DIMENSIONS OF QUALITY

FOR WEB-BASED ADULT EDUCATION

By

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(Under the direction of Dr. Thomas Valentine)

ABSTRACT

The study examined quality indicators for web-based adult education by gathering data from a sample of adult educators. The purpose of the study was to discover dimensions of quality in web-based adult education and to map those dimensions in a wide range of programs.

This study consisted of quantitative descriptive research and used a 41-question survey instrument that was developed by the researcher. Survey instrument development was based on the literature and examined the level of quality currently being offered by web-based adult education programs. Adult educators were asked to rate their organizations with respect to each of the quality indicator items in the survey instrument.

The participants in the study were an average age of 48 years, a majority Caucasian, with a few more males than females. Participants were primarily faculty or administrators in higher education offering traditional as well as web-based adult education. The majority of the organizations were public, degree granting organizations, which serve both traditional and adult students. The adult student populations, served by the organizations described above, were older than

24 years of age and had some prior education with an approximate equal number of females and males.

Exploratory factor analysis resulted in the discovery of six quality dimensions for web-based adult education: instruction, administrative recognition, advisement, technical support, advance information, and student input. Cluster analysis resulted in the identification of five program types: programs with high administrative support, programs with very low administrative support and high technical support, programs with high course quality and very low technical support, programs with very low student advising and high advance information, and programs with low overall quality.

INDEX WORDS: Quality web-based education, Adult education, Web-based education, Distance education.

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DEDICATION

This dissertation is dedicated to

my loving husband

Walter R. Finethy

and children

Amy, Adam, and Elizabeth

Your love, support, encouragement, and faith

has made this journey possible.

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INTRODUCTION

The Problem

Web-based education brings promising educational opportunities to the world of adult education. It is "a new paradigm that has emerged to find ways to meet their (adults') needs, without sacrificing quality…" (Hensrud, 2001 p.6). The opportunities for adult learners and educators to come together as an educational community are limitless (Berge & Collins, 1995). The restrictions of time and space and the barriers of more traditional education may no longer be an issue (Phipps & Merisotis, 2000). Consequently, the demand for web-based education continues to grow. As a result, there has been tremendous growth in programs and courses that utilize web-based education (Phipps & Merisotis).

Web-based adult education is a "new paradigm" that utilizes information and communication technologies to deliver education (Berge & Collins, 1995). Through the utilization of technology such as the Internet, the World Wide Web, computer-mediated communication tools and software, an educational model that goes beyond the traditional adult educational model has been created (Hiltz, 1994; Kay, 1988; Verduin & Clark, 1991). Learners have the opportunity to experience a rich educational community without the constraints of time and place and without the barriers that once prohibited many adults from participating in education (Palloff & Pratt, 1999).

Web-based education means the opportunity to take advantage of educational experiences outside the boundaries of time and place. Students often choose web-based education because it meets their needs. They have the ability to expand their life roles as workers, spouses or parents to include being a student. For some students, geographic location prohibits them from starting or continuing their education. For others, web-based learning is preferred over more traditional educational environments (Gibson, 1998). Learners who have previously been denied access to educational experiences because of life responsibilities or learners who found that traditional education did not meet their needs now have the opportunity to experience a quality education (Thompson, 1998; Berge, 1998). Web-based adult education is able to eliminate barriers and provide educational experiences that are convenient and adaptable (Thompson, 1998; Thorton, 1999; Willis, 1994).

Educational organizations have the opportunity through web-based education to reach a broader student audience and address educational needs (Tucker, 2001). There seems to be no shortage of universities or corporations who are willing to reach out and offer web-based education (Thorton, 1999). The Global Network Academy, an open source catalog database, lists more than 30,000 distance courses and 3,500 programs from around the world (www.gnacademy.org, 2002). The findings of a 1997 survey distributed to 100 college administrators in the United States predicted that the number of students enrolled in web-based courses would be approximately 2.2 million by the year 2002. Approximately 58% of two-year colleges were offering web-based courses in 1997. It was predicted that this number would increase to 85% by 2002. Approximately

62% of four-year colleges offered web-based courses in 1997. This percentage was predicted to increase to 84% by 2002 (Thorton, 1999; Virtual Ivory Tower, 1999).

With the demand for web-based adult education and the apparent enthusiasm to offer web-based education, there is a need to understand the quality dimensions of effective program planning and to develop quality benchmarks that can be utilized to develop, implement, and evaluate instructional and administrative objectives (Hensrud, 2001). Effective program planning is a decision making process and requires that quality in web-based education be considered, worked toward, and monitored (Sork & Caffarella, 1989). Quality in this regard is the extent to which web-based programs achieve the identified benchmarks of effective program planning (Hensrud). However, the empirical work that actually models quality program planning in web-based education is somewhat lacking and largely unexamined. Adult educators need a way to gather empirical data and understand what facets of web-based education require consideration and monitoring. The traditional ways of understanding quality program planning in adult education may not necessarily apply in the web-based environment. There is a need for a framework that measures quality in a disciplined and equitable way.

Program planning was described by Sork and Caffarella (1989) as a "complex decision-making process that can be substantially aided by models or frameworks" (p.233). Sork and Buskey (1986) describe a framework as a systematic process that assists in the development of specific objectives through the application of a defined set of "steps, tasks, or decisions" (p.87). The process of effective program planning is best achieved by first identifying the desired objectives and then planning of the steps necessary to achieve the established goal (Cervero, 1988). A well planned and developed

logical framework offers adult educators the decision making tool that can assist in simplifying a very complex process (Sork & Caffarella).

Tyler (1950) developed a decision-making framework that identified four basic principles of program planning (a) define learning objectives, (b) develop appropriate learning experiences, (c) maximize learning identified experiences and, (d) evaluate and revise learning objectives. The framework developed by Tyler became a basis for many adult education program planning models that have been developed over the years.

In 1986, Sork and Buskey conducted a comprehensive analysis of the program planning literature. Their inductive analysis of the literature included scholarly writings that met an established two-point criterion. The first criteria required the literature included in the analysis to focus on writings that addressed program planning for adults. The second criteria required the literature to contain a "set of steps, tasks or decisions which, when carried out, produce the design and outcome specifications for a systematic instructional activity" (p.87). The primary research resulted in the identification of nine basic principles that Sork and Buskey found to be common to most frameworks they reviewed. The nine basis principles of program planning are identified in Table 1.

Secondary analysis of the study revealed numerous concerns for Sork and Buskey (1986). Among those concerns were an "absence of cumulative development within the literature"(p.91) and a "low degree of theoretical explanation"(p.92). Sork and Buskey found it disturbing that the literature they identified as relevant to their research did not, for the most part, integrate prior research or mature in theory as the research base expanded over approximately 30 years. The secondary analysis also identified a low presence of empirical research that "presented convincing evidence or explanations"

(p.92) of adult education program planning frameworks as appropriate or effective models. Pennington and Green (1976) suggested that most adult education program planning models are based in "personal perceptions, reflection, observation, and experience" (p.13).

Table 1

Sork and Buskey's Nine Basic Principles of Program Planning

Number	Description
1.	Analysis of the planning context and client system(s) to be served
2.	Assessment of client system needs
3.	Development of objectives
4.	Selection and ordering of content
5.	Selection, design, and ordering of instructional content
6.	Selection of instructional resources
7.	Formulation of budget and administrative plan
8.	Design of plan for assuring participation
9.	Design of plan for evaluating the program

Sork and Caffarella (1989) developed a six-step planning framework that was consistent with the Sork and Buskey (1986) framework. This framework was unique in that it offered program planners a set of decisions within each of the six-steps. When developing this program planning framework, Sork and Cafferella took into consideration that planning is rarely linear and often tasks are completed simultaneously. Education is a complex set of interacting elements that is best planned by utilizing a systematic planning

tool to design "effective, efficient, relevant and innovative educational programs" (p.235). The Sork and Caffarella six-step planning framework is presented in Table 2.

Table 2

Sork and Caffarella Six Step Planning Framework

Number	Description
1.	Analysis of the planning context and client system
2.	Assessment needs
3.	Development of program objectives
4.	Formulate instructional plan
5.	Formulate administrative plan
6.	Design a program evaluation plan

Sork and Caffarella (1989) identified several concerns associated with program planning in general. One concern was the need to give priority attention to administrative details. A well-designed program that is not appropriately funded, promoted and nurtured administratively is at risk for failure. A second area of concern was the need to establish measurable criteria by which programs can be evaluated effectively and utilized to improve the program and planning process. A third concern is what the researchers perceive as a gap between the theory program planning and the actual practice of program planning. There is a need to create program planning theory that is relevant to practice through collaboration between scholars and practitioners.

Six program planning tasks that are performed in many formal educational enterprises were identified by Reed and Sork (1990). Reed and Sork used the six program

planning tasks to discuss and identify ethical considerations relevant to offering distance education programs for adults. The tasks were (a) admissions, (b) course development and delivery, (c) program marketing, (d) program administration, (e) learner/facilitator interaction, and (f) program evaluation. These program planning tasks that Reed and Sork used to identify ethical considerations in distance education could be beneficial as an organizational tool to explore quality dimensions in web-based adult education. In many ways the program planning tasks identified by Reed and Sork directly parallel the quality benchmarks identified in later research pertaining to quality in web-based education (Phipps, Wellman, & Merisotis, 1998; Phipps & Merisotis, 2000; Hensrud, 2001).

While web-based adult education is expanding (Bothel, 2001; Hensrud, 2001; Kriger, 2001; Tucker, 2001), the quality of web-based adult education is often questioned by faculty and administrators (Philips & Merisotis, 2000). There is a need to understand and measure quality in a disciplined and equitable way. A review of the literature indicates most scholarly writings regarding quality in web-based adult education have been in the form of case studies (Yeung, 2001; Berge & Mrozowski, 2001). There have been few studies that offer empirical data about the quality of web-based adult education (Hensrud, 2001; Husmann & Miller, 2001; Philips & Merisotis, 2000; Yeung, 2001). Quality in web-based adult education needs to be explored more extensively from an empirical perspective. This process begins with gathering solid empirical information in order to develop a deeper understanding of quality as it relates to web-based adult education.

Statement of the Problem

With the increased demand for web-based adult education comes the need to better understand the dimensions of program quality required to deliver an effective web-based adult education. There are few empirical studies that offer quantifiable data on the dimensions of program quality in web-based adult education. This study will focus on identifying dimensions of program quality and developing a framework for identifying types of programs in web-based adult education through empirical research.

Purpose of the Study

The purpose of this study is to explore and gain a deeper understanding of the dimensions of quality indicators of web-based adult education. In order to accomplish this purpose, the following three questions will be addressed:

1. How do adult educators rate their web-based programs with respect to specific quality indicators?
2. What are the empirical dimensions of program quality?
3. What types of programs exist with respect to the empirical dimensions of program quality?

Significance of this Study

Prior research in the field of web-based adult education has investigated and explored quality primarily from a case study perspective (Yeung, 2001). There have been only a few studies that offer empirical data on quality of web-based adult education (Hensrud, 2001; Husmann & Miller, 2001; Philips & Merisotis, 2000; Yeung). This study adds to the body of literature in adult education by providing empirical data that identifies dimensions of program quality in web-based adult education programs and courses.

This study will provide practical value for the growing field of adult education. It is the intention of this study to identify the dimensions of program quality in web-based adult education. By identifying dimensions of program quality, adult education administrators and educators will be able to gain a better understanding of quality indicators and more effectively evaluate and assess web-based programs. It is further the intention of this study to develop a framework for program quality that can be used to plan new programs or improve existing programs. When planning new programs, adult educators can utilize the data from this study to plan and implement quality web-based adult education programs. When reviewing and revising existing programs, adult educators can use data from this study to impact change that could result in a higher quality web-based adult education program.

This study will provide the field of adult education a tool for gaining a better understanding of quality. The survey instrument could be used for assessing existing web-based adult education programs for quality. Through the use of this survey instrument, adult educators may be able to identify strengths and weaknesses as they relate to dimensions of program quality in web-based adult education. Other scholars may be able to conduct further research in the area of dimensions of program quality in web-based adult education. This could broaden the understanding of the dimensions of program quality in web-based adult education and improve the learning experience for web-based adult learners.

CHAPTER II

A REVIEW OF THE LITERATURE

The purpose of this chapter is to review the literature on issues that relate to quality indicators of web-based adult education. This review will include the following areas: (a) quality as it relates to adult and distance education; (b) ethics as it relates to adult education and distance education; and (c) education as it relates to adult, distance education and web-based education.

At the time this study began, ethics was the focus of the literature review. As the study evolved, it became apparent that the study was really about quality in web-based adult education. Consequently, it was decided that this study would be written from the perspective of dimensions of program quality in web-based adult education rather than from a perspective of ethics. The literature review that was utilized to develop and execute this study is implicitly and explicitly applicable to quality in web-based adult education. Quality is a more acceptable language to educators. On a deep level very little has changed. On a surface level, we are using language that is acceptable to working adult educators. As a result of this evolution, the literature review is written to include quality as well as ethics.

Resources were gathered for this review using computer-based literature searches which include the Educational Resources Information Clearinghouse (ERIC), Dissertation Abstracts International, the University of Georgia's GALIN web-based system, University of Georgia’s GIL web-based system, University of Wisconsin-

Extension Distance Education Clearinghouse, and International Centre for Distance Learning literature database. Descriptors used to guide the searches include: “adult education”, “distance education”, “web-based education”, “quality education”, “quality and ethics”, and “quality distance education”, “virtual campus”, “virtual classroom” “ethics and adult education”, “ethics and distance education”, “ethics and technology”, “ethics and virtual campus”, “code of ethics and adult education”.

Quality Web-based Adult Education

In 1998, the Council for Higher Education Accreditation commissioned an investigation into quality assurance in web-based education. Web-based education had expanded and was rapidly being integrated into traditional educational organizations. The council realized there was a need to understand quality in web-based education for the purpose of effectively developing and implementing policies at a federal, state, and institute level that equally supports traditional as well as web-based education (Phipps, Wellman, & Merisotis, 1998).

Phipps, Wellman, and Merisotis, 1998 study developed from a review of the literature, visits to institutes of distance education, and interviews with experts. Four identified “technology and cultural catalysts” (p.1) were considered in the development of the study. The four catalysts were lifelong learning, learner-centered instruction, access, and knowledge media (Phipps, Wellman & Merisotis).

With the catalysts in mind the study attempts to gain a better understanding of the array of technology-based providers, strategies for quality assurance, outcome measurement of quality assurance, and policies and procedures for quality assurance. Four types of technology-based providers were identified: “military services, corporate

universities, unaffiliated distance learning providers and postsecondary providers" (Phipps, Wellman & Merisotis, 1998, p.1). The research found the vast majority of providers of web-based education are traditional postsecondary organizations that offer web-based enhanced traditional courses with some web-based courses or programs.

This study found that quality assurance was integrated into most web-based programs with a focus on: faculty credentials, selection, and training; course development and delivery; learner/faculty interaction; student support services; and evaluation and assessment. Quality assurances in web-based programs tend to follow the same model as quality assurance in traditional higher education. The one primary difference is less involvement of faculty in quality assurance and more involvement of administrators, consultants, and assessment experts. The study recommends that further research is needed to establish a better understanding of quality assurance in web-based education (Phipps, Wellman, & Merisotis, 1998).

The Institute of Higher Education (IHE) was commissioned by the National Education Association and Blackboard, Inc. to investigate the quality of distance education in higher education. The mission of the research was to validate the quality indicators that had been established in previous studies and to identify additional quality indicators. The goal of the research was to gain a thorough understanding of whether previously identified quality indicators were incorporated into web-based programs' policies, procedures, and practices as well as to understand the importance of the quality indicators to faculty, administrators, and students (Phipps & Merisotis, 2000).

A review of the literature, site visits and interviews were undertaken in order to understand the distance education environment. The quality indicators identified from the

literature review are grouped into seven categories: institutional support, course development, teaching and learning process, course structure, student support, faculty support, and evaluation and assessment. The literature review combined with the previously identified quality indicators resulted in 45 specific quality indicators grouped within the seven categories (Phipps & Merisotis, 2000).

Six institutes with extensive experience and leadership in web–based programs were identified to participate in the study. Each of the participating institutes received a site visit that includes the administration of a Likert Scale survey and interviews with faculty, administrators and students. The survey instrument listed 45 quality indicators with a point scale of (1) completely absent to (7) completely present and asked each participant to rank each quality indicator from two perspectives. The first was to determine if quality indicators were present in web-based programs. The second was to determine how important the quality indicators were to the overall quality of the web-based programs (Phipps & Merisotis, 2000).

At the completion of the survey, each participant was interviewed for the purpose of qualifying specific survey items. The analysis of the survey resulted in three scores: importance score, the presence score, and a gap score. The gap score being the difference between the importance score and the presence score. The qualitative data gathered from the interviews were used to guide the analysis of the quantitative data (Phipps & Merisotis, 2000).

The analysis resulted in 24 quality indicators that are considered by the researchers to be “essential to ensure quality in web-based distance education” (Phipps & Merisotis, 2000, p.2). The 24 quality indicators are grouped within the seven original

categories: (a) institutional support, (b) course development, (c) teaching and learning process, (d) course structure, (e) student support, (f) faculty support, and (g) evaluation and assessment. The researchers suggest that the quality indicators identified in this study can be used by stakeholders to guide the decision-making process in regard to web-based distance education (Phipps & Merisotis).

Husmann and Miller (2001) conducted research that identified components that administrators perceive to be essential to a quality distance education program. The study utilizes a holistic conceptual framework that considers "delivery appropriateness, learner responsibility, instructor responsibility, and administrative responsiveness" (p.3).

A three-round Delhi survey instrument was used to gather data from distance education administrators on their perception of "variables and factors necessary for an effective distance program" (Husmann & Miller, 2001, p.1). The findings of the study indicate that administrators perceive themselves as facilitators of quality and faculty as the party most responsible for quality in distance education programs. Administrators need to be able to respond to faculty expectations. Faculty require access to training in technology and instructional design in order to ensure a quality distance education program. Husmann and Miller suggested further research is needed in order to more clearly identify the complex elements of a quality distance education program.

Hensrud (2001) examined the quality of web-based education at a small midwestern university. The study was guided by the Phipps and Merisotis (2000) study that divides quality indicators into seven categories: (a) institutional support, (b) course development, (c) teaching and learning process, (d) course structure, (e) student support, (f) faculty support, and (g) evaluation/assessment. A 27-item researcher-developed

survey instrument was used to measure the extent to which the university's web-based program adheres to the quality indicators as reported by Phipps and Merisotis.

The survey instrument used a five-point Likert Scale to measure respondents' level of agreement or disagreement with each of the 27-items. Twenty faculty and staff involved in the university's web-based program participated in the survey instrument. The results of the study indicate that the university met the criteria of quality indicators in four areas: (a) institutional support, (b) teaching/learning, (c) course structure, and (b) student support. The university did not meet the criteria for quality in three areas: (a) faculty support, (b) evaluation/assessment, and (c) course development. Hensrud (2001) recommends that this study can be used by other institutions to begin the process of self-assessment to improve the quality of web-based programs.

Yeung (2001) stated that the unique characteristics of web-based courses and programs require new educational structures. Yeung suggests that the quality web-based environment will include an infrastructure that offers quality academic support and services such as the library, advisement, registration, and assessment. Most current literature reflects case studies and cannot be generalized to different academic populations. There is a need to empirically identify quality indicators for web-based education.

Quality and Higher Education

Boyle and Bowden (1997) defined quality in higher education from an ethical perspective in very simple terms as "the value that is the right thing to do" (p.112). They state that highly effective institutes of higher education are concerned about quality for three primary reasons. The first is the moral obligation to all stakeholders to provide an

educational environment of the highest possible quality. The second is competiveness. In order to remain competitive in a market-driven environment, institutes of higher education must demonstrate they offer a "quality product". The third is accountability. In an environment of limited resources, stakeholders are using quality indicators to allocate resources. Quality is comprised of the principles and values that are primary to the organization and should be viewed as a dynamic concept that require continues quality improvement (Boyle & Bowden).

Ethics and Adult Education

Adult educators are challenged with ethical issues and concerns on a daily basis (Brockett, 1988). However, examination of the literature reveals that very little research focuses on ethical issues and concerns in adult education (Lawler & Fielder, 1993). Many of the scholarly writings identified by the researcher as appropriate for this study approach ethics in adult education from a general discussion rather than through the use of empirical research. However, several empirical research studies were identified (Clement, Pinto & Walker, 1978; Eastman, 1998; Lawler, 1996; Lawler & Fielder; McDonald, 1991). This literature review presents the general discussion as well as the empirical research identified as relevant to this study.

Clement, Pinto and Walker (1978) conducted a study for the distribution to American Society of Training and Development (ASTD) to determine the competencies for effective performance in training and development. The purpose of the study was to develop a model that to use in professional development and to form a research basis for further study. Part of the study attempts to identify behaviors that are considered unethical. The study was distributed to ASTD members. Through the use of content

analysis based on frequency of mention, six major categories of unethical behaviors were identified: (a) lack of professional development, (b) violation of confidence, (c) cure-all programs, (d) dishonesty regarding outcomes, (e) failure to give credit, and (f) abuse of trainees. Researchers conclude that unethical behavior can occur at every level of the training process and can range from serious breaches of ethical conduct to unprofessional conduct to simple carelessness. Awareness of unethical behavior is the responsibility of administrators as well as educators.

In 1983, Singarella and Sork stated that little had been written in the "adult education literature, which addresses ethical issues and concerns, and specifically, how ethical considerations relate to the adult practitioner" (p.244). The authors felt that there was a need in adult education to initiate dialogue and encourage interest among adult educators regarding ethical issues and concerns. Singarella and Sork identify select ethical issues in the hope that others would follow their lead. The issues identified included items such as responding to clients' "felt" needs without considering the associated responsibilities, abandoning self-directed learning, or not disclosing program objectives to potential participants. Singarella and Sork believe awareness and understanding of what is ethical or unethical behavior in an adult education environment is important to ethical decision-making as well as continued growth and development of adult education.

Brockett's (1988) collection of scholarly writings focused on ethical issues from a philosophical perspective (Elias & Merriam, 1995). Here, Brockett explored the dimensions of ethical practices in adult education. Sork (1988) considered the relationship between the expectations of the organizations and personal values as each

relates to the ethical decision-making process. Kasworm (1988) discussed the adult educator's role in influencing the ethics of others through the teaching and learning process. Caffarella (1988) argued that ethics is an integral part of teaching adults. Ways in which adult educators respond to the daily ethical challenges are determined by their own personal value system. Cunningham (1988) presented adult education as a forum for social change. Hiemstra (1988) discussed the development of an ethical philosophy and the importance of understanding ethics. Other chapters in Brockett's collection discussed ethical issues and concerns of program planning, marketing, evaluation, and research.

Brockett (1988) created a model to facilitate an understanding of the variables that are involved in ethical decision-making in adult education. In the model, three interrelated ethical dimensions of adult education are identified. The first dimension is one's own personal ethics or values. This determines how one might respond to different situations. Second is the recognition that the responsibilities of adult educators are often multi-dimensional, and there is the possibility that ethical conflicts can arise from this situation, placing the educator in the position of making choices between competing ethical values. The third dimension is the operationalization of values that result in ethical decision-making. Operationalization can be defined in formal terms such as a code of ethics, or it can be informal as in discourse between parties.

Kasworm (1988) discussed how adult educators influence the ethical decision-making of others. Adult educators see themselves as facilitators of knowledge, not as purveyors of values or ethics. They often fail to recognize that the inherent nature of adult education is to perpetuate change in another person. Kasworm states that adult educators often have the power to influence ethical beliefs and choices of their students.

Sork (1988) explored the concept of ethics in program planning and how practitioners are influenced by the organization in which they work as well as by their own value system. Educators are encouraged to examine their own personal value system and develop a personal philosophy that can be used to guide their decision-making. Every practitioner has the responsibility to understand the practical and the ethical consequences of his or her decisions.

Adult educators have a responsibility to be aware of current ethical practices as well as ethical practices that can be implemented for the purpose of bettering the field of adult education (Cunningham, 1988). Cunningham proposed that understanding the ethical decision-making of the adult educator is a result of not only personal values but also social values. Understanding and awareness of ethical values and decision-making happens when dialogue occurs between professionals.

Caffarella (1988) described the adult educator as "a person who takes on the responsibilities of teaching and is often faces numerous ethical dilemmas related to that role" (p.103). The way that adult educators address the ethical dilemmas they encounter depends on their own belief system. As facilitators and administrators, they are expected to model their ethical behavior. Modeling ethical behavior involves questioning and examining all aspects of the adult education system as well as their own personal values.

Hiemstra (1988) asked why, as adult educators, should we be concerned about an ethical philosophy. He identified four reasons: (a) understanding of human relationships, (b) sensitizing one to positive human interaction, (c) providing a framework for understanding personal values, and (d) promoting flexibility and consistency. An ethical

philosophy can guide daily ethical decision-making and policymaking, separating the adult education professional from the non-professional.

It is the belief of Lawler and Fielder (1991) that the "ethical issues and concerns surrounding adult education are critical to any discussion of higher education" (p.20). Ethical issues arise at different levels as a result of existing policies and practices and occur because of individual actions as well as institutional actions. Lawler and Fielder proposed that adult educators need to "clarify their role responsibilities and use a decision-making process to help make ethically acceptable decisions" (p.24).

McDonald (1991) conducted a study to investigate adult educators' attitudes towards a code of ethics. The sample, including adult basic educators, continuing education educators, and trainers, was asked to respond to survey questions developed by McDonald. The survey questions centered on ethical dilemmas, personal experiences with a code of ethics, perceptions of the need for a code of ethics, and ideas about the creation and implementation of a code of ethics. Results of the study indicated the need to consider a code of ethics for adult education

Lawler and Fielder (1993) conducted a survey of adult and continuing educators for the purpose of identifying the ethical issues and concerns that are encountered in their daily work-related activities. A random sample was chosen from the membership of the Association of Continuing Higher Education. The survey employs critical incidents as the methodology for gathering data. The survey results in identifying two major issues (a) mistreatment of students, adjunct faculty, and staff; and (b) organizational and program integrity as they relate to practices and policies. This study established that ethical issues

are a real concern in adult education and need to be addressed by educators, administrators, and organizations.

In 1996, Lawler once again studied ethics and adult education. The researcher was concerned with the ethical dilemmas in practice and the guiding principles used to resolve ethical dilemmas. The goal of the study was to identify major ethical problems and to gain consensus among adult educators concerning ethical conduct. A random sample was drawn from the Association of Continuing Higher Education. Participants were mailed a case study and a series of questions that asked about relevance of issues related to their own experiences in practice. The results indicate that adult educators are often face ethical conflicts because of the many roles they engage in, and they often look for professional guidance when making ethical decisions.

Eastman (1998) conducted a study for the purpose of identifying: (a) the extent to which adult education graduate students were aware of the ethical dilemmas present in practice, (b) the method used to determine ethical behaviors, (c) the influence of graduate studies in determining ethical situations, and (d) the dependence on a formal code of ethics. The study found that ethical dilemmas are present in the practice of adult education. An individual's own ethical beliefs influence the approach used in ethical decision-making. Professional knowledge was influential but not more important than an individual's ethical code. The researcher recommends further studies in ethical behaviors and decision-making for the purpose of understanding if there is a need for graduate courses in ethical dilemmas and decision-making.

Ethics and Distance Education

One of the most comprehensive scholarly writings identified by the researcher was written by Reed and Sork (1990) in which ethical concerns, regarding the rights and obligations of students, educators, administrators, and institutions that are involved in distance education, were explored. Reed and Sork organized their concerns into six generic tasks that are performed in most formal educational environments (a) admissions, intake, and retention; (b) course development and presentation; (c) program and course marketing; (d) program and course administration; (e) learner/facilitator interaction; and (f) program, course and learner evaluation. The authors define and identify ethical considerations in each of the areas for the purpose of providing a framework that could be used to establish dialogue regarding ethical behaviors in a distance education environment.

Admissions and intake, and retention tasks are concerned with the ethical issues of establishing and maintaining a relationship with the student (Reed & Sork, 1990). Distance education requires unique demands of the student. The attributes of a successful student in distance education have been identified to include a high level of motivation and self-direction (Moore & Kearsley, 1996). The Reed and Sork research asks whether this issue is taken into consideration when developing admission requirements or soliciting student participation in distance education. Open enrollment was another concern since many distance education organizations grant admission to everyone (Zvacek, 1991). Is it the ethical responsibility of the institution to make students aware of the successful student profile? Is it up to the institution to provide psychological testing to determine a student's propensity towards the successful student profile (Zvacek) Does

the educational institute then become an elitist organization by “weeding out” those who do not fit this criterion (Reed & Sork). Reed and Sork believe that the ethical issues surrounding admissions, intake and retention, lack conclusiveness and leave those involved with many unanswered questions.

The second area, course development, centers on the ethics of policies and practices that guide the design of distance education programs (Reed & Sork, 1990). Distance education students are confronted with very different learning situations in which they are almost exclusively dependent upon the course materials (Zvacek, 1991). They have little opportunity to critically analyze the content with fellow students or a facilitator (Reed & Sork; Zvacek). Many of the materials are created by a few instructors, distributed to many, and can be limited in scope. They could possibly offer the student the only information ever studied on a topic, and once produced, the materials are costly to revise (Jarvis, 1997). To add to these issues, for materials that are created and distributed in cyberspace, there is the ethical concern of intellectual property rights and copyrights (Holt, 1996; Schrum & Harris, 1996). Reed and Sork believe that course development had the potential for numerous ethical considerations of ownership, copyright, currency, control, and inclusiveness.

The third area, program and course marketing, concerns the approaches utilized to offer courses to potential students (Reed & Sork, 1990). The efforts to "sell" distance education have the propensity to highlight the advantages and downplay the disadvantages (Zvacek, 1991). Many students taking distance education courses do so out of necessity, not desire, and they need to be made aware of some of the challenges of distance education. These include the greater demands of distance education such as time

and self-directedness, the static nature of the courses, the possibility that credits may not transfer and that degrees obtained may not be as highly regarded as more traditional degrees. (Graham & Harrower, 1987). The Reed and Sork study challenges distance education programs to consider the ethical issues of marketing a nontraditional program to uninformed students.

The fourth area, program and course administration, considers the practices engaged in by administrations in the areas such as program planning, personnel, and finance (Reed & Sork, 1990). Program planning must have the goal of being a provider of a genuine educational experience at the center of its development. Personnel may have to be chosen specifically to work in this unique educational arena. They need to be made aware of the inherent challenges of distance education and must have the ability to feel empathy for the student's unique position (Johnson, 1992). Administration must be careful not to view distance education as a financial panacea that relinquishes the institution's capital investment responsibilities or diminishes the importance of reasonable student/teacher ratios (Jarvis, 1997). Reed and Sork argued that program and course administrators often struggle to balance ethical responsibilities with organizational responsibilities.

The fifth area, learner and facilitator interaction, concerns the communication that occurs between the facilitator and the learner as well as between the organization and the learner (Reed & Sork, 1990). They believe that the communication gap is not only at the heart of distance education, it defines distance education. Interaction between the individuals and the organizations is a necessary component of ethics, and when instructional technologies are a component of the interaction, the ethical implications

must also be considered (Jarvis, 1997; Holt, 1996). Reed and Sork felt that it was the ethical responsibility of the organization to ensure that interaction and communication effectively occur by putting into place the proper infrastructure.

The final area, program, course, and learner evaluation, concerns the qualitative and quantitative methods engaged in to evaluate the effectiveness and quality of a program or course. Quantitative evaluation and feedback of programs and courses are complicated by what Jarvis (1997) referred to as time and space distanciation and compression. Anonymity, privacy, and confidentiality increase the challenges when technologies are a part of the infrastructures (Holt, 1996). Reed and Sork (1990) stated that distance education is challenged to find communication processes and methods that can clearly and ethically evaluate the program, the course, the facilitator, and the learner. Reed and Sork encourage continuous ethical reflection, discussion, and research for the purpose of increasing sensitivity.

Jarvis (1997) stated that there is but one universal ethical good, that of being concerned for the "other". Ethics can only matter when one enters a relationship with others. Concern and caring for another person or persons are the catalysts for all ethical action. Distance education re-aligns the relationship between student and educator through space and time distanciation as well as through the compression of space and time and gives rise to ethical considerations. Jarvis voiced several concerns in his writing. He is concerned that the distance education industry produces and distributes knowledge that is utilized by many but controlled by few. The market forces create a competitive market that is price sensitive, forcing educational institutions to reduce prices, and in

turn, reduce services to the students. Each of these issues gives rise to profound ethical and quality issues that need to be examined.

Jarvis (1997) examined these ethical concerns in more depth by identifying three areas: (1) role of the teacher, (2) educational support, and (3) control and selection of materials. The first is the changing role of the teacher, which changes with the implementation of distance education. Materials are often created by someone other than the educator. The participants, teacher and student, are separated from each other by time and space. The ethical responsibilities of teaching are fundamentally changed because of the nature of the relationship that exists between teacher and student.

Educational support is the second area Jarvis (1997) discussed. Support is important to the educational process because it helps those individuals who are struggling to be successful. It is difficult to measure the benefits and is often seen as a disposable component of education when costs must be cut. The "willingness to put oneself at the disposal of another can not be measured in dollars" (Jarvis, p. 116). It is the moral obligation of the educational institution to meet this ethical challenge.

The control and selection of materials was also discussed by Jarvis (1997) discusses. The nature of distance education creates an environment that can be less personal than classroom education. Teams of individuals, rather than the educator, often create materials. Development teams can have a great deal of power over the student. Students progress at their own pace and often accept content at face value without the benefit of dialogue or discovery. The relationship between teacher and student changes, time and space are re-aligned, and the ethical issues are complex.

Holt (1998) viewed Internet-based adult education as an environment of ethical concerns that are not unique to distance education but exacerbated by the characteristics of technology, speed, access, ease of manipulation, and scope of dissemination. The environment is a turbulent situation because of the continuous and rapid introduction of new and more complex hardware and software technology. The Internet has the power to distribute and disseminate information in a way that has never before been experienced by society. Adult educators have a responsibility to be aware of the ethical and moral issues surrounding technology.

Johnson (1992) questioned the form and function of traditional educational values in the virtual educational environment. For centuries, traditional education has been an intimate and self-contained community that fosters the desired change in students as being the sole educational goal. It is no longer a self-contained community. It is a community that is built out of relationships without the constraints of time and place. This opens new ethical frontiers that are challenged to create a community of values. This is a community that has at its center the true educational goal of humanizing its participants. Johnson described this as a multi-dimensional experience. The first dimension is to enable students to look beyond superficial issues to the deep moral issues and relationships that are involved in every human interaction. The second is to enable students to reflect on issues and to make choices that are founded in ethical terms. The final dimension is to create a powerful vision by which one can live an ethical life. It is the task of educators and educational institutions to create a virtual environment that upholds the ethical values of an educational environment.

Zvacek (1991) recognized that learners face a very different learning environment in distance education, one that calls upon the instructional designers to go beyond cognitive theory. One of the issues affecting distance education that goes outside the boundaries of cognitive learning is the ethical implications. Distance education is an environment that can have many unknowns for students, educators, and organizations. Ethical awareness and sensitivity to student needs are important to the success of distance education.

Reed and Sork (1990), as well as other authors (Holt, 1998; Jarvis, 1997; Johnson, 1992; Zvacek, 1991) have made an attempt to create an awareness of the ethical considerations in distance education. Today's educational environment faces new ethical challenges in recruiting and retention, materials production and presentation, marketing, administration, student/faculty interaction, and evaluation. It is now the responsibility of the researchers and practitioners to continue to raise questions and debate issues to the point that a consensus can be reached on the ethical implications of distance education (Reed & Sork).

Distance Education

Distance education has evolved over approximately the last 200 years (Moody, 1995) from correspondence courses in the early 1700s to high tech delivery in 1999 (Moore & Kearsly, 1996; Taylor, 1995; Taylor, 1999). Today, there are approximately 700,000 web-based courses being offered, and they are predicted to triple to 2.2 million by the year 2002 (Thorton, 1999). The challenge of today is not one of delivery but one of developing a complete institutional system for the delivery of distance education (Moore & Kearsley)

Taylor (1999) presented the evolution of distance education through five generations. The first generation, the Correspondence Model, was dependent upon printed material and remains a viable method of delivering education today. The second was broadcast technologies or the Multi-media Model, which includes radio, television, and audiotapes incorporated with print media (Moore & Kearsley, 1996; Taylor, 1999). The third generation, the Telelearning Model, emerged as a result of the development of new telecommunication and information technologies that provided opportunities for synchronous delivery (Moore & Kearsley; Taylor, 1999; Verduin & Clark, 1991). The Flexible Learning Model is the fourth generation, which combined CD ROM interactive multi-media with web-based delivery via the Internet as a viable opportunity to deliver asynchronous learning (Taylor, 1995). Currently emerging is the fifth generation, which Taylor refers to as the Intelligent Flexible Learning Model that utilizes automated response systems to enhance the fourth generation.

The Correspondence Model was introduced as early as the 1700s, when a shorthand course was offered by mail through advertisements in The Boston Gazette (Vermin & Clark, 1991). Over a century later in Sweden, men and women were offered the opportunity to study composition through the mail. In England in 1840, Isaac Pitman designed a system of shorthand courses on postcards (Holmberg, 1986). In 1856, Charles Toussaint and Gustav Langenscheidt developed correspondence courses to teach languages to adults (Watkins, 1991).

The first American university to offer planned correspondence education was Illinois Wesleyan University in 1877. The correspondence program was designed to meet the needs of the adult student that could attend a traditional university campus. It offered

bachelors, masters, and doctoral degrees to adults throughout the United States. The program was terminated in 1906 due to the university board members' and educators' concern that the program lacked quality and integrity (Watkins, 1991).

The correspondence movement experienced lean years between 1890 and 1906 due to lack of financial support, lack of full-time faculty, and increased demands for traditional campus programs. However, despite the lack of programs during this time period, the seed for adult distance education had been planted. The principles of correspondence were firmly entrenched in the American educational system (Watkins, 1991).

In 1906, the University of Wisconsin established a correspondence department with a full-time department head and state funding support. Education was in demand for individuals and industry because of the need for retraining, a result of emerging new technologies. By the 1920s, the University of Wisconsin was the nation's leader in correspondence programs. The university established a clear direction for growth in distance education of adults (Watkins, 1991).

The second generation, referred to earlier as the Multi-media Model, began with the founding of the British Open University in 1969, which included the incorporation of radio and broadcast television into distance education, offering education a new delivery method (Moore & Kearsley, 1996; Taylor, 1995). Advocates of radio and television predict that education will be revolutionized. They believe that the primary delivery of education in the future would be through the new media, not in the traditional classroom. Unfortunately, radio instruction is considered a failure in the United States but did find success in developing countries (Pittman, 1986). Broadcast television was more

successful. It was developed in the early 1930s and remains in current use in the United States and around the world (Moore & Kearsley).

The third generation, Telelearning Model, evolved at a much more rapid rate than the previous generations. It incorporated technologies such as audiotapes, videotapes, computer-based learning, and audio-conferencing (Taylor, 1995). Brown and Brown (1994) described this scenario as an environment where the scope, diversity, and rate of change made the selection of the appropriate delivery mechanism difficult and risky. The investment in technology for educational purposes was enormous at this time, making the ability to transmit information beyond the expectations of only a few years earlier. The challenge of the third generation was that distance education was no longer being delivered and developed in isolation. Distance educators and administrators were called upon to develop methods of collaboration that maximize the educational strategies supported by the technology tools (Brown & Brown).

In 1995, Taylor described the fourth generation, Flexible Learning Model, as offering "promises to combine the benefits of high quality CD-ROM based interactive multimedia with the enhanced interactivity and access to an increasing extensive range of teaching-learning resources offered by connections to the Internet" (Taylor, 1995, p. 2). The Flexible Model utilizes the Internet to create an interactive asynchronous educational environment (Taylor, 1995). It features a teaching and learning environment that is interactive, non-linear, and collaborative where students are encouraged to communicate with each other, their professor, and other experts in their field of study. Students can learn at their own pace, surf the World Wide Web for supplementary educational resources, and download assignments (Taylor, 1999).

Taylor (1999) predicted that as technology continues to change at such a rapid rate, the fourth generation will meld into the fifth generation to capitalize on the Internet and the World Wide Web. Taylor stated that the key consideration in the fifth generation is the use of automated response systems. Automated response systems reduce the cost of computer-mediated communication through software applications. Software applications scan incoming communications and respond intelligently without human interaction and "thereby increase significantly access to education and training opportunities on a global scale" (Taylor, p. 6). Computer conferencing is capable of re-humanizing distance education and redesigning the way we deliver all education (Taylor).

Present Status of Adult Distance Education

In the current distance education environment, most students are adults between the age of 25 and 50 (Moore & Kearsley, 1996). They enroll for a variety of reasons and usually their participation in programs and courses is voluntary. Their specific reasons for enrollment usually lead to students being highly motivated and task-oriented. Many have a desire to learn more about their current occupation or are required to earn continuing education credits. Some return to school for basic education such as learning how to read or finishing their high school diploma. Others return to school to begin or complete degrees. Some enter into higher education to simply earn college credits in a specific area, such as computer networks or languages. Some seek practical knowledge in finance, homeownership, or parenting. The adult student body that engage in distance education, is very diverse (Moore & Kearsley).

In today's educational environment, there are many universities, colleges, and large corporations involved in some type of distance education (Moore & Kearsley,

1996). Programs and courses are offered through correspondence, independent study, telecourses, satellite, and computer networks. Distance education has become an accepted method of educating adults in the United States and internationally.

Today there are probably more adults using correspondence courses than any other form of distance education. Many of the courses taken today are accredited through the Distance Education and Training Council (DETC). There are more than 100 schools accredited by the DETC with the primary goal of offering training. Most of the courses offered are in print media and distributed by mail (Moore & Kearsley, 1996). Correspondence courses offered by universities and colleges are often referred to as independent study. They are more likely to incorporate media other than print. Students are required to meet the educational institution's entrance requirements. Colleges and university offer independent study courses for both credit and non-credit (Moore, 1991).

Telecourses are another method of delivery used in adult distance education today. Telecourses use recorded video as the primary mode of communication. They are created over a wide spectrum, from the simple taping of a traditional class to the sophisticated production that incorporates instructional design and a very high level of production. The courses are distributed through various methods such as mail, cable, or satellite. More than 200 college level television courses are produced by colleges and universities, public broadcasting stations, and members of the International University Consortium (Moore & Kearsley, 1996).

The British Open University, established in 1969, has graduated over 100,000 students. It offers open access to higher education and makes it available to anyone without the traditional time or space constraints. The University utilizes audio, visual,

and computer media to supplement print material that as been well designed and produced (Moore & Kearsley, 1996). The British Open University has recently established itself in the United States by partnering with schools such as Florida State University, California State University, and the Western Governors University (Trombley, 1999).

The use of satellites to deliver courses is a popular method used by many major corporations. Satellite transmission is used to conduct training as well as business meetings around the country and the world. These are generally one-way broadcasts or teleconferences with two-way audio. There are approximately 80 private business television (BTV) networks in the United States (Moore & Kearsley, 1996).

In addition to BTV, within private organizations there are more than 20 BTV consortiums that serve specific industries and professions. These consortiums have professional management teams that maintain them and broker courses developed by members. Many of the courses are accredited, and participants receive continuing education credit upon completion. (Moore & Kearsley, 1996).

The Department of Defense also delivers educational programs to numerous sites using satellites. It has large networks of two-way video conferencing that allow for multi-site hook-up with full transfer of audio, video and data. The National University Teleconference Network (NUTN) has a membership of 260 educational institutes. It delivers continuing education courses using teleconferencing. The National Technological University (NTU) offers its own master's degrees in different engineering fields as well as continuing education for engineers. Programs are delivered by satellite video with audio feedback. Over 100 major corporations and government agencies

subscribe to NTU. The Adult Learning Satellite Services (ALSS) delivers courses to colleges and universities, businesses, hospitals, and other organizations. There are number of other consortiums that deliver specialist programs on specific topics or to defined audiences (Moore & Kearsley, 1996).

The most recent development in adult distance education is web-based education that utilizes the Internet and the World Wide Web (Brown & Brown, 1994; Taylor, 1995). In 1998, Schrum identifies the "military, business and nontraditional educational programs as having begun to investigate the potential of the Web for web-based education" (p.54). Today there are thousands of web-based courses available through public and private institutions. Approximately 58% of two-year colleges offer web-based courses; this number is predicted to increase to 85% by 2002. Approximately 62% of the four-year colleges offer web-based courses; this number is predicted to increase to 84% by 2002 (Virtual Ivory Tower, 1999).

Web-based Education

Distance education literature refers to web-based teaching and learning in the context of computer-mediated communication (Berge & Collins, 1995), Virtual Classroom [TM] (Hiltz, 1994), Internet-based distance education (Eastmond, 1998), and web-based education (Schrum, 1998).

Lewis, Whitaker and Julian (1995) explained web-based education as a process of exchanging thoughts, ideas, and information between computers that are connected through the Internet. The authors contend that education is interested in utilizing the web-based mode of delivery for several different reasons (a) cost effective considerations, (b) political expediency, (c) pedagogical considerations, and (d) "just because" the

technology is available. Web-based education does offer advantages as well as some disadvantages over more traditional methods of distance education such as print or audio-conferencing.

Asynchronous communication can take place without time and place constraints. Students are able to ask questions of fellow students, professors, and field experts at anytime, and reflect on the responses they receive at their convenience. Web-based teaching and learning can take place from anywhere in the world. Educational institutions have the opportunity to expand their student base to include a globally diverse student body. The challenge is the possibility of cultural differences that can occur in a global education environment. Information received that is unwanted or inappropriate can be deleted, placing the learner in control (Lewis, Whitaker, & Julian, 1995).

Course materials can be placed on the Internet, saving the cost of printing. However, students will be required to have sufficient amounts of computer memory. Distance education saves time by creating an environment that allows "frequent interaction in an educational context between network participants, teacher and student, and among students themselves with a minimum of effort and a maximum of spontaneity" (Lewis, Whitaker, & Julian 1995, p. 18).

Personal electronic mail can encourage students to communicate with faculty and develop "buddy systems" with fellow students. Group directed electronic mail, one-to-many, can be modeled on a teacher-directed approach, teacher-facilitator approach, or student-controlled approach. Group directed electronic mail has the potential to simplify distribution and collection of responses. Group conference electronic mail, many-to-

many, allows communication to be captured that can be reviewed and reflected on anytime and anyplace (Lewis, Whitaker & Julian, 1995).

Learners involved in web-based education can expect to have greater interaction with the facilitator and other students. Students will need access to the appropriate hardware and software as well as to the Internet. They will need to possess a reading and writing level commensurate with the level of instruction. Learners will have the opportunity to be self-directed and self-managed (Lewis, Whitaker & Julian, 1995).

Lewis, Whitaker and Julian (1995) also identified barriers to on-line-education. Students who want to participate in web-based education may not have access to hardware, software, or the Internet. They could lack the technical and cognitive skills needed to be successful in the web-based educational environment. Technical information will need to be simplified so that it easily accessible to the general population.

In 1998, Berge conducted a study distributed to individuals involved in teaching web-based courses in higher education to identify barriers to web-based teaching. A policy development framework suggested by Gellman-Danley and Fetzner (1998) was used to categorize the results of the study. The Gellman-Danley and Fetzner framework included academics, tuition, geographical services, governance, compensation, legal usage, and student support. The survey results indicate a total of 70 barriers to teaching effectively in a web-based environment. Of the 70 barriers, only 28 identified barriers fit into the framework. The remaining 42 are clustered into two additional areas identified by Berge as technical concerns and institutional cultural concerns. Berge concludes that further research is needed to explore the issues of barriers in web-based education.

Hiltz (1994) defined web-based teaching and learning as an environment located within a computer-mediated communication system. Rather than being built of bricks and mortar, the web-based education consists of a "group of communication and work 'spaces' and facilities, which are structured in software" (p.3). Participation is asynchronous, accessible anytime and anywhere. Hiltz believes there is an opportunity to improve the access and quality of education through the use of web-based education.

Hiltz (1994) stated that the computer systems used to deliver web-based education must support "all or most of the types of communication and learning activities available in the physical classroom and campus" (p.6). The difference between the web-based classroom and the traditional classroom is the way the communication occurs. In a traditional classroom, communication is usually speaking and listening. In the web-based classroom, communication takes place by writing and reading.

According to Hiltz (1994) both methods of delivery have their own strengths and weaknesses. The effectiveness of web-based teaching and learning is dependent on the appropriate hardware and software but even more important is the facilitator's ability to create a learning environment that fits the characteristics of the medium, the characteristics of the course materials, and the characteristics of the students (Hiltz). Educational outcomes are dependent upon creating an active learning environment that facilitates extensive interaction between student and student, in addition to student and facilitator (Hiltz, 1986).

Three types of educational activities were identified by Eastmond (1998) that incorporate the Internet and foster various levels of learning. The first is traditional learning, supplemented with Internet activities to foster self-direction. The second,

computer conferencing, fosters interactive in-depth discussion and feedback. The third type promotes “constructivist learning and fosters virtual learning communities" (p.36) and is identified by Eastmond as virtual courses and institutions.

Eastmond (1998) described the web-based course as one that can include graphics, audio and video, and hyperlinks. It can also include off-line activities, textbooks, and field trips. Most web-based educational utilizes web-based discussion and links to web-based resources as well as electronic submission and return of assignments. Interface between student, facilitator, and institution can occur at all levels of web-based academic and administrative services. Equipment and software requirements are sophisticated, as are the computer skills that are needed by students, faculty, staff, and administrators.

Schrum (1998) stated that "students are beginning to expect access to new models of lifelong learning" (p.53). Many educational institutions that are attempting to fulfill this demand by offering courses on-line. Strategies for designing web-based courses should take into consideration successful student characteristics as well as pedagogy, interactivity, organizational and institutional issues.

Virtual Campus

The virtual campus is defined by Aoki and Pogroszewski (1998) "the infrastructure for providing students the learning experience and related support services needed to complete a degree program partially or totally web-based and for providing faculty members with resources for teaching and doing research effectively on-line" (p.2).

Aoki and Pogroszewski (1998) stated that there is a need to provide teaching and learning in the web-based environment. Adult students want and expect educational opportunities that fit their lifestyle and that are without the constraints of time or place. Institutions are looking for ways to increase enrollments without investing in additional bricks and mortar. Technology has given us the ability to deliver effective web-based education. The challenge for many institutions is to provide the same level of services and support that traditional on-campus learners receive (Aoki & Pogroszewski; Berge, 1998; Gellman-Danley & Fetzner, 1998).

A need for educational institutions to develop a systematic approach to planning and implementing a virtual campus and delivering web-based education has been identified by Aoki and Pogroszewski (1998). Delivering web-based courses is only a small part of the overall demands of a virtual campus. Successful virtual academic environments will need to plan and implement, as part of the systematic approach, appropriate levels of academic, administrative, and technological support for students and faculty. Monetary as well as human resources will be required to support the needs and expectations of students, faculty, and administrators.

Aoki and Pogroszewski (1998) developed a virtual campus model that presents the four major components of a virtual campus as: (a) administrative services, (b) student services, (c) resource services and (d) faculty services, with the student as the focus of the model. Under the current system, many of these services are only accessible through traditional methods. A virtual campus should provide students with an educational environment that is synonymous with the traditional campus.

Gellman-Danley and Fetzner (1998) stated that "as institutions strive to provide quality alternative instructional delivery ….two areas often receive little attention - policy and planning" (p.1). In response to this concern, the researchers develop a model that identifies seven policy development areas and the key issues of a virtual campus environment. The focus of the model is the student. The objective is to "provide a framework for operation" (p.2) as well as to create an awareness of the roles and responsibilities of all stakeholders so that there is no distraction from the primary goal of effective teaching and learning. Table 3 presents the policy development areas as well as an explanation of the key areas.

Educational institutions are utilizing the Internet to deliver education. Some of the driving variables are cost savings, timesavings, student demands, competition, convenience, accessibility, and availability of technology (Aoki & Pogroszewski, 1998; Berge, 1998; McLendon & Cronk, 1998; Palloff & Pratt, 1999). McLendon & Cronk (1998) argue that administrative systems were developed to serve traditional students, not web-based students. Effective and efficient delivery of education in a web-based campus environment is dependent on the development of systems that provide the same quality of "administrative services, student support services, resources, and instruction" (Aoki & Pogroszewski, p.4) that traditional campuses offer (McLendon & Cronk).

Summary

In today's environment, there are many universities, colleges, and corporations involved in some type of distance education (Moore & Kearsley, 1996). The most recent development in adult distance education is web-based education that utilizes the Internet, and the World Wide Web (Brown & Brown, 1994). Many adult educators are concerned

about the level of quality being offered in these web-based programs and courses (Hensrud, 2001).

Table 3

Policy Development Areas for Distance Learning

Policy Development Area	Key Issues
Academics	Academic calendar, course integrity, transferability, transcripts, evaluation process, admissions standards, curriculum approval process, accreditation.
Fiscal	Tuition rate, technology fee, state regulations
Geographic	Regional limitations, local versus out-of-state tuition
Governance	Board oversight, staffing, existing structure
Labor-Management	Compensation and workload, development incentives, intellectual property, faculty training
Legal	Fair use, copyright, faculty, student and institutional liaison
Student Support Services	Advisement, counseling, library access, materials delivery, student training, testing

Most literature on quality of web-based programs offers case studies that are anecdotal and are not usually generalizable (Yeung, 2001). There are only a few studies that were identified that offer empirical data on quality web-based adult education.

Several recent studies have been conducted to identify the various indicators of quality in web-based education (Hensrud, 2001; Phipps & Merisotis, 2000). However, there is still little known about the quality of programs that offer web-based adult education (Hensrud).

CHAPTER III

THE METHODOLOGY

The purpose of this chapter is to describe the methodological details that were designed to answer the following questions:

1. How do adult educators rate their web-based programs with respect to specific quality indicators?
2. What are the empirical dimensions of program quality?
3. What types of programs exist with respect to the empirical dimensions of program quality?

This chapter is organized into six sections (a) conceptual framework, (b) instrumentation, (c) study sample, (d) data collection, (e) data analysis, and (f) limitations.

Conceptual Framework

Web-based education is a new paradigm for adult education that utilizes information technologies such as the Internet and the World Wide Web (Brown & Brown, 1994). This new paradigm offers students the opportunity to engage in educational activities that are convenient and adaptable without the traditional barriers of time and space (Thompson, 1998; Thorton, 1999; Willis, 1994). Consequently, the demand for web-based adult education is growing. As a result of this demand, many colleges and universities are offering web-based programs and courses (Thorton). With the new paradigm, come new challenges. One challenge is the conception of quality in web-based programs and courses (Hensrud, 2001).

Several studies have defined dimensions of quality through case studies (Phipps, Wellman, & Merisotis, 1998) and empirical data (Hensrud, 2001; Phipps & Merisotis, 2000) However, the literature was found to be void in respect to empirical research that utilized the quality dimensions to develop a typology of programs being offered in web-based adult education. The researcher proposes that there is need to conduct an empirical based exploratory study to develop a typology for web-based adult education.

When this study began, there were not any published studies providing a framework for understanding quality in web-based adult education. Since that time several frameworks have been published (Phipps, Wellman, & Merisotis, 1998; Phipps & Merisotis, 2000; Hensrud, 2001). Because the current research was not available at the time this research began the logical approach to development of this study was one of pure induction.

There was a need to identify a framework that could be used to guide this study. It was in the work of Reed and Sork (1990) a program planning framework was identified to map and guide the inductive item identification process. The framework consisted of six program planning tasks that Reed and Sork identified as ethical considerations in distance education. Utilizing the six tasks, an exploratory review of the literature was initiated to identify specific quality indicators pertaining to web-based adult education. Because the quality constructs had not been well defined within the literature, an inductive approach was utilized to identify patterns of quality indicators within the literature. Reed and Sork's (1990) six program planning tasks are presented in Table 4.

Instrumentation

A researcher-designed instrument was developed for the purpose of gathering perceptions of quality in of web-based adult education. The instrument was a mailed, self-completion survey designed for adult educators to self-report on the quality of their institutions. There were seven major steps in the development process of the study instrument. The seven steps are summarized in Table 5. A copy of the studies survey instrument is included in Appendix A.

Table 4

Reed and Sork's Six Program Planning Tasks

Six Program Planning Tasks
1. Admissions, Intake and Retention of Students
2. Course Development and Presentation
3. Program and Course Marketing
4. Program and Course Administration
5. Learner/Facilitator Interaction
6. Evaluation

Concept Clarification

The first step, concept clarification, involved defining what was meant by quality of web-based adult education. Effective program planning is a decision making process and requires that quality in web-based education be considered, worked toward, and monitored (Sork & Caffarella, 1989). Quality in this regard is the extent to which web-

based programs achieve the identified benchmarks of effective program planning (Hensrud).

Table 5

Study Survey Instrument Development Process

Concept Clarification
Development and refinement of item pool
Construction of final survey instrument
Review of survey instrumentation
Distribution and data collection of pilot survey
Review of pilot survey instrument results
Construction of response scale
Addition of background items

Development and Refinement of Item Pool

The second step, development and refinement of the pilot survey item pool, began with the cluster of the tasks identified by Reed and Sork (1990). The six clusters of tasks were used as the initial organizational tool. A comprehensive outline was created from the research conducted by Reed and Sork and items were classified within each of the six tasks. The identified items resulted in a total of 55 quality indicator items as detailed in Table 6.

The potential list of items identified through the analysis of Reed and Sork (1990) was expanded. This was accomplished by reviewing the literature in the following areas: (a) ethical issues in adult education, distance education, higher education, as well as education in general; (b) distance education; (c) web-based campus and classrooms;

Table 6

Quality Indicator Items Identified by Reed and Sork

Cluster of Tasks	Number of Items Identified
Admissions, Intake and Retention of Students	20
Course Development and Presentation	7
Program and Course Marketing	5
Program and Course Administration	4
Learner/Facilitator Interaction	13
Program, Course, and Learner Evaluation	6
Total Items Identified	55

(d) virtual campus and classroom; and (e) on-line teaching and learning. The number of potential items increased to 139 as a result of the literature review. The initial list was then refined by five separate groups of reviewers: the researcher (Harroff) and the dissertation supervisor (Valentine); a panel of adult educators (group 1); a panel of adult distance educators; expert review (group 1); a panel of adult educators (group 2); expert review (group 2). The item pool development and refinement process is summarized in Table 7.

Item Pool Development by the researcher

The researcher's goal was to identify as many items as possible that assist in the understanding of quality as it pertains to web-based adult education. One factor that was taken into consideration when developing the item pool was content validity. To insure

Table 7

Survey Item Pool Development and Refinement Process

Description	Number of Items
Item pool development by Harroff	
Reed and Sork	+55
Literature Review	+84
Potential item in pool	139
Item pool refinement by Harroff and Valentine	
Item critique session	No Change
Provisional item in pool	139
Pre-pilot review of online pilot survey instrument	
Adult Educators (group 1)	-71
Web-based educators	No Change
Final items in the online pilot survey	68
Review of mailed self-reporting survey instrument	
Expert Reviewers (group 1)	-17
Adult Educators (group 2)	+ 1
Expert Reviewers (group 2)	-11
Final items in pilot survey	41

content validity the researcher utilized multiple authoritative sources to identify survey instrument items (Perdue, 1999). A literature retrieval was conducted through the use of a

computer- based literature search, which included the Educational Resources, Information Clearinghouse (ERIC), Dissertation Abstracts International, the University of Georgia's GALIN on-line system, the State of Georgia's GALILEO on-line system, Amazon.com, University of Wisconsin-Extension Distance Education Clearinghouse and the International Centre for Distance Learning literature database. Descriptors used to guide the searches included:" ethics and adult education"; "ethics and distance education"; "ethics and technology"; "ethics and virtual campus"; "ethics and web-based education"; "code of ethics and adult education"; "distance education"; "virtual campus"; "virtual classroom"; "web-based education"; and "adult education". The searches identified articles, books, presentations, and dissertations that were reviewed for implied as well as explicit items. One hundred and thirty-nine potential items were identified that are believed to be applicable to web-based adult education.

Item Pool Refinement by the Researcher and Dissertation advisor.

The next step was to review the 139 potential items in collaboration with the dissertation advisor. The purpose of the collaboration was to carefully review the potential items for clarity of wording and logic of classification. It was agreed that at this time no attempt to eliminate items for redundancy or to add any additional items would be attempted. A panel of expert reviewers could accomplish these tasks more effectively and efficiently. The goal was to create a clear and logical list of potential items to be presented to the reviewers.

The first task was to clarify the wording of the 139 items. Each item was reviewed for ease of understanding, consistency in wording and academic colloquialisms. Through this process it was discovered that some of the wording was confusing and relevant only

for an academic environment. The subjects to be surveyed had not yet been determined but it was highly likely that the instrument would be distributed to environments other than academics. The environments under consideration were training organizations, corporate for- profit organizations, non-profit organizations, as well as other environments involved in adult education. Inconsistencies in the use of terms such as virtual courses, web-based courses, and distance education courses were also discovered. It was determined, for the purpose of reliable interpretation by the respondents, that some of the questions would need to be reworded in lay terms, which are more easily understood outside the academic environment. Common terms, such as web-based programs, were identified so that they would be consistently applied through out the list of potential items.

The second task was to present the items in a logical format. It was decided that while Reed and Sork's (1990) organizational format was useful in the construction of the item pool it was no longer relevant to the instrument presentation. The items needed to be presented in a less complex format so that reviewers would not be distracted by the classifications. The result of the second task was to divide the item pool into two sections (a) Organizational Practices and (b) Individual Practices. The collapsed topic areas seemed at this time to be more representatives of the instrumentation goals. Each item was reviewed and reclassified within the two sections. The determination of classification into which an item would be placed was based on experience and professional judgment. The results indicated 111 potential items in the Organizational Practice section and 28 potential items in the Individual Practice section.

Item Pool Refinement by a Group of Adult Educators

The next step was to present the potential item pool to a group of adult educators. Four adult educators participated in the item pool refinement process. Each of the individuals was asked to participate because of their experience with technology and the web-based environment. Three of the participants were adult educators. Two of the three were experienced with web-based research. The fourth participant worked in a technical adult education environment. These individuals were briefed on the background of the study by the researcher and then tasked by the dissertation advisor to accomplish four tasks. The first task was to identify additional items. The second task was to review items for appropriateness to study. The third task was to reword items for clarity. The final task was to eliminate items due to redundancy.

As a result of the review, the pool of potential items was reduced to 68. This included the addition of 11 items, the elimination of 82 items identified as inappropriate or redundant, and rewording of almost all of the items for the purpose of clarity for the survey participants. The reviewers further suggested that the survey would have greater clarity in presentation if the items were grouped into the functional areas. Using Reed and Sork (1990) once again as an organizational tool, six areas of web-based adult education were identified. Each of the 68 items was allocated to one of the six areas. The allocation was based on experience and professional judgment of the researcher and advisor.

A second review of the survey was conducted by a group of web-based adult educators and resulted in the survey items remaining at 68. The reviewers' feedback included clarification of terms, consistent application of terms as well as rewording of a few items. Over all the response of the reviewers was positive. One adult educator stated

that "It (the survey) gave me some good ideas for things I should be attending to in my course (web-based course)". Another reviewer said" …I am very impressed. I particularly like the 'look' it (the survey) has. How did you do that?" Yet a third individual stated "The survey looks great. The questions seem very clear and easy to read. I really like the format and it is most appropriate to address this audience on-line!"

It was decided that a pre-pilot online survey would be distributed for the purpose of testing the instrument for response rate and validity. With the assistance of several individuals at the University of Georgia, the pilot survey was published on the Internet in early June by utilizing a web-based platform licensed through the University of Georgia. Ninety-five potential respondents were identified, 20 of which responded to a list-serv posting in May of 2000 and 75 of which were attendees at a distance education conference in June of 2000. The first week of July 2000, each of the potential respondents received an invitation via e-mail requesting his or her participation in the online survey. By the end of July 2000, ten completed surveys had been returned. During the first week of August 2000, a reminder was sent to the 95 potential respondents. By the end of September 2000, only 19 surveys had been completed. The online survey instrument was disabled at the end of September 2000.

After some reflection on the data collection process and the inadequate response rate, it was proposed and accepted by the committee that the delivery mode be changed to a mailed, self-completion survey.

As a result of the return rate of the pilot survey and change in the delivery mode, it was determined that the mailed, self-completion survey instrument needed to once again be reviewed for appropriateness, clarity, and redundancy. In order to accomplish

this, a paper survey was developed from the 68 items presented in the online survey. For the purpose of the expert review only, the items were randomized and a Likert scale of "not important to extremely important" on a four-point scale was utilized. Twelve surveys were distributed to experts in the field of web-based education for adults. Six of the surveys were returned and analyzed by (a) calculating the mean for each item, (b) identifying the frequency of each point on the Likert scale, and (c) sorting the items from the highest mean to the lowest mean.

The frequency of the responses in each of the Likert scale points was reviewed. Items were retained based on identifying questions that totaled greater than 5 in frequency in the Likert scale points of important and extremely important. Seventeen questions were eliminated resulting in a revised 51-item survey.

The next step was to conduct a panel review with five adult educators, three graduate students, researcher, and dissertation advisor. The purpose of the review was to test for clarity, understandability, and workability of the survey. Respondents were briefed on the background of the study and the purpose of the panel review. They were then instructed to complete the survey and note any concerns or comments. Following completion of the survey, the individuals were asked to share any concerns and comments they had noted. The majority of the participants stated that many of items were difficult to understand and that they found themselves reading an item several times before they were sure what was being asked. It was suggested that for additional clarity and understandability items should be categorized by major area. Several of the participants found the response scale, not effective to extremely effective, somewhat difficult to reconcile with the items. As a result of the panel review 1 item was added,

increasing the number of items to 52. Many of the items were reworded to achieve simplification in clarity and understandability. Items were grouped into 6 major categories and the response scale was re-evaluated.

After incorporating the changes recommended by the panel, the survey was reviewed for redundancy and workability. As a result of the follow-up review eleven items were eliminated, reducing the number of items to 41. The survey instrument categories were reduced to 4. The response scale was changed to a six-point Likert scale, strongly disagree to strongly agree. The title and description of the four categories are presented in Table 8.

Table 8

Final Survey Instrument Categories

Title	Description
I. Student Information.	Items that focus on student needs and requirements
II. Instructional Support and Supervision	Items that focus on faculty needs, requirements, and supervision
III. Instructional Materials and Methods	Items that focus on materials and methods used in the delivery of instruction
IV. Evaluation	Items that focus on evaluation tools and usefulness of the evaluation

The extensive process of instrument development that included an extensive review of the literature; numerous reviews by adult educators and distance educators; and extensive reviews by the researcher and dissertation supervisor served to eliminate items for redundancy and to clarify instrument language. The result was a 41 item survey instrument. A copy of the survey instrument can be found in Appendix A.

Construction of response scale

The third task in the survey instrumentation development process was to design an optimal format to capture respondent data. Several formats were developed and evaluated before it was decided to use a six-point Likert scale bounded by "Strongly Disagree" (1) and "Strongly Agree" (6). Respondents' attention was focused on quality indicator items with the following instructions:

> As you complete the survey, please base your responses exclusively on the ***web-based courses*** offered by your organization. Circle the ***one*** number that indicates the extent to which you agree with the following statements.

An example of the response scale as it appeared on the finalized pilot instrument is illustrated in Table 9.

Addition of background items

The survey instrument included 13 background items selected for the purpose of collecting background information on the study participants. The background items included personal, organizational and student population variables. These variables were selected to facilitate the analysis of the third research question ("What types of programs exist with respect to the empirical dimensions of program quality?") as well as describe the survey participants, their student population and organization.

Table 9

Survey Instrument Response Scale

	Strongly Disagree ⟷ *Strongly Agree*					
I. Student Information						
1. Students receive realistic information about the costs of web-based courses……	1	2	3	4	5	6
2. Students receive realistic information about financial aid……	1	2	3	4	5	6

The personal variables gathered information on age, job title, gender, as well as race/ethnicity of respondent. The organizational variables gathered information on type of organization (i.e. higher education, business, and government), degree of involvement in web-based education, public or private, degree granting or non-degree granting, years of involvement with web-based education, and number of students served through web-based education. The student characteristics variables gathered information on average age of student, student's prior college experience, and percentage of female and male students.

In summary, the personal, organizational, and student characteristic variables collected data that would allow for characterization of sample, types of organizations as well as characterization of the student population being served by the organization. A copy of the background items is included with the survey instrument in Appendix A.

Study Sample

The population of interest for this study were adult education administrators and educators involved in web-based courses and programs. A database was created by compiling attendee lists from the following distance education and technology conference. A conference list is presented in Table 10.

Table 10

Conference List

Conference Title	Date
University of Wisconsin 1999 Distance Teaching and Learning Conference	August 1999
The College Board: Delivering Online Courses to Adult Students	May 2000
Georgia Distance Learning Association: Distance Learning in the New Millennium Conference 2000	September 2000
Mid-South Instructional Technology Conference	April 2001

A database of approximately 1788 potential participants was created. It was determined that approximately 205 useable surveys were needed for the final instrument analysis. By utilizing the model of Salant and Dillman (1994) it was estimated that a sample size of 950 was needed to achieve the return of 205 useable surveys. The model and the determining calculations are presented in Table 11.

A convenience sample was statistically developed from the population of administrators and educators (N=~1788) who had attended distance education conferences. Using a random number generator, each individual listed in the database of

1788 potential participants was randomly assigned a number between 1 and approximately 1788. The database was then sorted by the random number, in ascending order. The first 1000 potential participants were identified as the convenience sample for this study.

Table 11

Salant and Dillman Model and Sample Calculations

Model	Calculations
Number of final surveys needed	41 items multiplied by a "rule of thumb" of 5 = 205
Assumption 1 - 80 percent of the mailed surveys will reach the potential participants	205 divided by .80 = 256
Assumption 2 - 30 percent of the remaining mailed surveys will be completed and returned	256 divided by .30 = 854
Assumption 3 - 10 percent of the returned surveys will be illegible or incomplete	854 divided by 1-.10 = 949

The respondents ranged in age from 26 to 67, with a mean age of 47.4 years. The respondents were 48.6% female and 51.6% male. A majority (92.5) of the respondents were Caucasian. Of the remaining respondents 2.5% were African American, 2.0% were Hispanic, 2.0% were Asian, and 1.0% were Multi-racial. A summary of the personal

characteristics of the respondents completing the survey instrument is provided in Table 12. A complete listing of the job titles reported by participants is presented in Appendix F.

Table 12

Personal Characteristics of Study Respondents (n=251)

Variable	Value
Age (in years)	Mean = 48.26, SD = 9.36
Gender	
Female	48.4%
Male	51.6%
Race	
White/Caucasian	92.5%
Black/African American	2.5%
Asian	2.0%
Hispanic	2.0%
Multi-racial	1.0%
Job Titles	
Professor/Support Staff	49.4%
Dean/AdministratorsDepartment	40.0 %
Other/Missing	10.6%

As reported by respondents, a majority were associated with higher education (89.7%). A majority of the organizations reported that they delivered a both traditional as

well as web-based courses (96.4%) leaving only a small minority offering only web-based courses (3.6%). A majority of the organizations were public (82.7) and degree granting (88%). The mean numbers of years organizations have offered web-based adult education was 4.1 years and the mean number of students involved in web-based adult education was 1606.7 students. A summary of the description of organizations is presented in Table 13.

The adult student populations enrolled in courses or programs in which respondents worked were reported as some or most having prior college education (96%). Some or most were older than 24 years of age (99.1%). The majority of the students were female (56.3%). A summary of the student population is presented in Table 14.

In summary, the average age of the respondents were 48 years. The majority of the respondents were white/Caucasian (92.6%) with a few more males than females (51.6%). The majority of the respondents were faculty or administrators (69%) involved in higher education offering traditional as well as web-based adult education. The majority of the organizations were public (82.7%) and degree granting institutions (88%). The adult student population served by the reported organizations most had some prior college education (96%). Most students were older than 24 years of age (99.1%) and a greater number were female (56.3%).

Data Collection

The data collection process closely followed the model developed by Salant and Dillman (1994). Data were collected by means of a mailed, self-completion survey designed for adult educators to self-report on the quality of their organizations. This

research followed the model designed by Salant and Dillman, which recommends four mailings. The first mailing was an advanced notice postcard that was used to notify

Table 13

Description of Organizations

Variables	Values
Type of Organization	
Elementary/Secondary	2.2%
Higher/Post Secondary Education	89.7%
Business/Industry	1.3%
Government Agency	4.5%
Other	2.2%
Curriculum Delivery	
Web-based courses exclusively	3.6%
Web-based courses and traditional courses	96.4%
Public vs. Non-public	
Public	82.7%
Private-not-for-profit	13.8%
Private-for-profit	3.5%
Degree-granting vs. Non degree granting	
Degree granting	88.0%
Non degree granting	12.0%
Number of years offering web-based courses	Mean = 4.11, SD = 2.04
Number of students taking web-based courses per year	Mean = 1606.75, SD = 3996.48

Table 14

Description of Student Population

Variables	Value
Prior College Education	
None have prior college education	4.0%
Some have prior college education	49.3%
Most have prior college education	46.7%
Age	
None are older than 24 years old	.9%
Some are older than 24 years old	52.0%
Most are older than 24 years old	47.1%
Gender	
Female	56.3%
Male	43.7%

potential participants that a survey instrument was being mailed to them for their potential involvement. The postcard concisely summarized the research and asked potential participants for their help in conducting this research by completing and returning the study survey instrument. The postcard was mailed to the 1000 potential participants one week prior to the mailing of the study survey instrument. Each of the postcard mailing labels was numbered in correspondence with the sample database in order to identify returned postcards. When postcards were returned because they were

undeliverable the potential participant was eliminated from the sample database. A copy of the advanced notice postcard is presented in Appendix B.

The second mailing was the distribution of the study survey instrument, a survey cover letter as well as a stamped, numbered return envelope. In order to identify surveys that were return as undeliverable, each mailing label once again was numbered in correspondence with the sample database in order to identify returned surveys. When surveys were returned because they were undeliverable the potential participant was eliminated from the sample database. In addition, each survey and return envelope was numbered in correspondence with the sample database in order to identify surveys that were completed and returned. Respondent's confidentiality was maintained through the following process: As surveys were returned, the pre-numbered envelopes were used to identify surveys that were returned. Participants identified as having returned their completed survey were removed from the database to ensure they did not receive any future mailings. The envelopes and surveys were then separated and the data from the survey was entered in to a SPSS database to be used for future analysis. The sample database and the results were maintained in a secure location in order to ensure confidentiality (method adapted from Perdue, 1999). A copy of the cover letter is presented in Appendix C. A copy of the final survey instrument is presented in Appendix A.

As shown in Appendix E, the cover letter included in the second mailing explained the following points:

- University of Georgia Institutional Review Board policies concerning human subjects

- Survey participants' name or any other identifiers would not be associated with completed survey
- Confidentiality of individual responses would be maintained and survey results would be reported in aggregate
- Summary of the results will be available to respondents upon request.

The third mailing was a follow-up postcard reminding participants of the study survey instrument that had been mailed several weeks earlier. The postcard thanked those who might have already completed and returned their survey. It went on to ask those who had not competed their survey to please consider participating in this important study. This postcard was mailed two weeks after the study survey instrument. A copy of the follow-up postcard is presented in Appendix D.

The fourth and final mailing consisted of a replacement study survey instrument, a stamped return envelope, and a follow-up cover letter. The cover letter once again requested potential participants to complete and return the enclosed survey. As in the prior mailing of the study survey instrument, each survey and return envelope was numbered in correspondence with the sample database in order to identify surveys that were completed and returned. The replacement survey and follow-up cover letter was mailed one week after the follow-up postcard. A copy of the follow-up cover letter is presented in Appendix E.

In summary, the collection of data consisted of four mailings: an advanced notice postcard; cover letter and study survey instrument; follow-up postcard; follow-up cover letter and study survey instrument. The multiple mailings resulted in a return rate that exceeded the target set forth of 205 useable surveys. Of the 1000 survey instruments that

were distributed, 251 useable surveys were returned. If it was intended to conduct statistical generalization, this return rate would be problematic. However, as will be discussed in the subsequent limitation section we were forced to settle for a large diverse sample without the ability to generalize and there could be response bias in data collected.

Data Preparation

SPSS 10.0, a statistical analysis software package, was used to tabulate and analyze survey results. Prior to mailing, each survey and return envelope was labeled with corresponding identification numbers and a study survey instrument coding guide was developed in order to explain in detail how responses were coded and entered into the SPSS program. In addition, all written responses to the question asking for current job title were transcribed and referenced by respondents' identification number. A copy of the study survey instrument coding guide is presented in Appendix G. A complete listing of the job titles reported by participants is presented in Appendix F.

Data Analysis

Data analysis was conducted using SPSS 10.0 statistical software package. The statistical analyses selected were identified to yield the output needed to address the three research questions:

1. How do adult educators rate their web-based programs with respect to specific quality indicators?
2. What are the empirical dimensions of program quality?
3. What types of programs exist with respect to the empirical dimensions of program quality?

The first research question "How do adult educators rate their web-based programs with respect to specific quality indicators?" was addressed by rank ordering the 41 quality indicator items. The mean of each of the quality indicator items were calculated. The results were tabulated and ranked from highest to lowest.

The second question "What are the empirical dimensions of program quality?" was addressed by the utilizing exploratory factor analysis. This process involved the examination of the covariation between the 41 quality indicator items to determine if there were common, underlying factors present. Exploratory factor analysis was utilized to study the patterns of relationship among the 41 quality dependent variables. The goal was to discover a simple pattern by reducing the number of variables to a much smaller number of inferred independent variables called factors (Darlington, 2002). A Varimax rotation was used in 9 terminal factor solutions ranging from 2 to 10 factors. An analysis of each of the solutions was examined for conceptual meaningfulness. The analysis was guided by the following criteria: (a) ability to interpret meaning, (b) minimization of crossloaders, (c) avoidance of factors containing too few items (George & Mallery, 2001; Perdue, 1999).

After the factor solutions were selected, factor scores were computed for each individual factor. Once the factors were identified, SPSS procedure was employed to calculate complete estimation factor scores. The factor scores are expressed as Z scores with a mean of zero and a standard deviation of one. In addition to the factor analysis, secondary analysis was conducted in order to further observed factors as they related to the studies independent variables.

The third question "What types of programs exist with respect to empirical dimensions of program quality?" was addressed by utilizing cluster analysis to develop a typology of the quality indicators of web-based adult education. The factor solution chosen to address research question number two was employed to organize the 251 observed cases into a meaningful number of clusters using k-means clustering. The k-means cluster is a disjoint cluster analysis in which each observed case of the sample is assigned to one cluster group. Clusters of two through six were calculated and examined for the output that offered the most conceptual clarity. Once the appropriate cluster was identified as offering the most conceptual clarity, each factor, in each cluster was analyzed based on a Z-score. The Z-score format is based on 5-point quality scale: very low quality (<-1.0), low quality (-.50 to -.99), average (-.499 to +. 499), high (+. 50 to +. 99), and very high (> +1.0). In addition to the cluster analysis, secondary analysis was conducted in order to further observed clusters as they related to the studies independent variables.

Limitations

It was the intent of this study to identify a national database for sampling purposes. The United States Association of Distance Learning (USADL) and the Distance Teaching and Learning Conference at the University of Wisconsin were contacted for the purpose of inquiring about the availability of a database to be used for research purposes. Neither organization was able to release membership information due to internal policy and privacy guidelines. In a final initiative to identify a national database, suggestions were solicited from within the University's Adult Education

Department and the Instructional Technology Department. Unfortunately, we were unable to locate a national database.

This study utilized a large diverse sample of convenience that was selected from a population of attendees to four distance education and technology conferences. Because the sample used in this study is a sample of convenience, any strict statistical generalization of the data results is precluded. This study will not be generalizable to all areas of web-based adult education. Any generalization on the part of the reader must be done with logic and caution. This limitation provides the biggest threat to research question one. The results of research question one should be considered suggestive at best.

The participants in this study were primarily representative of public community colleges and universities from forty-seven of the states within the United States of America. An examination of the sampling frame revealed approximately 36% of the participants were from the southeastern United States and 37% of the participants from the midwestern United States. Of the remaining participants, approximately 10% were from the northeastern United States and 17% were from the western United States. As a result of the regional representation in this sample of convenience, with the majority of participants from the southeast and the midwest, any strict statistical generalization of the data results is precluded. This study will not be generalizable to all areas of web-based adult education. Any generalization on the part of the reader must be done with logic and caution.

CHAPTER IV

THE FINDINGS

The purpose of this study was to understand the quality indicators of web-based adult education. In order to accomplish this, Chapter IV presents the results of the statistical analysis described in Chapter III. Results of the analysis are presented as related to the three research questions:

1. How do adult educators rate their web-based programs with respect to specific quality indicators?
2. What are the empirical dimensions of program quality?
3. What types of programs exist with respect to the empirical dimensions of program quality?

Findings Related to Research Question #1

The first research question asked, "How do adult educators rate their web-based programs with respect to specific quality indicators?" The mean of the 41 quality items ranged from 2.68 to 4.27 on a 1 (strongly disagree) to 6 (strongly agree) point-scale. Twenty-nine of the 41 quality items demonstrated a mean at or above 4.0. Eleven of the 41 quality items demonstrated a mean between 3.99 and 3.0. Only one quality item demonstrated a mean below 3.0. A complete rank order listing of items can be found in Table 15.

Table 15

Rank Order Listing of Quality Indicator Items

Rank	Item#	Item	M	SD
1	3	Students receive realistic information about the software required for our web-based courses	4.87	1.17
2	38	Students are able to evaluate our web-based courses anonymously	4.87	1.46
3	4	Students receive realistic information about hardware required for our web-based courses	4.85	1.18
4	1	Students receive realistic information about the costs of web-based courses	4.85	1.39
5	34	Our instructors provide clear information about course requirements and assignments	4.84	1.06
6	27	Our web-based course materials are designed to support independent learning	4.78	1.06
7	30	Our instructors encourage students to be independent learners	4.75	1.06
8	11	Students receive adequate information about our admission procedures	4.74	1.23
9	2	Students receive realistic information about financial aid	4.66	1.25
10	9	Students receive realistic information about how long it takes to complete our web-based courses	4.64	1.30

Rank	Item#	Item	M	SD
11	35	Our instructors provide *timely* feedback on student course work	4.57	1.14
12	24	Our web-based courses are developed based upon clearly stated learning outcomes	4.57	1.23
13	32	Technologies used in our web-based courses are effective	4.54	1.07
14	36	Our instructors provide *high quality* feedback on student course work	4.52	1.06
15	26	Our web-based course materials are designed to encourage critical thinking	4.50	1.12
17	31	Instructional strategies used in our web-based courses are effective	4.44	1.05
18	37	Our instructors truly meet the learning needs of web-based students	4.39	1.14
19	18	Instructors have access to technical support staff to help with the development of web-based courses	4.36	1.48
20	17	Instructors have access to up-to-date training in the effective use of technology	4.34	1.35
21	40	Our instructors are provided with useful information from course evaluations	4.33	1.45
22	41	Our course evaluations include questions about the effectiveness of the technology used	4.32	1.62

Rank	Item#	Item	M	SD
23	39	Our course evaluations are appropriate for web-based courses	4.31	1.53
24	5	Students have access to quality technical assistance, either on-line or through a telephone help-line	4.27	1.48
25	19	Instructors have access to technical support staff to help with the delivery of web-based courses	4.25	1.53
26	20	Instructors are given enough notice of upcoming courses to allow for adequate preparation	4.25	1.37
28	21	Instructors have access to training in effective web communication skills	4.12	1.39
29	8	Students receive realistic information about the minimum level of technical knowledge necessary for our web-based courses	4.11	1.28
30	33	Extra help is available to web-based students who are having trouble	3.96	1.40
31	14	Instructors are given information about copyright laws pertaining to the web environment	3.92	1.55
32	7	Students receive realistic information about the special demands that web-based courses place on students	3.90	1.32
33	28	Our web-based course materials are designed to accommodate the cultural differences among students	3.82	1.25

Rank	Item#	Item	M	SD
34	29	Our web-based course materials are designed to accommodate the special needs of some students	3.70	1.28
35	12	Instructors are compensated for web-based course development	3.69	1.82
36	6	Students have access to quality on-line advisement	3.66	1.52
37	13	Instructors are given adequate credit for web-based instructional materials they develop	3.49	1.67
38	23	Administrators dedicate adequate resources to the delivery of quality web-based courses	3.24	1.65
39	16	Web-based instruction is fairly considered when making promotion decisions	3.18	1.49
40	22	Administrators understand the special demands of web-based instruction	3.06	1.58
41	15	Instructors are compensated for the additional time demands of web-based teaching	2.68	1.55

The ten highest rank ordered quality indicators were self-reported by adult educators as their organizations most effective quality indicators. Of the ten highest rank-ordered quality indicators, 6 of the 10 items focus on the quality of advance information received by potential web-based students as they relate to information received pertaining to financial and academic indicators. The remaining 4 items of the 10 highest rankings focus on the quality of instruction and course materials (3/10) and quality of course evaluation (1/10).

The ten lowest rank ordered quality indicators were self-reported by adult educators as their organizations least effective quality indicators. Of the ten lowest rated quality indicators, 6 of the 10 items focused on the administrative support and faculty recognition. The remaining four items focused on quality of instruction and course materials (2/10) and quality of student advisement (2/10).

Findings Related to Research Question #2

The second research question asked, "What are the empirical dimensions of program quality?" Exploratory factor analysis was utilized to study the patterns of relationship among the 41 quality dependent variables. The goal was to discover a simple pattern by reducing the number of variables to a much smaller number of inferred independent variables called factors (Darlington, 2002). A Varimax rotation was used in nine terminal factor solutions ranging from two to ten factors. An analysis of each of the solutions was examined for conceptual meaningfulness (Perdue, 1999). Ultimately, the six-factor solution was selected. This solution captured 65% of the variance observed in the 41 quality variables.

Three of the 41 quality variables, items 14, 20 and 30, did not load on any of the six factors at the .50 criterion level. The factor loading was highest on factor two, quality of administrative recognition, for item 14 with a loading value of .457 and item 20 with a loading factor of .416. Factor loading was highest in factor three, quality of advisement, for item 33 with a loading factor of .453. Table 16 presents the three non-loading factors.

Table 16

Non-loading Quality Indicator Items by Highest Factor Loading

Item #	Quality Indicators	Factor Loading	Loading Value
14	Instructors are given information about copyright laws pertaining to the web environment	II	.457
20	Instructors are given enough notice of upcoming courses to allow for adequate preparation	II	.416
33	Extra help is available to students in web-based courses who are having trouble	III	.453

Factor I: Quality of Instruction

The 13 quality items with primary loading on Factor I consisted primarily of perceptions related to the quality of web-based instruction for adults. Table 17 provides variable loadings and item means for Factor I.

Factor I includes quality indicators that focus on instruction and the interaction that occurs between the facilitator and the learner (Reed & Sork, 1990). Quality of instruction is depended on quality of interaction, quality of materials, and quality of the technology used to facilitate web-based adult education. Because the players, teacher and student, are separated from each other by time and space, the challenges of quality instruction for web-based adult education are fundamentally changed (Jarvis, 1997).

Table 17

Factor I: Quality of Instruction

Item #	Quality Indicators	Loading Value	Item Mean
37.	Our instructors truly meet the learning needs of web-based students.	.78	4.39
26.	Our web-based course materials are designed to encourage critical thinking.	.77	4.50
36.	Our instructors provide high quality feedback on student course work.	.77	4.52
31.	Instructional strategies used in our web-based courses are effective.	.74	4.44
30.	Our instructors encourage students to be independent learners.	.73	4.75
35.	Our instructors provide timely feedback on student course work.	.73	4.57
34.	Our instructors provide clear information about course requirements and assignments	.71	4.84
24.	Our web-based courses are developed based upon clearly stated learning outcomes.	.71	4.57
27.	Our web-based course materials are designed to support independent learning	.71	4.78

Item #	Quality Indicators	Loading Value	Item Mean
28.	Our web-based course materials are designed to accommodate the cultural differences among students.	.64	3.82
32.	Technologies used in our web-based courses are effective.	.63	4.54
25.	Our web-based course materials are carefully maintained and updated.	.63	4.48
29.	Our web-based course materials are designed to accommodate the special needs of some students.	.54	3.70

Factor II: Quality of Administrative Recognition

The six quality items with primary loading on Factor II consisted of perceptions related to administrative recognition of special demands of web-based instruction for adults, such as financial resources and recognition. Table 18 provides variable loadings and item means for Factor II.

Factor II includes quality indicators that focus on the support instructors receive from administration in terms of budgetary resources and recognition of the academic value of web-based adult education. Quality web-based adult education programs develop systematic approaches to administrative recognition of web-based adult education. Quality programs plan and implement appropriate levels of academic, administrative, and technological support for faculty. Monetary as well as human

resources are required to support the needs and expectations of faculty and administration (Aoki & Pogroszewski, 1998).

Table 18

Factor II: Quality of Administrative Recognition

Item #	Quality Indicators	Loading Value	Item Mean
15.	Instructors are compensated for the additional time demands of web-based teaching.	.76	2.68
22.	Administrators understand the special demands of web-based instruction.	.76	3.06
13.	Instructors are given adequate credit for web-based instructional materials they develop.	.75	3.49
16.	Web-based instruction is fairly considered when making promotion decisions.	.74	3.18
23.	Administrators dedicate adequate resources to the delivery of quality web-based courses.	.73	3.24
12.	Instructors are compensated for web-based course development.	.65	3.69

Factor III: Quality of Advisement

The six quality items with primary loading on Factor III consisted of perceptions related to the student advisement. Table 19 provides variable loadings and item means for Factor III.

Table 19

Factor III: Quality of Advisement

Item #	Quality Indicators	Loading Value	Item Mean
7.	Students receive realistic information about the special demands that web-based courses place on students	.72	3.90
8.	Students receive realistic information about the minimum level of technical knowledge necessary for our web-based courses	.70	4.11
6.	Students have access to quality on-line advisement	.61	3.66
10.	Students receive information about how to resolve problems concerning our instructors or courses	.58	4.16
9.	Students receive realistic information about how long it takes to complete our web-based courses	.57	4.64
5.	Students have access to quality technical assistance, either on-line or through a telephone help-line	.54	4.27

Factor III includes quality indicators that focus on the information and support web-based students receive from organizations. Information should give students a realistic perspective of the expectations of web-based education. Quality support for advisement, problem resolution, and technical issues should be made available to web-based students. The challenge for many organizations is to provide the same level of services and support that traditional on-campus learners receive (Aoki & Pogroszewski, 1998; Berge, 1998; Gellman-Danley & Fetzner, 1998).

Factor IV: Quality of Technical Support

The four quality items with primary loading on Factor IV consisted of perceptions related to the level of technical support offered to web-based instructors. Table 20 provides variable loadings and item means for Factor IV.

Table 20

Factor IV: Quality of Technical Support

Item #	Quality Indicators	Loading Value	Item Mean
18.	Instructors have access to technical support staff to help with the development of web-based courses	.80	4.36
19.	Instructors have access to technical support staff to help with the delivery of web-based courses	.78	4.25
21.	Instructors have access to training in effective web communication skills	.67	4.12
17.	Instructors have access to up-to-date training in the effective use of technology	.64	4.34

Factor IV includes quality indicators that focus on the assistance and training received in the development and delivery of web-based so that an instructor can focus on the quality of instruction. Instructors often lack the expertise to design and deliver a web-based course and effectively utilize technology. Organizations often lack the support staff needed to assist with technical, development, and training issues (Muilenburg & Berge, 2001).

Factor V: Quality of Advance Information

The 5 quality items with primary loading on Factor V consisted mainly of perceptions related to the quality of information potential web-based adult students receive prior to enrollment. Table 21 provides variable loadings and item means for Factor V.

Table 21

Factor V: Quality of Advance Information

Item #	Quality Indicators	Loading Value	Item Mean
2.	Students receive realistic information about financial aid	.76	4.66
1.	Students receive realistic information about the costs of web-based courses	.75	4.85
3.	Students receive realistic information about the software required for our web-based courses	.64	4.87
4.	Students receive realistic information about hardware required for our web-based courses	.63	4.85
11.	Students receive adequate information about our admission procedures	.58	4.74

Factor V includes quality indicators that focus on the information received by potential students pertaining to admission procedures, hardware and software requirements, and financial aid. Unfortunately, often the efforts to "sell" web-based education have the propensity to highlight the advantages and downplay the disadvantages (Zvacek, 1991). Quality web-based adult education programs are responsible for informing potential students of the availability of financial aid and the

costs associated with web-based education such as the required hardware and software (Muilenburg & Berge, 2001).

Factor VI: Quality of Course Evaluation

The 4 quality items with primary loading on Factor VI consisted of perceptions related to the opportunity for input from students regarding their web-based courses. Table 22 provides variable loadings and item means for Factor VI.

Table 22

Factor VI: Quality of Course Evaluation

Item #	Quality Indicators	Loading Value	Item Mean
41.	Our course evaluations include questions about the effectiveness of the technology used.	.80	4.32
39.	Our course evaluations are appropriate for web-based courses.	.80	4.31
40.	Our instructors are provided with useful information from course evaluations.	.72	4.33
38.	Students are able to evaluate our web-based courses anonymously.	.70	4.87

Factor VI includes quality indicators that focus on the program, course, and facilitator evaluation. Evaluations should be concerned with the qualitative and quantitative methods engaged in to evaluate the effectiveness and quality of a program or course. In addition, when technologies are utilized in the evaluation process, web-based programs are not only challenged to effectively evaluate web-based adult education

programs they are challenged in the areas of anonymity, privacy, and confidentiality (Holt, 1996). Organizations are challenged to find communication processes and methods that offer quality evaluation of programs, courses, and facilitators (Reed and Sork, 1990).

A mean-item-mean was calculated for each of the six quality dimensions for the purpose of gaining a deeper understanding of the relative importance of each of the six dimensions. This was accomplished by calculating the mean of each of the means with within each factor. The results of the mean-item-mean, on a scale of one (strongly disagree) to six (strongly agree) demonstrated the highest mean-item-mean of 4.79 for factor five, advance information. The lowest mean-item-mean of 3.22 is found in factor two, administrative recognition. The remaining mean-item-mean for factors one, three, four, and six resulted in the values of 4.45, 4.12, 4.27, and 4.46 respectively. Table 23 provides mean-item-mean for the six dimensions of program quality.

Findings Related to Research Question #3

The third research question asked, "What types of programs exist with respect to the empirical dimensions of program quality?" Cluster analysis was utilized to develop a typology of the quality indicators of web-based adult education. The 6-factor solution that was used to address research question #2 was employed to organize the 251 observed cases into a meaningful number of clusters using K-means clustering. The K-means cluster is a disjoint cluster analysis in which each observed case of the sample is assigned to one cluster group. Solutions of two through six clusters were calculated and examined for the output that offered the most conceptual clarity. Ultimately, the five-cluster analysis was selected. The five-cluster solution offered conceptual meaningfulness by observing an acceptable number of types of organizations that capture a variety of

Table 23

Mean-Item-Mean for Six Dimensions of Program Quality

Factor	Name	Mean-Item-Mean
I.	Quality of Instruction	4.42
II.	Quality of Administrative Recognition	3.22
III.	Quality of Advisement	4.12
IV.	Quality of Technical Support	4.27
V.	Quality of Advance Information	4.80
VI.	Quality of Course Evaluation	4.46

programs as well as retention of consistent program characteristics. In order to facilitate the interpretation of the findings, labels were assigned to scores at certain designated levels. The labels were assigned as: very low quality (<-1.0), low quality (-.50 to -.99), average (-.499 to +. 499), high (+. 50 to +. 99), and very high (> +1.0). The five clusters are presented in Table 24. Table 24 presents five distinct types of programs regardless of the order in which the cluster analysis identified them. The types of programs are presented according to number of organizations represented within each of the clusters, from the highest to lowest as indicated by the mane value of each cluster.

Type I: Programs Characterized by High Administrative Recognition

Type I, cluster 5, included 90 (36%) of the 251 observed cases. This cluster is highest in quality indicators for administrative recognition as related the other program types observed by this study. The remaining factors, as reported by respondents, are average in quality indicators:

Table 24

Results of Five-Cluster Analysis

Type	Cluster	N	%	Factor 1 Quality of Instruction	Factor 2 Quality of Administrative Recognition	Factor 3 Quality of Advisement	Factor 4 Quality of Technical Support	Factor 5 Quality of Advance Information	Factor 6 Quality of Student Input
I	5	90	36%	0.23 Average	0.91 High	0.40 Average	0.25 Average	0.05 Average	0.26 Average
II	4	62	25%	0.05 Average	-1.08 Very Low	0.35 Average	0.61 High	-0.04 Average	0.08 Average
III	3	40	16%	0.55 High	-0.48 Average	-0.20 Average	-1.48 Very Low	0.04 Average	0.17 Average
IV	1	36	14%	-0.16 Average	0.06 Average	-1.38 Very Low	0.37 Average	0.72 High	-0.47 Average
V	2	23	9%	-1.73 Very Low	0.06 Average	-0.02 Average	-0.62 Low	-1.26 Very Low	-0.78 Low
Mean-Item-Mean				4.42	3.22	4.12	4.27	4.80	4.46

Note: Factors are presented as Z scores. To allow for a comparison of clusters, the mean-item-mean is presented.

instruction, advisement, technical support, advance information, and course evaluation. Type I organizations, when compared to the other organizations, are the only organizations type that rated higher than average in administrative recognition as related to the other programs identified by this study. Quality of administrative recognition has an overall 3.22 mean value for all types of programs observed in this study. Type I organizations are rated overall higher than average in quality with an overall cluster mean value of 5.00.

Type II: Programs Characterized by Low Administrative Recognition and High Technical Support

Type II, cluster 4, included 62 (25%) of the 251 observed cases. This cluster is very low in quality indicators pertaining to administrative recognition and high in the area of technical support. The remaining factors are average in quality indicators: instruction, advisement, advance information, and course evaluation. Type II organizations, when compared to the other organizations, are the only organizations that rated higher than average in technical support for instructors and lower than average in administrative recognition. Type II organizations are rated overall average in quality with an overall cluster mean value of 4.17.

Type III: Programs Characterized by High Course Quality and Very Low Technical Support

Type III, cluster 3, included 40 (16%) of the 251 observed cases. This cluster is high in quality indicators for instruction and very low in technical support. The remaining factors are average in quality indicators: administrative recognition, advisement, advance

information, and course evaluation. Type III organizations, when compared to the other organizations, are the only organizations that rated higher than average in learner and facilitator interaction and very low in technical support for instructors. Type III organizations are rated overall average in quality with an overall cluster mean value of 3.75.

Type IV: Programs Characterized by Very Low Student Advising and High Advance Information

Type IV, cluster 1, included 36 (14%) of the 251 observed cases. This cluster is very low in quality indicators in the area of advisement and high in quality indicators in the area of advance information. The remaining factors are average in quality indicators: instruction, administrative recognition, technical support, and course evaluation. Type IV organizations, when compared to the other organizations, are the only organizations that rated very low in quality of advisement and high in advance information. Type IV organizations are overall average in quality with an overall cluster mean value of 3.98.

Type V: Programs Characterized by Low overall Quality

Type V, cluster 2, included 23 (9%) of the 251 observed cases. This cluster is very low in quality indicators in the area of instruction and advance information. This cluster is low in quality indicators in the area of technical support and course evaluation. The remaining two areas are rated as average in quality indicators: administrative recognition and advisement. Type V organizations are overall low in quality with an overall cluster mean value of 2.82.

Secondary Analysis

A correlation of factors and background items was conducted in an attempt to further explain the dependent variables. Pearson correlation coefficient was calculated for each of the six factors with each of the eight background variables: (a) exclusively web-courses versus a combination of web-based and traditional courses, (b) public institutions versus private organizations, (c) degree granting versus non-degree granting, (d) number of years offering web-based courses, (e) number of students taking web-based courses, (f) prior college experience, (g) age of students, and (h) percent of female/male students. No significant correlation was observed. Therefore it is concluded that the eight independent background variables are not determinates of the observed factors. Table 25 presents the results of the correlation of factors and background variables.

Item 42, type of organization, was not included in this correlation matrix due to the categorical format. In order to determine level of significance One-way ANOVAs were conducted. The results indicated no significant relationship between types of organizations and the seven factors utilized in the correlation matrix.

The relationship between cluster membership and each of the eight background variables was assessed. No significant correlation was observed. Therefore it is concluded that the eight independent background variables are not determinates of the observed factors.

A mean-item-mean for each factor was examined by job descriptions. The survey instruments participants were asked to furnish their current job description. The

Table 25

Factor Correlation Table of Dependent and Independent Variables

Dependent Variables	Statistical Value	Independent Variables							
		Web Courses	Public vs. Private	Degree Granting	Years Offering Web-based Courses	Number of Students Taking Web-based Courses	Prior College Experience	Age of Student	Gender of Student
		1= Offers web-based courses exclusively 2=Offers both web-based courses and traditional courses	1= Public 2= Private not for profit or for profit	1=degree granting 2=non-degree granting	Enter number of years	Enter number of students	1=None have prior college experience 2= Some have prior college experience 3= All have prior college experience	1=None are older than 24 2=Some are older than 24 3=all are older than 24	Enter percentage of female/male students
Factor 1 Instruction	r	.104	-.012	-.019	-.023	-.122	.120	-.023	.141
	p	.101	.846	.770	.720	.078	.058	.714	.042
Factor 2 Administrative Recognition	r	-.033	-.079	.044	.140	.035	-.045	-.063	-.189
	p	.600	.214	.490	.030	.618	.477	.323	.006
Factor 3 Advisement	r	.020	.017	.074	.091	.006	.039	.060	-.029
	p	.757	.786	.245	.162	.927	.543	.344	.673
Factor 4 Technical Support	r	.113	-.030	-.053	-.073	.013	.066	-.058	-.051
	p	.075	.642	.400	.265	.854	.297	.358	.459

(continued)

Table 25 (continued)

Dependent Variables	Statistical Value	Independent Variables							
		Web Courses	Public vs. Private	Degree Granting	Years Offering Web-based Courses	Number of Students Taking Web-based Courses	Prior College Experience	Age of Student	Gender of Student
		1= Offers web-based courses exclusively 2=Offers both web-based courses and traditional courses	1= Public 2= Private not for profit or for profit	1=degree granting 2=non-degree granting	Enter number of years	Enter number of students	1=None have prior college experience 2= Some have prior college experience 3=All have prior college experience	1=None are older than 24 2=Some are older than 24 3=all are older than 24	Enter percentage of female/male students
Factor 5 Advance Information	r	.034	.058	-.104	.004	.022	.005	-.006	-.046
	p	.592	.356	.100	.955	.747	.937	.925	.513
Factor 6 Course evaluation	r	-.003	-.013	.064	.078	-.038	.170	.122	-.172
	p	.966	.836	.316	.228	.588	.007	.054	.013
Total Quality	r	.100	-.020	.003	.088	-.048	.139	-.001	-.108
	p	.114	.755	.966	.175	.489	.029	.986	.119

responses were categorized into four classifications (a) deans and administrators, 40%; (b) faculty and support staff, 49.4%; (c) other, 6.6%; (d) missing, 4%. The categories of other and missing were not considered in the mean-item-mean calculations based on the assumption that these two groups were not relevant to the analysis. The mean value is based on a scale of one (strongly disagree) to six (strongly agree). The difference between the mean value reported by deans and administrators, and faculty and support staff was calculated and analyzed based on an assumption that a value of .5 or greater indicated a significance difference. Based on this assumption, the results of the mean-item-mean analysis observed significant difference in factor one, quality of administration and factor four quality of technical support. Table 26 presents the men-item-mean of six factors and job descriptions.

Finally, the relationship between job categories and cluster membership was examined. The results presented a total membership of 98 deans and administrators and total membership of 121 faculty and support staff. Type I programs show a significant difference between percent of deans and administrators (46%) as compared to faculty and support staff (25%). Type II programs show a significant difference between percent of faculty and support staff (31%) as compared to deans and administrators (14%). Table 27 presents the results of the membership of each program type by job description.

Table 26

Mean-item-mean of Six Factors and Job Descriptions

Factor	Name	Job Description	Mean-item-mean	Value Difference
I.	Quality of Instruction	Deans and Administrators	4.48	.13
		Faculty and Support Staff	4.35	
II.	Quality of Administrative Recognition	Deans and Administrators	3.52	.60
		Faculty and Support Staff	2.92	
III.	Quality of Advisement	Deans and Administrators	4.26	.23
		Faculty and Support Staff	4.03	
IV.	Quality of Technical Support	Deans and Administrators	4.56	.58
		Faculty and Support Staff	3.98	
V.	Quality of Advance Information	Deans and Administrators	4.87	.11
		Faculty and Support Staff	4.76	
VI.	Quality of Course Evaluation	Deans and Administrators	4.64	.30
		Faculty and Support Staff	4.34	

Table 27

Membership of Each Program Type by Job Description

Type	Cluster	Deans & Administrators		Faculty & Support Staff	
		n	% of total	n	% of total
I	5	45	46%	30	25%
II	4	14	14%	37	31%
III	3	11	11%	25	20%
IV	1	20	21%	16	13%
V	2	8	8%	13	11%
Total		98	100%	121	100%

CHAPTER V

DISCUSSION OF FINDINGS

The purpose of this chapter is to discuss the research findings, consider implications for practice and research in web-based adult education, and suggest areas for further investigation.

Study Summary

This study gathered data from a sample of adult educators involved at some level in web-based adult education. The study concentrated on identifying quality indicators of web-based adult education. The purpose of the study was to explore and develop a deeper understanding of the quality dimensions of web-based adult education. The focus of the study was to develop a typology of the types of programs with respect to the quality dimensions of web-based adult education. For this purpose three research questions were studied:

1. How do adult educators rate their web-based programs with respect to specific quality indicators?
2. What are the empirical dimensions of program quality?
3. What types of programs exist with respect to the empirical dimensions of program quality?

A survey instrument was developed by the researcher to specifically address the three research questions. The survey instrument gathered data from adult educators regarding their perceptions on the quality of their organization's web-based adult

education programs. The framework for the development of the survey instrument was derived from Reed and Sork's (1990) identified dimensions of ethical considerations. The item pool was created from three sources: (a) review of the literature on adult and web-based education; (b) panel discussions with adult and web-based educators; and (c) interviews with experts in the field of web-based adult education. The item pool refinement process included: (a) continuous reviews by researcher and study manager, (b) several panel discussions and critiques by adult and web-based educators, (c) rewriting of items for clarity and understandability, and (d) a final critique by experts in the field of web-based adult education.

The sample used for this study was a non-random convenience sample that was developed from a database of attendees to various distance education conferences attended by the researcher. The non-random sample of 1000 participants was selected from a database of approximately 1700 conference attendees.

A four-step process developed by Salant and Dillman (1994) was used to distribute the survey instrument: (a) mailed postcard invitation to participate, (b) mailed cover letter and survey instrument, (c) mailed postcard reminder to compete survey instrument, and (d) mailed cover letter and survey instrument.

Two hundred fifty-one useable surveys were returned and the data were entered into a SPSS database for purposes of statistical analysis. The statistical analysis included (a) mean ranking, (b) factor analysis, and (c) cluster analysis. For the purpose of mean ranking, the specific quality indicator items were sorted by mean value from highest to lowest to determine the relative importance of each item as self-reported by adult

educators involved in this study. The mean of the 41 items ranged from 2.68 to 4.27 on a 1 (strongly disagree) to 6 (strongly agree) point-scale.

Following the mean ranking, factor analysis was utilized to identify a six-factor solution that captured 65% of the variance observed in the 41 variables. The six-factor solution for dimensions of program quality is presented in Table 28.

Table 28

Six-factor Solution for Dimensions of Program Quality

Factor	Description
I.	Quality of Instruction
II.	Quality of Administrative Recognition
III.	Quality of Advisement
IV.	Quality of Technical Support
V.	Quality of Advance Information
VI.	Quality of Course evaluation

Cluster analysis was utilized to develop a typology of web-based adult education programs within the context of quality. Ultimately, a five-cluster analysis was selected as offering the most conceptual clarity. The clusters were classified by types of organization according to number of programs represented within each of the clusters, from the highest to lowest. The five-cluster solution is presented by type of organization in Table 29.

Table 29

Five-cluster Solution Presented by Types of Programs

Type	Cluster	N	Description
I.	5	90	Programs with high administrative recognition
II.	4	62	Programs with very low administrative recognition and high technical support
III.	3	40	Programs with high instructional quality and very low technical support
IV.	1	36	Programs with very low student advising and high advance information
V.	2	23	Programs with low overall quality

In order to further explain the studies observed factor and cluster results, secondary analysis was conducted. The first secondary analysis was the correlation of the six observed factors and eight continuous background items. The second secondary analysis was the correlation of the five observed clusters and eight continuous background items. It was concluded that background variables were not determinates of the observed factors or clusters. The third secondary analysis was the statistical calculation of the mean-item-mean for the six observed factors and job descriptions of respondents. The results of the mean-item-mean analysis observed significant difference in factor one, quality of administration and factor four quality of technical support. The fourth secondary analysis conducted was the statistical calculation of the mean-item-mean for the five observed types of organizations and six observed factors by job description. The results of the mean-item-mean analysis resulted in two observed significant differences. The first significant difference was observed within factor four,

quality of technical support, and type II organizations. The second significant difference was observed within factor four, quality of technical support, and type IV organizations.

Discussion of Findings

This study addressed the three stated research questions. Each of the findings is discussed below.

Findings Related to Research Question #1

The rank ordering of the quality indicator means was used to answer the question: "How do adult educators rate their web-based programs with respect to specific quality indicators?" Indicator item means were rank-ordered for the purpose of investigating what participants determined to be the quality indicators observed most often to the least often within their organizations. Of the highest rank ordered indicators, the quality of advance information received the most positive evaluation. Of the lowest rank ordered indicators, administrative recognition of faculty received the most negative evaluation.

Quality advance information contributes to the success of students enrolled in web-based programs. Advance information can be made available that clearly describes the requirements and skills needed to be successful in a web-based adult program or course. For example, students need a certain level of technical skills to be successful in web-based course or programs. Students without good technical skills can be so overwhelmed by the technology "learning curve" that the subject matter becomes secondary. Not all students are a "fit" for web-based courses because of the increased demand of time and self-discipline that is required to be successful in this environment. When students receive good advance information from programs regarding tuition, technical skills, hardware and software requirements, financial aid, and program

demands, they can make better decisions about whether or not web-based learning is appropriate for them (Hensrud, 2001; Phipps & Merisotis, 2000; Reed & Sork, 1990; USDLA, 2001).

Recognition and reward are important issues to faculty who are involved in web-based adult education. Often the special and unique demands of anytime, anyplace adult education does not receive recognition in tenure or promotion. In the Phipps and Merisotis (2000) study, the two primary concerns identified by faculty were the lack of consideration of the time demands of web-based education and fair compensation for their intellectual property. Phipps and Merisotis also observed that there was considerable difference between the reported importance of faculty reward and recognition and the actual faculty reward and recognition.

However, in spite of the frequent lack of recognition and reward by organizations, faculty will often voluntarily design and teach web-based courses. Faculty see this as an opportunity to serve the needs of adult students as well as an opportunity to be involved in a new and exciting area of educational delivery. In conclusion, reward and recognition seem to be real concerns for faculty but do not appear to be a barrier for those who desire to be involved in quality web-based teaching and learning (Phipps & Merisotis, 2000).

Findings Related to Research Question #2

Factor analysis was used to address the question: "What are the identified dimensions of practice in web-based adult education?" The dimensions of practice were identified as: Instruction, Administrative Recognition, Advisement, Technical Support, Advance Information, and Course Evaluation.

Several empirical research studies (Hensrud, 2001; Phipps & Merisotis, 2000) were completed after this study began have shown similar results to this study. A preliminary study to the Phipps and Merisotis study that was conducted by Phipps, Wellman and Merisotis (1998) as well as the Reed and Sork (1990) research on program planning for distance education have also resulted in similar outcomes. Table 30 shows a comparison of the current study's framework of quality dimensions with frameworks of the research studies conducted by Hensrud, Phipps and Merisotis, Phipps, Wellman and Merisotis, and Reed and Sork.

All five of the frameworks for quality dimensions in web-based adult education included instruction. Instruction was addressed by Phipps and Merisotis (2000) and Hensrud (2001) within course development, and teaching and learning benchmarks. Overall this study found the organizations, as reported by participants, at an average level of quality in the area of instruction. Phipps and Merisotis', and Hensrud's studies presented a somewhat higher than average level of quality in the area of instruction.

Much of the research in web-based education has focused on instruction from the perspective of course design and learner characteristics (Berge & Mrozowski, 2001). Given the abundance of research available, this might indicate that there are inconsistencies in the understanding and application of the variables that are required to create and deliver a quality web-based program. One of the reasons for average performance in this area may be attributed to web-based adult education being a newer mode of delivery that has not yet gained the commitment of resources that are necessary to perpetuate quality of instruction. Increased demand and increased competition could

act as a driving factor in organizations' commitment of resources to quality of web-based instruction.

Table 30

Five Frameworks for Understanding Quality Dimensions in Web-based Adult Education

Harroff (2002)	Hensrud (2001)	Phipps & Merisotis (2000)	Phipps, Wellman & Merisotis (1998)	Reed & Sork (1990)
Instruction	Course development Teaching and learning	Course development Teaching and learning	Course development and delivery Learner and faculty interaction	Learner and facilitator interaction
Administrative recognition	Institutional support	Institutional support	Faculty credentials and selection	Program and course administration
Advisement	Course structure	Course structure	Course structure	Admissions, intake, and retention
Technical support	Faculty support	Faculty support	Faculty training	Course development and presentation
Advance information	Student support	Student support	Student support services	Program and course marketing
Course Evaluation	Evaluation and assessment	Evaluation and assessment	Outcomes	Evaluation

One area of instruction that was addressed by the current study but was not addressed by the other two studies was access to web-based adult education for students with learning and physical disabilities. This study indicates that web-based adult education has not done a very good job of ensuring access to web-based education to this

special group of students. Unless there has been a conscious effort by an organization to address this area of instruction, access remains a technology dividing line between students with disabilities and students without disabilities (Rowland, 2000). A commitment to quality web-based education requires that consideration be given to barriers of access encountered by students with learning and physical disabilities (Van Dusen, 2000).

The framework for quality dimensions in web-based adult education proposed by this study as well as two other recent studies (Hensrud, 2001; Phipps and Merisotis, 2000) included administrative recognition. Administrative recognition was addressed by Phipps and Merisotis, and Hensrud within institutional support benchmarks. Overall this study found organizations, as reported by study participants, at a less than average level of quality in area of administrative recognition. Phipps and Merisotis, and Hensrud presented a less than average quality in the dimension of administrative recognition.

Administrative recognition focused on the areas of equitable instructor compensation, equitable instructor recognition, and appropriate fiscal resources. This study and two recent studies (Hensrud, 2001; Phipps and Merisotis, 2000) identified administrative recognition to be the weakest area of quality. The demands of web-based education such as increased development and delivery have not always been fully understood or appreciated by educational administrators. In addition, there is often a question regarding the ownership of the intellectual property that faculty develop (Hensrud; Holt, 1996; Schrum & Harris, 1996). Web-based adult education is often not given budgetary consideration by administration because of the lack of understanding of

the demands of web-based adult education and because it may be viewed as a low cost method of delivering adult education (Jarvis, 1997; Johnson, 1992; Reed & Sork, 1990).

The framework for quality dimensions in web-based adult education proposed by this study as well as two other recent studies (Hensrud, 2001; Phipps and Merisotis, 2000) included advisement. Advisement was addressed by Phipps and Merisotis, and Hensrud within course structure and student support benchmarks. Overall this study found organizations, as reported by participants, at an average level of quality in the area of advisement. Hensrud, and Phipps and Merisotis presented an average level of quality in the area of advisement.

Advisement from the perspective of this study is concerned with information received by potential students pertaining to the demands of web-based education in the areas of technical knowledge, problem resolution, and advisement. The information students receive regarding time required to complete a web-based course or program was identified as meeting or exceeding expectations. Because many programs deliver web-based adult education within the same time constraints as traditional programs, information regarding time requirements is often readily available to potential students, staff, and faculty.

In the current study, there were two areas identified as not meeting expectations. The first area was the quality of communication that potential and continuing students receive regarding the special demands placed on students engaged in web-based education. Research has shown that students who are successful in this environment possess the ability to be self-directed and a high level of motivation. Successful web-based students are usually not of traditional college age, have other life responsibilities,

and view web-based education as an opportunity to earn additional education experiences (Berge & Mrozowski, 2001; Hensrud, 2001; Holmberg, 1986; Moore & Kearsley, 1996; Reed & Sork, 1990).

The second area not meeting expectations was the quality of advisement students have access to in a web-based environment. Student support services such as advisement are part of a complete web-based adult education environment. Just as web-based students need access to their professors or the library, they also need access to advisement. A complete web-based educational system is required in order to provide a quality educational environment (Aoki & Pogroszewski, 1998; Hensrud, 2001; McLendon & Crock, 1998; Moore & Kearsley, 1996; Phipps & Merisotis, 2000; Reed & Sork, 1990).

The framework for quality dimensions in web-based adult education proposed by this study as well as two other recent studies (Hensrud, 2001; Phipps and Merisotis, 2000) included technical support. Technical support was addressed by Phipps and Merisotis, and Hensrud within the faculty support area. Overall, this study found organizations, as reported by participants, at an average level of quality in the area of technical support. Phipps and Merisotis, and Hensrud reported a less than acceptable level of quality in the area of technical support.

Technical support pertains to technical support and training for faculty who develop as well as deliver web-based courses and programs. Technical support and training were reported by participants of this study as meeting expectations. Phipps and Merisotis'(2000), and Hensrud's (2001) studies identified concern for the availability of ongoing training and support, which often was a result of the lack of financial resources.

Because of limited financial and human resources, programs do often lack the support staff needed to assist with technical, development, and training issues (Muilenburg & Berge, 2001).

The development and delivery of quality web-based adult education is dependent upon a technical infrastructure that supports the faculty as well as students. Faculty members often act as content experts as well as technical experts when developing and delivering web-based adult education. Their ability to communicate effectively and to utilize technology effectively in a web-based educational environment is dependent upon acquiring appropriate skills. Quality training and support for faculty is a vital component to the development and delivery of quality web-based adult education (Aoki & Pogroszewski, 1998; Berge, 1998; Hensrud, 2001).

Advance information was addressed more extensively in the current study than in the previous studies. Overall this study found organizations, as reported by participants, at a high level of quality in the area of advance information. Phipps and Merisotis (2000) and Hensrud (2001) addressed advance information on a limited basis within student support benchmarks. Phipps and Merisotis reported a high level of quality, and Hensrud reported an acceptable level of quality in the area of advance information.

Advance information in the current study refers to the information potential students receive pertaining to costs, technical requirements and admission procedures. All the items contained in this factor were identified as exceeding expectations of quality. It appears that programs have made a successful effort to offer quality information to potential students. This would infer that administration perceives advance information as an important component for marketing their web-based adult education courses and

programs, and therefore, allocate appropriate levels of resources to the information provided to potential and continuing students (Phipps & Merisotis, 2000; Reed & Sork, 1990).

The framework for quality dimensions in web-based adult education proposed by this study as well as two other recent studies (Hensrud, 2001; Phipps and Merisotis, 2000) included course evaluation. Course evaluation was addressed by Phipps and Merisotis, and Hensrud under the heading of evaluation and assessment benchmarks. Overall the current study found organizations, as reported by participants, at a somewhat above average level of quality in area of course evaluation. Phipps and Merisotis, and Hensrud reported a less than acceptable level of quality in the area of advisement.

Course evaluation pertains to formal faculty and course evaluation. Survey instrument participants report that, overall, programs' level of quality in this area is above average. There was some indication that the evaluation tool or tools being utilized need to be improved in the area of appropriateness for evaluating web-based programs. Often the evaluation tool being used to gather course evaluation is the same evaluation tool used to evaluate traditional courses. Traditional evaluation tools may not take into consideration areas such as technology or the web-based learning environment. As in the traditional environment, the evaluation results are distributed for faculty review to be used to improve the web-based courses and programs. However, it is not apparent that the evaluations are being used by administration to assess the current level of quality and make appropriate changes or improvements for web-based programs (Phipps & Merisotis, 2000). Programs are often challenged to develop evaluation tools,

communications processes, and assessment procedures that can be used to improve the quality of web-based adult education (Reed & Sork, 1990).

In the secondary analysis, the observed six factors and respondent's reported primary job description categories, (a) deans and administrators and (b) faculty and support staff, were analyzed in order to gain a deeper understanding of the findings of this study. The findings indicate that the two primary groups have a significant difference of agreement in two quality areas. The first is quality of administrative recognition. Deans and administrators indicate a higher than average level of quality in administrative recognition, while faculty and support staff indicate a less than average level of quality in administrative recognition. Reward and incentives can be considered important by administration but not actually have a presence within an organization (Phipps & Merisotis, 2000).

The second area that was observed as having a significant difference of agreement was quality of technical support. Deans and administrators indicate a high level of quality of technical support, while faculty and support staff indicate a higher than average level of quality in technical support. Technical support could be perceived by administration as important to the mission of web-based adult education. However, faculty and support staff does not perceive a high level support and training in this area. Perhaps the demand for web-based education is out pacing the personnel and fiscal resources in the area of technical support (Phipps & Merisotis, 2000).

Findings Related to Research Question #3

Cluster analysis was used to address the question: "What types of programs exist with respect to dimensions of program quality?" Five types of programs were identified

as: (a) Programs Characterized with High Administrative Recognition, (b) Programs Characterized with Low Administrative Recognition and High Technical Support, (c) Programs Characterized with High Instructional Quality and Very Low Technical Support, (d) Programs Characterized with Low Student Advising and High Advance Information, (e) Programs Characterized with Low Overall Quality.

Type I: Programs Characterized by High Administrative Recognition

Type I programs were rated as overall average in quality with a high quality rating in administrative recognition as related to other type programs identified by this study. Web-based adult education is integrated into the at a higher level than the other observed types of programs and is viewed as a viable educational delivery mode. There is seems to be an understanding by administration of the demands of web-based adult education. Administration is more willing to allocate resources to web-based adult education as is implied by administration's willingness to compensate faculty for additional development and delivery time. Policies and procedures for most aspects of web-based adult education have been developed and are integrated into the organization, implied by the overall above average ratings based on the six identified quality factors. Type I programs have extensive experience with web-based adult education and are considered the most mature programs in regards to web-based adult education.

Type II: Programs Characterized by Low Administrative Recognition and High Technical Support

Type II programs were rated as overall average in quality with a high quality rating in technical support for faculty and a low quality rating in administrative recognition. Administration is willing to allocate resources to a technical infrastructure as

is implied by the level of faculty support and training. Administration recognizes the need to invest in technology in order to remain competitive in the educational market. However, web-based adult education is still considered a marginal mode of educational delivery as is implied by the lack of faculty recognition for the demands of web-based adult education. Faculty are often involved in web-based adult education as a result of their own initiative. They work within a traditional structure to ensure some level of quality is implied by the overall average quality rating. This type organization recognizes the need to be competitive in the educational market but has not integrated web-based adult education fully into the organization.

Type III: Programs Characterized by High Instructional Quality and Very Low Technical Support

Type III programs were rated as overall average in quality with a high quality rating in quality of instruction and a very low quality rating in technical support. This is an environment that has not fully embraced web-based adult education. Administration in these programs considers web-based instruction a marginal mode of educational delivery, and as a result, allocates very few resources for the support and implementation of web-based adult education. Faculty are perhaps the driving force behind the high quality teaching and learning experience (Phipps & Merisotis, 2000). They develop and deliver quality courses with little or no technical support as well as very little administrative support or recognition. Type III programs are associated with more traditional programs that do not recognize web-based distance education as a viable mode of educational delivery.

Type IV: Programs Characterized by Very Low Student Advising and High Advance Information

Type IV programs were rated as overall average in quality with high quality rating in advance student information and a very low quality rating in student advisement. These programs understand the need to fully disclose to potential students the costs and technical needs associated with web-based adult education. Web-based distance education is supported by administration, and resources are allocated in an attempt to offer a quality program. However, student advising and support remain dependent upon a more traditional of model. The current model has not yet evolved enough to recognize the unique needs of web-based students. As these types of programs become more mature in offering web-based adult education, the need to develop a holistic approach to web-based education that includes an advising model that addresses the unique demands of the web-based student may be clarified.

Type V: Programs Characterized by Low Overall Quality

Type V programs were rated as overall low in quality with a very low quality rating in quality of instruction and quality of advance information, and a low quality rating in quality of technical support and quality of course evaluation. Faculty are not encouraged or rewarded for utilizing web-based delivery of education. Many barriers challenge faculty that by their own initiative attempt to utilize web-based delivery. There is not a good understanding of web-based adult education; therefore, the information potential students receive is not adequate. Administration does not perceive any added value in the allocation of resources to web-based education. Administration and faculty may perceive web-based education as a threat or as lower academic quality than

traditional educational delivery. Type V programs have may not embraced technology into the overall culture of the organization and may find themselves in a position of being less competitive than programs that are willing to support web-based adult education.

Implications for Practice

This study provides practical contributions to the field of adult education. By examining the level of quality currently being offered as well as the dimensions of web-based adult education, administrators and educators will have an understanding of the areas that they are doing well in and the areas that offer the opportunity for the improvement. The identification of the factors required for a quality web-based adult education program as well as identification of the different types of organizations will result in the development of quality web-based adult education programs.

The survey instrument developed for this study provides adult education administrators and educators with a tool that can be used to self-assess their own web-based adult education program. The results of the self-assessment can be used to identify the strengths and weaknesses of the programs currently being offered. From the identified weaknesses, an action plan can be developed that has the potential to improve the overall quality of web-based adult education programs. The results could also be utilized to elevate the level of quality required when planning new web-based initiatives.

This study has important implications for planners and developers of web-based adult education. From the results of the study, 41 quality indicators were ranked according to how well programs were meeting quality indicators of web-based adult education. When web-based programs are being planned and developed, these individual

quality indicators can be used to prioritize the areas that are critical to a quality of a web-based adult education program.

The study results identified six quality dimensions that can be used as a broad framework for evaluating, planning, and identifying issues of quality in new and existing web-based adult programs. New programs can utilize the quality dimensions as a framework for planning and development. Critical areas that have been identified by this study as weak in quality can be addressed in the initial strategic planning stages. Each of the quality dimensions can be used to identify critical areas of focus for existing programs. Within the critical areas, programs can develop initiatives for improving quality.

The study identified five types of higher education programs currently offering web-based adult education. The typology of programs offers adult education administrators and educators an opportunity to review quality strengths and identify the quality challenges of each program classification. The typology offers the opportunity for programs to identify themselves with a type of organization and gain an understanding of their own quality successes and challenges. Programs can utilize this information to implement quality initiatives for current and future web-based adult education programs.

Implications for Research

In addition to practical implications, this research provides theoretical contributions to the field of web-based adult education. Currently, there are few studies that the researcher is aware of that offer empirical data on the quality dimensions of web-based adult education. This study offers the field of adult education a survey instrument that was developed from an extensive literature review and that can be utilized to conduct

further research in the area of quality in web-based adult education. The results of this study offer empirical data to scholars on the quality dimensions that contribute to a comprehensive quality web-based adult education program. Furthermore, the results of this study contribute a theoretical framework that can be utilized to develop future empirical studies in web-based adult education. Finally, the results of this study offer a typology that can be utilized to further study the independent variables that are the possible determinates of the observed organizations.

Suggestions for Further Investigation

Further studies are needed to extend the research and to investigate quality indicators of web-based adult education from a broader perspective. First, the results of this survey cannot be generalized to all web-based adult education programs or courses. Research is needed to replicate this study with a broader population of web-based adult educators. This would further add to the results of this study and offer a deeper understanding of the dimensions of quality web-based adult education.

Second, there is a need for further research that identifies the various independent variables that influence the types of programs identified in this study. The independent variables used in this study were determined not to be determinates of the observed program types. Further studies would offer adult education administrators and educators an understanding of how independent variables influence quality in web-based adult education.

Third, there is a need for further qualitative research in the areas that were identified as low in quality by this study. Through the use of case studies, a better understanding of why particular areas were of lower quality and how these areas could be

improved could be achieved. One area that was identified by this study as low quality was meeting the needs of web-based students with learning and physical disabilities. Focus groups and interviews with students who face these challenges, as well as educators who plan and deliver web-based adult education programs, would add to the understanding of how to improve the quality of web-based adult education in this area.

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APPENDICES

APPENDIX A

SURVEY INSTRUMENT

(University Letter Head)

Appendix A
Questionnaire

WEB-BASED ADULT EDUCATION QUESTIONNAIRE

A. Does your organization offer web-based courses (programs, seminars, etc.)? ___YES ___NO
B. Does your organization serve adult students? ___YES ___NO

If you answered YES to both of the questions, please complete the survey.

If you answered NO to either question, thank you for your time. Please return the uncompleted survey in the envelope we have provided.

INSTRUCTIONS: As you complete the survey, please base your responses exclusively on the *web-based courses* offered by your organization. Circle the *one* number that indicates the extent to which you agree with the following statements.

		Strongly Disagree ⟷ *Strongly Agree*					
I.	***Student Information***						
1.	Students receive realistic information about the costs of web-based courses	**1**	**2**	**3**	**4**	**5**	**6**
2.	Students receive realistic information about financial aid.	**1**	**2**	**3**	**4**	**5**	**6**
3.	Students receive realistic information about the software required for our web-based courses.	**1**	**2**	**3**	**4**	**5**	**6**
4.	Students receive realistic information about hardware required for our web-based courses.	**1**	**2**	**3**	**4**	**5**	**6**
5.	Students have access to quality technical assistance, either on-line or through a telephone help-line	**1**	**2**	**3**	**4**	**5**	**6**
6.	Students have access to quality on-line advisement	**1**	**2**	**3**	**4**	**5**	**6**
7.	Students receive realistic information about the special demands that web-based courses place on students.	**1**	**2**	**3**	**4**	**5**	**6**
8.	Students receive realistic information about the minimum level of technical knowledge necessary for our web-based courses.	**1**	**2**	**3**	**4**	**5**	**6**

		Strongly Disagree ⟷					*Strongly Agree*
9.	Students receive realistic information about how long it takes to complete our web-based courses	**1**	**2**	**3**	**4**	**5**	**6**
10.	Students receive information about how to resolve problems concerning our instructors or courses	**1**	**2**	**3**	**4**	**5**	**6**
11.	Students receive adequate information about our admission procedures.	**1**	**2**	**3**	**4**	**5**	**6**
II.	***Instructional Support and Supervision***						
12.	Instructors are compensated for web-based course development	**1**	**2**	**3**	**4**	**5**	**6**
13.	Instructors are given adequate credit for web-based instructional materials they develop.	**1**	**2**	**3**	**4**	**5**	**6**
14.	Instructors are given information about copyright laws pertaining to the web environment.	**1**	**2**	**3**	**4**	**5**	**6**
15.	Instructors are compensated for the additional time demands of web-based teaching	**1**	**2**	**3**	**4**	**5**	**6**
16.	Web-based instruction is fairly considered when making promotion decisions	**1**	**2**	**3**	**4**	**5**	**6**
17.	Instructors have access to up-to-date training in the effective use of technology.	**1**	**2**	**3**	**4**	**5**	**6**
18.	Instructors have access to technical support staff to help with the development of web-based courses.	**1**	**2**	**3**	**4**	**5**	**6**
19.	Instructors have access to technical support staff to help with the delivery of web-based courses.	**1**	**2**	**3**	**4**	**5**	**6**
20.	Instructors are given enough notice of upcoming courses to allow for adequate preparation.	**1**	**2**	**3**	**4**	**5**	**6**
21.	Instructors have access to training in effective web communication skills.	**1**	**2**	**3**	**4**	**5**	**6**
22.	Administrators understand the special demands of web-based instruction.	**1**	**2**	**3**	**4**	**5**	**6**
23.	Administrators dedicate adequate resources to the delivery of quality web-based courses.	**1**	**2**	**3**	**4**	**5**	**6**
III.	***Instructional Materials and Methods***						
24.	Our web-based courses are developed based upon clearly stated learning outcomes	**1**	**2**	**3**	**4**	**5**	**6**
25.	Our web-based course materials are carefully maintained and updated	**1**	**2**	**3**	**4**	**5**	**6**

		Strongly Disagree ⟷					*Strongly Agree*
26.	Our web-based course materials are designed to encourage critical thinking. . . .	**1**	**2**	**3**	**4**	**5**	**6**
27.	Our web-based course materials are designed to support independent learning . .	**1**	**2**	**3**	**4**	**5**	**6**
28.	Our web-based course materials are designed to accommodate the cultural differences among students	**1**	**2**	**3**	**4**	**5**	**6**
29.	Our web-based course materials are designed to accommodate the special needs of some students.	**1**	**2**	**3**	**4**	**5**	**6**
30.	Our instructors encourage students to be independent learners.	**1**	**2**	**3**	**4**	**5**	**6**
31.	Instructional strategies used in our web-based courses are effective.	**1**	**2**	**3**	**4**	**5**	**6**
32.	Technologies used in our web-based courses are effective.	**1**	**2**	**3**	**4**	**5**	**6**
33.	Extra help is available to students in web-based courses who are having trouble.	**1**	**2**	**3**	**4**	**5**	**6**
34.	Our instructors provide clear information about course requirements and assignments	**1**	**2**	**3**	**4**	**5**	**6**
35.	Our instructors provide *timely* feedback on student course work	**1**	**2**	**3**	**4**	**5**	**6**
36.	Our instructors provide *high quality* feedback on student course work.	**1**	**2**	**3**	**4**	**5**	**6**
37.	Our instructors truly meet the learning needs of students in web-based courses. .	**1**	**2**	**3**	**4**	**5**	**6**

V. ***Evaluation***

38.	Students are able to evaluate our web-based courses anonymously	**1**	**2**	**3**	**4**	**5**	**6**
39.	Our course evaluations are appropriate for web-based courses.	**1**	**2**	**3**	**4**	**5**	**6**
40.	Our instructors are provided with useful information from course evaluations. . .	**1**	**2**	**3**	**4**	**5**	**6**
41.	Our course evaluations include questions about the effectiveness of the technology used	**1**	**2**	**3**	**4**	**5**	**6**

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BACKGROUND INFORMATION

42. Which of the following best describes your organization? *(Circle one)*

(a) Elementary/Secondary Education
(b) Higher /Post Secondary Education
(c) Business/Industry
(d) Voluntary Organization
(e) Government Agency
(f) Other (please specify)_____

44. Which of the following best describes your organization? *(Circle one)*
    (a) Offers web-based courses exclusively
    (b) Offers both web-based courses and traditional courses

45. Which of the following best describes your organization? *(Circle one)*
    (a) Public
    (b) Private-not-for-profit
    (c) Private-for-profit

46. Which of the following best describes your organization? *(Circle one)*
    (a) Degree-granting
    (b) Non degree-granting

47. For approximately how many years has your organization offered web-based courses? _____

48. Approximately how many students take web-based courses with your organization per year? _____

49. Which of the following best describes the students served by your organization? *(Circle one)*
    (a) None have prior college experience
    (b) Some have prior college experience
    (c) Most have prior college experience

50. Which of the following best describes the students served by your organization? (*Circle one*)
    (a) None are older than 24 years old
    (b) Some are older than 24 years old
    (c) Most are older than 24 years old

51. Approximately what percentage of your students are: Female? _____% Male?_____%

52. What is your current job title? _____

53. In what year were you born? _____

54. What is your gender? _____

55. What is your race/ethnicity? _____

Thank you for participating!

APPENDIX B

STUDY ADVANCED NOTICE POSTCARD

Appendix B
Study Advance Notice Postcard

Web-based Adult Education Survey

We are currently involved in a very exciting study about web-based education for adults. Many months have been spent researching web-based education and the many considerations that are required to offer quality courses and programs to adult students. We now need your help to successfully complete this study.

We have created a questionnaire that will help in better understanding the development of a quality web-based education environment. The questionnaire will prompt you to think about your organization in areas that we have identified as essential to quality web-based courses and programs.

Within a few days, you will receive a request to complete an adult education questionnaire. We would greatly appreciate if you would take 10 or 15 minutes of your time to complete and return the questionnaire. We hope you will agree to help us in completing our study.

Thank you in advance for your help.

Pamela A. Harroff	Thomas Valentine
Study Director	Associate Professor
University of Georgia	University of Georgia

APPENDIX C

STUDY SURVEY INSTRUMENT COVER LETTER

(University Letter Head)

Appendix C
Study Survey Instrument Cover Letter

Web-based Adult Education Survey

July 25, 2002

Dear Fellow Educator:

In the past few years, web-based education has played an increasingly important role in adult education. Web-based education offers adult students educational opportunities without the constraints of time and place. Research indicates that by the year 2002, 85% of two-year colleges and 84% of four-year colleges will offer web-based courses.

As we mentioned in our earlier letter, we are currently conducting a research study to explore the many considerations that are required to offer quality courses and programs to adult students including:

- The extent to which organizations provide quality services and support to the web-based adult learner.
- The extent to which organizations promote and implement a quality web-based educational environment.
- The extent to which organizations manage, teach, and evaluate web-based courses.

We hope you will agree to be part of this study. The questionnaire will require no more than 15 minutes to complete. Your expertise and participation are very important to the success of the study.

You may be assured of complete confidentiality. Your name will not appear on the survey or any reports of the research results. The results of the survey will be made available to you by sending e-mail to pharroff@aol.com and requesting a copy of the study results.

We are available to answer any questions you might have. Please call or e-mail. The telephone number is 770.521-4900 ex 3202. The e-mail address is pharroff@aol.com.

Thank you for your assistance.

Sincerely,

Pamela A. Harroff
Study Director
University of Georgia

Thomas Valentine
Associate Professor
University of Georgia

Research at The University of Georgia, which involves human participants, is overseen by the Institutional Review Board. Questions or problems regarding your rights as a participant should be addressed to Institutional Review Board; Office of V.P. for Research; The University of Georgia; 606A Graduate Studies Research Center; Athens, Georgia 30602-7411; Telephone 706.542.6514

APPENDIX D

FOLLOW-UP POSTCARD

Attachment D
Follow-up Post Card

WEB-BASED ADULT EDUCATION SURVEY

Several weeks ago we sent you a questionnaire seeking your help in better understanding the development of a quality web-based education environment. If you have already completed and returned the questionnaire, please accept our sincere thanks.

If you have not completed the questionnaire, we still need your **expertise** to successfully complete this study. Your input is important to understanding the considerations that are required to offer quality courses and programs. **You may be assured of complete confidentiality. Your name will not appear on the survey or any reports of the research results.** Please complete and return the questionnaire today.

If you did not receive a questionnaire, or if it was misplaced, please call or e-mail and we will mail another questionnaire to you immediately. The telephone number is 770.521-4900 ext. 3202. The e-mail address is pharroff@aol.com.

Thank you for your assistance.

Pamela A. Harroff
Study Director
University of Georgia

Thomas Valentine
Associate Professor
University of Georgia

APPENDIX E

FOLLOW-UP COVER LETTER

(University Letter Head)

Appendix E
Study Follow-up Cover Letter

WEB-BASED ADULT EDUCATION SURVEY

July 25, 2002

Dear Fellow Educator:

As working educators, we understand you are very busy. So, we wanted to remind you that we still need your help. About three weeks ago, we sent you a questionnaire to complete and return. The purpose of the questionnaire was to seek your help in better understanding the development of quality web-based courses and programs for adults. As of today, we have not received your completed questionnaire.

We are writing you again because we still need your help to successfully complete this study. Your input is important to understanding the considerations that are required to offer quality web-based courses and programs. The questionnaire will take 10 or 15 minutes of your time. We would like to ask you to please complete and return the questionnaire today.

In the event that your questionnaire has been misplaced, a replacement is enclosed. We are available to answer any questions you might have. Please call or e-mail. The telephone number is 770.521-4900 ex 3202. The e-mail address is pharroff@aol.com.

Thank you for your assistance.

Sincerely,

Pamela A. Harroff
Study Director
University of Georgia

Thomas Valentine
Associate Professor
University of Georgia

Research at The University of Georgia, which involves human participants, is overseen by the Institutional Review Board. Questions or problems regarding your rights as a participant should be addressed to Institutional Review Board; Office of V.P. for Research; The University of Georgia; 606A Graduate Studies Research Center; Athens, Georgia 30602-7411; Telephone 706.542.6514

APPENDIX F

JOB TITLES REPORTED BY RESPONDENTS

Appendix F

Job Titles as Reported by Survey Instrument Respondents

Title	Title
Academic Computing Specialist	Associate Professor
Academic Dean	Associate Professor of English
Academic Planner	Associate Professor of History
Academic Services Manager	Associate Professor of Instructional Technology
Academic Staff	Associate Professor of Mathematics
Adjunct Instructor & Academic Coordinator	Associate Professor of Psychology
Administrative Secretary	Associate Professor Sociology
Administrator	Associate Professor/Director Distance Learning
Administrator	Associate Professor/Program Director
Administrator	Associate Professor
Administrator of Talented & Gifted Education	Associate VP
Advisor	Automotive Technology Assistant Professor
Associate Head for Distance Learning	Chair
Assistant Dean	Chair
Assistant Dean	Chair
Assistant Dean Virtual College	Chemistry Instructor
Assistant Director/Curriculum Design Specialist	Chief Distributive Learning Support Center
Assistant Professor	Chief Information Officers
Assistant Professor	Chief Instructional Designer
Assistant Professor	Chief Instructional Systems Designer
Assistant Professor	Clinical Assistant Professor
Assistant Professor	Clinical Assistant Professor
Assistant Professor	College Technology Manager
Assistant Professor	Coordinator
Assistant Professor	Coordinator
Assistant Professor	Coordinator Distance Learning
Assistant Professor	Coordinator Lifelong Learning
Assistant Professor	Coordinator of Distance Education
Assistant Professor	Coordinator of Distance Learning
Assistant Professor	Coordinator Teaching and Learning Center
Assistant to Dean	Correspondence Study Specialist
Assistant to Provost	Curriculum Designer
Assistant VP & Academics Affairs	Dean
Associate Dean	Dean Business & Technology
Associate Dean	Dean of Business and Technology
Associate Director	Dean of College of Education
Associate Director	Department Head
Associate Director Distance Learning	Dept Chair/Professor
Associate Director of Distributed Learning	Dept Head
Associate Director of Extended Learning	Director
Associate Professor	Director
Associate Professor	Director

Associate Professor
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Associate Professor
Associate Professor
Associate Professor
Associate Professor of English
Associate Professor of History
Associate Professor of Instructional Technology
Associate Professor of Mathematics
Associate Professor of Psychology
Associate Professor Sociology
Associate Professor/Director Distance Learning
Associate Professor/Program Director
Associate Professor/WebCT Training/Advisor for online degrees
Associate VP
Automotive Technology Assistant Professor
Chair
Chair
Chair
Chemistry Instructor
Chief Distributive Learning Support Center
Chief Information Officers
Chief Instructional Designer
Chief Instructional Systems Designer
Clinical Assistant Professor
Clinical Assistant Professor
College Technology Manager
Coordinator
Coordinator
Coordinator Distance Learning
Coordinator Lifelong Learning
Coordinator of Distance Education
Coordinator of Distance Learning
Coordinator Teaching and Learning Center
Correspondence Study Specialist
Curriculum Designer
Dean
Dean Business & Technology
Dean of Business and Technology
Dean of College of Education
Department Head
Dept Chair/Professor
Director Center for Teaching and Learning
Director Center for Teaching and Learning
Director Distance Education
Director Distance Education Network
Director Distributed Learning
Director Educational Technology
Director Extended Degree Programs
Director Faculty Development Center
Director Industry & Research Services
Director IT Programs
Director IT Programs
Director of Administration
Director of Career and Technical Education
Director of Computer Operations
Director of Computer Services
Director of Continuing Education
Director of Curriculum
Director of Curriculum
Director of Distance Learning
Director of Distance Learning
Director of Distance Learning
Director of Educational technology
Director of Information Technology
Director of Instructional Design & Development
Director of Instructional Media
Director of Libraries & Coordinator of Distance Education
Director of Undergraduate
Director User Services
Discipline Coordinator
Distance Delivery Coordinator
Distance Ed Director
Distance Education Coordinator
Distance Education Instructor
Distance Learning Administrator
Distance Learning Consultant
Distance Learning Coordinator
Distance Learning Education Advisor
Distance Learning Support Specialist
Distributed Learning Coordinator
Division Chair
Division Chair
Division Chair
Education Coordinator/Instructor
Educational Nurse Specialist
Educational Specialist
Educational Technology Coordinator
Executive Director
Executive Director

Dept Head
Director
Director
Director
Director Center for Teaching and Learning
Director Center for Teaching and Learning
Director Distance Education
Director Distance Education Network
Director Distributed Learning
Director Educational Technology
Director Extended Degree Programs
Director Faculty Development Center
Director Industry & Research Services
Instructional Developer
Instructional Technology Consultant
INSTRUCTOR
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor
Instructor/Dept Chair
Interim Business & Technology Chair
IT Support
ITS Programming Manager
Learning Strategies Coordinator
Librarian
Librarian
Library Director
Lifelong Education Coordinator
Manager Audio-Visual Support
Manager Instructional Support
Manager Learning Best Practices
Manager of Computer Services
Marketing Coordinator Distance Education
MSU Southwest Representative
Multimedia Specialist
Multimedia Specialist
Online Course Development Coordinator/Instructor
Outreach Programs Supervisor
Executive Director of Alternative Delivery Systems
Executive Director of Technology/Media
Faculty
Faculty
Faculty Developmental Studies
Faculty Liaison
Instructional Coordinator
Instructional design
Instructional design coordinator
Instructional Developer
Instructional Media Specialist
Instructional Developer
Instructional Developer
Instructional Developer
Professor
Professor
Professor
Professor
Professor of Economics and Finance
Professor of English
Professor of English
Professor of English
Professor/Chair
Professor/Director
Professor/Librarian
Program Assistant
Program Coordinator
Program Manager
Program Manager
Reference department
Retired Professor
Secretary
Senior Information Processing Consultant
Senior Lecturer
Student Services Coordinator
System Support Specialist
Systems Engineer/Technical Advisor
Technical Instructor
Technical Staff
Technology Coordinator
UPIS/CIO
Vice President
Vice President for Distance Learning
Vice President Instruction
Vice President Technology & Faculty Development
Web Developer
Web Developer/WebCt Administrator
Web Instructional Technologist

Outreach Specialist	Web Producer
Peoplesoft Functional Analyst	Professor
Professor	Professor
Policy Coordinator	Professor
President	Professor
President CEO	Professor
Professor	Professor
Professor	Professor
Professor	Professor

APPENDIX G

STUDY SURVEY INSTRUMENT CODING GUIDE

APPENDIX G

Study Survey Instrument Coding Guide

Variable Name	Description/Code
ID	Consecutive as assigned from sample database
QA	Question A: Does your organization offer web-based courses (programs, seminars, etc.)? 1=yes 2=no
QB	Question B: Does your organization serve adult students? 1=yes 2=no
I1–I41	Quality Indicator Items, Likert, 1-6 (1=Strongly disagree to 6 = Strongly agree)
I42ORG	Which of the following best describes your organization? 1= a Elementary 2= b Higher/Postsecondary 3= c Business/Industry 4= d Voluntary Agency 5= e Government Agency 6= f Other _____
I44WEB	Which of the following best describes your organization? 1= a Offers web-based courses exclusively 2 = b Offers both web-based course and traditional courses
I45PUBLC	Which of the following best describes your organization? 1= a Public 2= b Private-not-for–profit 3= c Private-for-profit
I46DEGRE	Which of the following best describes your organization? 1= a Degree granting 2 = b Non degree granting
I47YRWEB	For approximately how many years has your organization offered web-based courses? Enter number of years offering web

Variable Name	Description/Code
I48NMSTU	Approximately how many students take web-based courses with your organization per year? Enter number of students in web classes
I49PRCOLL	Which of the following best describes your organization? 1= a None have prior college experience 2= b Some have prior college experience 3= c Most have prior college experience
I50STAGE	Which of the following best describes the students served by your organization? 1= a None are older than 24 years old 2= b Some are older than 24 years old 3= c Most are older than 24 years old
I51PCTFM	Approximately what percentage of your students are: Female?_____% Male?_____% Enter percentage of females
I52CRJOB	What is your current job title? Enter job title
I53RESAGE	In what year were you born? Enter age
I54RESSEX	What is your gender? 1=female 2=male
155RESRACE	What is your race/ethnicity 1= Caucasian 2= African American 3= Asian 4= Hispanic 5= Multi-racial