the development and delivery of distance learning courses. Continuous training is essential for faculty engaged in the delivery of distance learning, which means training on the front-end and over time.

The extra time and effort needed in teaching Internet-delivered courses is well documented in this and other research. Improving the compensation and recognition for teaching online will assist with recruitment and retention of online faculty.

Evaluation and Assessment

Internet delivered education programs should conduct a needs assessment, addressing the concerns of those who will be involved in teaching Internet-delivered education, and professional development should be provided that emphasizes teaching online. Specifically best practices then periodically reviewed and evaluated to ensure quality, consistency with the curriculum, currency, and advancement of the student learning outcomes.

Recommendations for Future Studies

The present case study was conducted at a large comprehensive university in its developmental stages of Internet-delivered education and support the research that higher education organizations should not just alter how they perform their traditional tasks, but question whether these tasks and their missions are in line with the newly emerging environment (Schnitz & Azbell, 2004; Seavey, 2003; and Kochtanek, Seavey, & Wedman, 2003).

First, given the growing field of Internet-delivered education, an examination of the life cycle of these programs would be valuable research; studies should be conducted in university programs in various stages of development and size. Furthermore, a qualitative study could investigate why some standards were met, why others were not, and intervening factors that affected both.

Second, additional studies should be conducted to refine and further validate the Quality Measures in Internet-Based Distance Education survey.

Third, the focus of this study was on Internet-delivered education, and it would be valuable to complete a similar study focusing on hybrid curriculums, which combine elements of face-to-face and online instruction.

Finally, there would be value in expanding this study throughout the State Colleges and Universities system to determine if quality criteria are being met on a system-wide level.

Postscript

The most valuable research is one that asks more questions than it answers; this study has provided the Institution with much food for thought as its Internet-delivered education programs are examined through internal assessment processes as well as external accrediting agencies. Recommendations were offered which were drawn from the literature on best practices in Internet-delivered education as appropriate to the results of the study. Additionally, the Institution should consider a number of strategic opportunities for its Internet-delivered education program at this time: Expand and highlight programmatic areas where there are perceived strengths, develop and distribute program information to faculty and staff to increase knowledge and understanding of the program, provide increased resources for faculty to continue developing quality online education with opportunity and training on fully integrating pedagogy, evaluation, and assessment processes into their courses, and further bolster the availability and visibility of student support services. Faculty, as well as students, should be aware of the services provided. And finally, the University, its administration, faculty, and staff should be congratulated for the hard work, dedication, and vision it takes to successfully craft, nurture, grow, and sustain a quality online, Internet-delivered education program.

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APPENDIX A

THE INSTRUMENT

Input Quality in Internet-Delivered Education at a Large Comprehensive University

Select the number that best corresponds with your rating of each statement about Internet-Delivered education at SCSU. If you feel that you do not know the answer, please select "Don't Know."

Institutional Support

1. A documented technology plan that includes electronic security measures (i.e., password protection, encryption, back-up systems) is in place and operational to ensure quality standards and the integrity and validity of information.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

2. The reliability of the technology delivery system is as fail-safe as possible.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

3. A centralized system provides support for building and maintaining the distance education infrastructure.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

Course Development

4. Guidelines regarding minimum standards are used for course development, design, and delivery.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

5. Learning outcomes determine the technology being used to deliver course content.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

6. Instructional materials are reviewed periodically to ensure they meet program standards.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

7. Courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course and program requirements.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

Teaching/Learning

8. Student interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

9. Feedback to student assignments and questions is constructive and provided in a timely manner.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

10. Students are instructed in the proper methods of effective research, including assessment of the validity of resources.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

Course Structure

11. Before starting an online program, students are advised about the program to determine if they possess the self-motivation and commitment to learn at a distance.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

12. Before starting an online program, students are advised about the program to determine if they have access to the minimal technology required by the course design.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

13. Students are provided with supplemental course information that outlines course objectives, concepts, and ideas.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

14. Learning outcomes for each course are summarized in a clearly written, straightforward statement.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

15. Students have access to sufficient library resources that may include a "virtual library" accessible through the World Wide Web.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

16. Faculty and students agree upon expectations regarding times for student assignment completion and faculty response.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

Student Support

17. Students receive information about the program, (i.e.: admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services).

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

18. Students are provided with hands-on training and information to aid them in securing research material through such resources as: (i.e.: electronic databases, interlibrary loans, government archives, news services), and other sources.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

19. Throughout the duration of the course/program, students have access to technical assistance. Technical assistance may include (i.e.: detailed instructions regarding the electronic media used, practice sessions prior to the beginning of the course, and/or convenient access to technical support staff).

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

20. Questions directed to student service personnel are answered accurately and quickly, with a structured system in place to address student complaints.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

Faculty Support

21. Technical assistance in course development is available to faculty, who are encouraged to use it.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

22. Faculty members are assisted in the transition from classroom teaching to online instruction.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

23. Faculty members are assessed during the transition from classroom teaching to online instruction.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

24. Instructor training and assistance, including peer mentoring, continues through the progression of the online course.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

25. Faculty members are provided with written resources to deal with issues arising from student use of electronically accessed data.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

Evaluation and Assessment

26. The program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

27. Data on program statistics (i.e.: enrollment, costs, and/or successful/innovative uses of technology) are used to evaluate program effectiveness.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

28. Intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know

Demographics

29. Please indicate if you are (select only one):
    a. Administration
    b. Instructional Academic Staff
    c. Faculty
    d. Support Staff

30. How many years have you been involved in online teaching (in any capacity i.e.: support staff, administration, and/or teaching).

    a. Less than 1 year
    b. 1-2 years
    c. 3-5 years
    d. More than 5 years

31. Gender
    a. Male
    b. Female

32. Age

    a. 20-30
    b. 31-40
    c. 41-50
    d. 51-60
    e. Over 60

33. Teaching Experience (this includes both traditional and online teaching)

    a. Not Applicable
    b. 1-5 years
    c. 6-10 years
    d. 1-15 years
    e. More than 15 years

34. What additional comments do you have about the online distance education program at SCSU?

Thank you for taking time to complete this survey.

APPENDIX B

IRB CONSENT FORMS

Oklahoma State University Institutional Review Board

Date:	Monday, April 04, 2005
IRB Application No	ED0597
Proposal Title:	Input Quality of Internet-Delivered Education at a Large Comprehensive University
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 4/3/2006

Principal Investigator(s

Robert I Aceves	Edward Harris
842 5th Ave. North	308 Willard
Sauk Rapids, MN 56379	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

[X] The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 415 Whitehurst (phone: 405-744-5700, emct@okstate.edu).

Sincerely,

Sue C. Jacobs, Chair
Institutional Review Board

Informed Consent Form

Study Title**:** *Input Quality in Internet-Delivered Education at a Large Comprehensive University*.

You are invited to participate in a research study on quality measures in online distance education. You were selected as a possible participant because of your involvement in online education at St. Cloud State University. Please read the instructions and feel free to ask any questions you may have before agreeing to participate in the study.

This study is being conducted by Mr. Robert Aceves, M.A.S, Doctoral Candidate at Oklahoma State University, Stillwater, Oklahoma and Associate Professor in the Department of Aviation, St. Cloud State University, St. Cloud Minnesota

Background Information:

The purpose of this study is to examine to what degree Internet-delivered distance education at St. Cloud State University meets the criteria for quality distance education in the areas of institutional support, course development, teaching/learning, course structure, and student/faculty support.

Procedures:

If you agree to participate in this study, I would ask you to do the following: Complete an online questionnaire on Zoomerang® that addresses the issues of quality in Internet-delivered education at St. Cloud State University. Time to complete the questionnaire**:** Approximately 15 minutes.

Risks and Benefits of Participating in the Study:

- There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.
- The benefits to participation are: None
- You will not receive payment for participating in this study.

Confidentiality:

The records of this study will be kept private. In any report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be kept in a locked file; only the researcher will have access to the records; records containing identifiers (i.e. names and email addresses) will be destroyed upon completion of the study. OSU and SCSU IRB have the authority to inspect consent records and data files to assure compliance with approved procedures. For information on subjects' rights, contact Sue Jacobs, Ph.D., IRB Chair, 415 Whitehurst, Oklahoma State University, Stillwater Oklahoma, Ph: 405-744-1676.

Voluntary Nature of the Study:

Your decision whether or not to participate will not affect your current or future relations with St. Cloud State University or Oklahoma State University. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is Robert Aceves. If you have any questions or concerns regarding the study, please contact any of the following:

- The researcher, Robert Aceves at (320) 308-5325 or via email: aceves@stcloudstate.edu
- The dissertation advisor, Dr. Ed. Harris at (405) 744-7932 or via email: elh@okstate.edu
- Oklahoma State University's Institutional Review Board at (405) 744- 5700.

Statement of Consent:

By clicking Submit, I electronically consent to participate and that I have read and fully understand the consent form.

APPENDEX C

LETTERS OF SUPPORT

ST. CLOUD STATE
UNIVERSITY
A tradition of excellence and opportunity

LEARNING RESOURCES AND TECHNOLOGY SERVICES
720 Fourth Avenue South
St. Cloud, MN 56301-4498
Phone: (320) 308-2022
Fax: (320) 308-4778

March 24, 2005

Mr. Robert Aceves
842 5th Avenue North
Sauk Rapids, MN 56379

Dear Robert:

I am familiar with your proposed dissertation topic, "~~Quality~~ Input Measures in Internet-Delivered Education at a Large Comprehensive University" and your request to work with the staff of Learning Resources & Technology Services to assess the quality of the online program at St. Cloud State University.

You may contact the faculty and staff within LR&TS and ask them to assist you with your project. I have encouraged them to work with you to the extent they have the time and expertise to be of assistance. I have attached a list of all LR&TS employees.

Best wishes as you pursue this aspect of your doctoral program.

Sincerely,

Kristi Tornquist, Dean
Learning Resources & Technology Services

ST. CLOUD STATE
UNIVERSITY
A tradition of excellence and opportunity

CONTINUING STUDIES
720 Fourth Avenue South
St. Cloud, MN 56301-4498
Phone (320) 308-3081
FAX (320) 308-5041

March 18, 2005

Mr. Robert Aceves
842 5th Avenue North
Sauk Rapids, MN 56379

Dear Robert:

I am familiar with your proposed dissertation topic, "Quality Measures in Internet-Delivered Education at a Large Comprehensive University," and your doctoral program in School Administration at Oklahoma State University. Your research topic assessing the quality of the online program at St. Cloud State University will be beneficial to the program and the University overall.

You have my permission to work with the staff at Center for Continuing Studies on this very important study. Our office will provide you with a list of faculty and staff who teach and support the SCSU Online program.

I am very interested in the results of your study.

Sincerely,

John C. Burgeson, Dean
Center For Continuing Studies

VITA

Dr. Robert Isidoro Aceves

Candidate for the Degree of

Doctor of Education

Dissertation: INPUT QUALITY IN INTERNET DELIVERED EDUCATION AT A LARGE COMPREHENSIVE UNIVERSITY

Major Field: School Administration

Biographical:

Education: Bachelor of Science, *Professional Aeronautics, Minor: Aviation Safety,* Embry-Riddle Aeronautical University, Daytona Beach, Florida (1995); Master of Science, *Master of Aeronautical Science, Aviation and Aerospace Operations, Aviation and Aerospace Management,* Embry-Riddle Aeronautical University, Daytona Beach, Florida, (1996); completed requirements for doctor of Education degreefrom Oklahoma State University, Stillwater, Oklahoma in May 2006.

Experience: *C-5A Flight Engineer, KC-10A Flight Instructor/Evaluator, Contingency/War Planner,* United State Air Force Reserves (1977-1998); *Flight/Ground Instructor,* Spartan School of Aeronautics, Tulsa, Oklahoma (1998-2000); *Assistant Professor of Aviation,* St. Cloud State University, St. Cloud, Minnesota (2000- Present); *Consultant-Evaluator,* Minnesota-Online for Higher Learning Commission, Minnesota State Colleges and Universities (MnSCU), St. Paul, Minnesota (2005- Present).

Name: Robert Isidoro Aceves Date of Degree: May 2006

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Pages is Study: 172 Candidate for the Degree of Doctor of Education

Title of Study: INPUT QUALITY IN INTERNET DELIVERED EDUCATION AT A LARGE COMPREHENSIVE UNIVERSITY

Major Field: School Administration

Scope and method of Study: A case study conducted at a large accredited comprehensive university in its developmental stages of Internet-delivered education supports the research that higher education organizations should not just alter how they perform their traditional tasks, but question whether these tasks and their missions are in line with the newly emerging environment. This study constituted a large-scale replication of Hensrud's (2001) study, this study closes gaps in the research literature using Moore's (1987) theories of transactional distance education and applying Moore's and Kearsley's (1996) systems theory framework to this specific online program, the case study evaluated the Internet-delivered education program both conceptually and holistically. Utilizing Hensrud's (2001) survey instrument, validated through extensive review of the accreditation and best practices literature, the seven component parts of the program were identified as institutional support, course development, teaching and learning, course structure, student support, faculty support, and evaluation and assessment. Subjects: administrators, instructional academic staff, faculty, and support staff. Population: 130 with a 67% (N = 87) response rate. Descriptive parameters: measures of central tendency (mean and median), dispersion (standard deviation and variance), and distribution (skewness and kurtosis). Respondents: 47 males and 40 females, 2 respondents ages 20-30, 21 ages 31-40, 30 ages 41-50, 27 ages 51-60 and 7 over 61 years old. Online teaching experience: 18 had 1-2 years experience, 25 had 3-5 years, and 32 had 5+ years.

Findings: The program met the quality criteria in two of the seven categories: institutional support and teaching/learning process. Quality criteria not met: course development, course structure, student support, faculty support, and evaluation and assessment.

Recommendations: Additional focus on hybrid curriculums, the life cycle of Internet-delivered education programs to determine if quality criteria are being met on a system-wide level.

Advisors' Approval: Dr. Ed Harris