A STUDY OF ADULT LEARNING ASSUMPTIONS

AS APPLIED TO ONLINE COURSE

DESIGN STRATEGIES

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CHAPTER I

DESIGN OF THE STUDY

When I was young and just starting a career with International Business Machines, it was fashionable to have the ultimate status symbol, a “Think” sign on your desk. To have several of the little signs was even better. They were everywhere. Of course there were several in every computer room where large IBM main frame computers resided, but they were also be found on the president’s desk, every department manager’s desk and right down to the offices of accountants and legal staff (McCombs, Shaw & Weaver, 1997). The little, plastic, and wood, “Think” signs were even in the dens and offices of the best homes in town.

IBM salesmen made a ritual out of presenting the little signs, which were usually about three inches tall and five inches wide with the word “THINK” in bold black letters on a white background. CEO’s and Directors of America’s industrial giants graciously accepted them and profusely thanked the giver as if they had just received an award of great value for some magnificent achievement.

“So-called” computers were new and the world was consumed with them. Manufacturers promoted them as if they could do anything as long as you were smart enough to just figure out an application. A technology had been invented and now someone had to discover ways to use it. No application was too complicated, too cumbersome, or too big for computers to handle if one would only use their imagination.

IBM trained an army of shorthaired salesmen wearing black suits, long sleeved white shirts, black oxford shoes, and dark ties. We sang the IBM company song and stamped our feet in the mornings to the cheerleading of hyped-up territory managers standing on desktops. After point call, a morning ritual where we loudly forecast our projected accomplishments for the day, we raced out into the street to attack an unsuspecting world of computer prospects with the zeal of missionaries. Our religion was one of technology based on the belief that computers can save the world if only you were innovative enough to create the applications for the technology that we offered.

The world has turned many times, but the fascination with computers has diminished little. The "THINK" signs have been replaced with catalogues and brochures touting online courses in practically every discipline. Words and phrases like online education, **v**irtual learning, e-learning, telecourses, distance learning, computer assisted learning, web-based instruction, and compressed video courses, have replaced little signs, but they are symbolic of an industry once again creating technology with the hope that potential users will discover appropriate applications once again.

Background of the Problem

Much has changed in the use of technology in the market places of the world, including institutions of higher learning. A great amount of energy and money is invested into discovering ways to incorporate online technology to save money by doing more with less and to open new markets for institutions. Almost 90 percent of all universities with more than 10,000 students offer some form of distance learning by means of the Internet (Svetcov, 2000). At the same time, little has been invested in trying to evaluate

the appropriateness and value of online technology to a particular application. In fact, considerations of appropriateness and value have been reduced to the ratio of money spent on hardware and courseware as compared to the number of students accessing the available courses using that hardware and courseware (Becker, 1992). Most online courseware is designed with little thought to the student audience that will be actually using the courseware. Audience analysis is an area where assumptions are often made without validation (Lee and Owens, 2004).

Academic administrators are convinced that online course quality and student satisfaction are generally very high in spite of the fact that solid evaluation data on either quality or satisfaction lags far behind development efforts (Flagg, 1990). Educational institutions seem to believe that because the use of technology to deliver course content is advertised as effective, it must be effective. Not everyone agrees with this assessment. In fact some have argued that the use of technology in education has met with poor success (Cuban, 1990; Siegel, 1994; Shlechter, 1991). Satisfaction of adult student learners with the typical online course design is not well known. In spite of limited indicators actually proving the worth of online courses, their pervasiveness is obvious in reports from educational agencies worldwide (National Center for Educational Statistics, 1993). This type of quantitative information is easy to collect, analyze, and report. More useful but more problematic research into effective learning systems design, student motivation, and student learning are more complex and less prevalent.

Even the definition of “student satisfaction” may be poorly understood. Academic leaders evaluate student satisfaction from data collected on courses evaluations volunteered from students as they complete online courses. These evaluations usually

measure student satisfaction based on student expectations prior to taking the course or as compared to satisfaction that students think they would have experienced had they taken that course in some other format. The problem is that students rarely have clear expectations of a course before taking it and they rarely take a course in an online and traditional classroom mode at the same time. Adult learners usually select online courses for reasons other than learning effectiveness. Relying on traditional empirical evaluation methods comparing online to traditional classroom courses produces data of little value (Clark, 1992; Berman & McLaughlin, 1978; Cooley & Lohnes, 1976; Reeves, 1992; Scriven, 1993).

Student satisfaction data from course evaluations, at best, indicate that the student is happy to have taken the course online that otherwise would have been difficult to schedule in a traditional learning environment or fit it in with other family or career responsibilities. If learning expectations were mediocre and the course learning experience was mediocre, then student expectations were met and satisfaction may be high. When registering for an online course, students with online course experience normally expect a certain amount of contact with their instructor with email, discussion groups, and web pages. Just as students with a lot of traditional classroom experience have certain expectations in the beginning, so do online students. The more experience a student has, with either traditional or online, the more critical they will be, making student evaluations inconsistent when experienced and inexperienced students are combined in the same study (Coldeway 1986).

As someone with 40 years of experience as both a provider and a consumer of technology, it seems to me that someone should ask the end-users of technology if their

lives have been made better or have they chosen to use the technology as a matter of last resort. As an educator and teacher of courses using many kinds of technology in an institution of higher learning for the last 14 years, I have become uncomfortable with the aggressiveness with which some universities implement technology to deliver course content.

Especially troubling is the question of quality and user friendliness of courses delivered entirely by computers and the World Wide Web. As colleges, universities, and even corporations exhibit an unquenchable zeal to offer online courses utilizing the Internet, they exhibit little interest in discovering how effective electronic delivery of course content is to the various types of students that consume these courses. More research needs to be done into ways to more effectively combine technology into the learning process.

Teaching institutions have added computers to the classroom to good advantage, and the fundamentals of classroom teaching have seen little if any negative impact from computer technology in the so-called “blended classroom” thus far. It would appear that digital technology has for the most part been used appropriately in classrooms for information storage, retrieval, and course content presentation in the classroom. Technology has replaced the chalkboard, the overhead projector, and video player with Internet connectivity, but for the most part, technology in the traditional classroom has had little impact on the pedagogical learning systems used in classrooms for a hundred years.

The growth of online education in the United States is staggering with 1.9 million students studying online during the fall semester of 2003, which represents a 19.8%

increase over the fall of 2002 (Allen & Seaman, 2004). There is no indication that this growth in online students is going to slow with expectations of a 24.8% increase being projected when the numbers are in for the fall 2004 semester.

Most schools that offer online courses are of the opinion that students are satisfied with the value and design of their online courses or the high rates of growth would not be sustained. Of the schools offering online courses, 40.7% state that students are at least as happy with online courses as they are with traditional face-to-face courses, and more than half, at 56.2% answer questions about satisfaction in favor of the online courses, and only about 3% claim that their online experience was inferior to traditional learning experience. From the statistics, one would conclude that students attending larger schools, with 1500 enrollments or greater, have more satisfied online students with only about 3% having a bad online experience), and schools of less than 1500 enrollments having a slightly less satisfactory experience (about 5.4% unhappy with their online experience; Allen & Seaman, 2004).

A recent study focused on adult female students (25-45 years of age; Kramarae, 2001) built on the 1989 study by sociologist Hochschild (1989) who talked about adult females working “two shifts” (Hochschild, 1989). Kramarae (2001) confirmed that women work a shift at the office or factory, and then go to their “second shift” job at home. In her study, however, Kramarae expanded on the “shift” metaphor for women by adding education as a “third shift” to their work at home and their work at the office. Kramarae was primarily interested in the difficulties of nontraditional female students in juggling work and family, while taking distance education courses to further their education. She discovered that most of these women felt isolated and often yearned for

face-to-face contact with their instructor. Her study also revealed that workingwomen also missed the associations with other students, and often mentioned that they believed that much of the learning experience was lost with no face-to-face contact with faculty and student body. Additionally, her study highlighted the lack of consideration of the adult learning process in the design of online courses.

In another recent study supported by the Alfred P. Sloan Foundation, the majority of schools (53.6%) stated that online education is a critical component of their long-term strategy. Larger schools indicate that online courses factor into their long-term strategy to a greater extent than small schools (Allen & Seaman, 2004). Three quarters of the academic leaders in schools today believe that within three years the quality of online learning will be equal to or superior to face-to-face instruction (Allen & Seaman, 2004).

Statement of the Problem

Online coursework using microcomputer networks has become one of the most popular ways in which technology is being used to meet the needs of university students (Barker, 1987; Kitchen & Russel, 1987). In response to declining budgets and competition for adult students, institutions of higher learning are adopting new technologies to deliver course content to more students at less cost (Palloff & Pratt, 2001). The ages of non-traditional students have been rising for over a decade. Enrollment of non-traditional students is disproportionately higher in online courses versus traditional classroom courses. Universities have flooded the academic world with online courses with adult students in mind and crafted marketing programs to attract this emerging market (Kramarae, 2001, p. 4).

However, 45 percent of college enrollment today is adult learners, over 24 years of age. And, in online courses, there are a disproportionate number of adult learners; they far outnumber traditional learners 24 years of age or under (U.S. Department of Education, 1997). Unfortunately, there is increasing evidence that adult learners are attracted to online courses not because they present course content most effectively for adult learners, but because online courses allow adults to pursue their educational goals while maintaining their many social, family, and career, obligations (Kramarae, 2001, p. 5). Non-traditional, adult students frequently indicate that online courses do not provide the satisfaction or meet adult learning needs as well as more traditional face-to-face courses. Kramarae (2001) indicates that most non-traditional students prefer courses offered in the traditional classroom and only take online courses as a last resort (p.11).

The application of adult learning theory would predict the likelihood of online coursework to meet the needs of adult learners to the degree that their coursework includes andragogical learning assumptions (Allison & Hayes, 1988). This study investigates the perceptions of adult learners of online courses and explores the effectiveness of online courses in relationship to Malcolm Knowles principles of adult learners (Knowles, 1990, p. 40). Outcomes of this study could be recommendations to improve online instruction to better conform to the adult learning assumptions as put forth by the leading researchers in the field of adult learning. Additionally, insights may be gained into the usefulness of Knowles (1990) assumptions in an online context.

Purpose of the Study

This study was designed to investigate the effectiveness of online courses in

meeting the learning needs of students who possess adult learning skills, regardless of their actual age. Specifically, this study examined the responses of 2,800 online students who took 41 online general education courses where course content was delivered entirely by means of personal computer. The objective was to evaluate how effectively the students believed the courses met their learning styles.

Using the lenses of adult learning theory (Knowles, 1990), the purpose of this study was to examine and measure to what extent the typical, general education; online courses present course content in ways that adult learners learn. “A theory simply explains what a phenomenon is and how it works” (Torraco, 1997, p. 115). Several leading adult learning theories were studied and summarized into six recurring adult learning assumptions by which to evaluate the design structure of online courses. Specifically this study accomplished the following:

1. Summarized and characterized “andragogy” (Knowles, 1990), “common guidelines” (Merriam, 1998), “a set of assumptions” (Bookfield, 1985), and “a philosophy” (Pratt, 1993) as a definition of adult learning styles.
2. Used that summary or lens to analyze student responses to online courses.
3. Reported additional realities as they were revealed
4. Assessed the usefulness of andragogy as a tool for evaluating online course designs for their ability to satisfy the needs of students with mature adult learning skills.

The focus of this study is on adult learners, not as measured by age, but as measured by the acquisition of adult learning assumptions. While some learners may acquire learning skills, that are defined by andragogical learning assumptions as “adult,”

at an early age, others may not meet the andragogical learning assumption's definition until late in life or never. Chronological age becomes problematic since learners develop adult learning skills at wildly differing ages and to differing degrees.

Definition of Terms

Definitions are provided below for terms used in this dissertation.

Adult learners were once called nontraditional students, referring to students outside of the 18-22 age group. As the adult student population expands, the term nontraditional no longer applies (Croll, 1981), (Hanna, 1998). Hanna points out that because higher education is no longer a place where one prepares for a single career for life, adult learners are more prevalent.

Adult learning theory: Learning is defined as the potential to change behavior (Merriam & Caffarella, 1991). Learning is a complex process, rather than simply a result. Attempts to understand this process can be categorized into theories such as: behaviorist, cognitivist, humanist, and social learning (Merriam & Caffarella, 1991, p. 125).

Andragogy is a term Malcolm Knowles used to describe a theory of how adults learn, similar to pedagogy referring to how youth learn (1978). Andragogy is based on four learning assumptions about adult learners: adults are self-directed, adults learn best by

making use of their experiences, timing is critical to adults being able to learn, and adults need visualize immediate and practical applications to what they learn.

ASCII refers to an industry standard program that can be found in an Internet Web Page that increases its functionality.

Bandwidth is a term that describes how much data can be sent through a connection, usually measured in bits-per-second. A full page of text is about 16,000 bits. A fast modem can move about 15,000 bits in one second. Full-motion, full screen video would require over 10,000,000 bits-per-second, depending on the degree of compression

Browsers are software programs that allow users to view Internet documents. Browsers translate files from the Internet into text, images, and sounds. Microsoft Internet
Explorer is an example of a graphical browser.

CD-ROMS are compact disks that have large storage capacity, and can hold text, graphics, audio, and video, as well as software programs.

CGI software is a collection of subprograms that can take data from a Web server and accomplish such things as putting the contents of a Web form into an e-mail message. CGI software is usually stored in directory on a Web server.

Compressed Video (CV) describes a technology used in Distance Education that allows people in different regions to see view each other on computer monitors. Compressed video streams large audio and visual files and usually plays them over telephone lines.

Distance education in this dissertation refers to “education delivered to remote locations computer technologies, using either or both synchronous and asynchronous delivery of course content” (Distance Education at Postsecondary Education instructions: 1997-1998). In this research project, distance education does not include correspondence or broadcast-based education.

Email Messages are messages usually sent in text, from one person to another via a computer.

Face-to-face learning refers to teaching and learning that occurs where both teacher and students are confined within a single room.

Frequently asked questions (FAQ) is usually a hyperlink on a website, that links to a webpage where answers to common questions are located.

Home page when found in a website usually refers to a combination of a "title page" and "table of contents" web page for an institution or person.

Hypertext can be any kind of text that contains a link to other documents, words, or phrases within the document that can be selected by a reader and cause another document be retrieved and displayed.

Internet is the common name given to a network linking different kinds of computers of different speeds with people by means of a common protocol. The Internet contains the Web, as well as Email, listservs, FTP, and other resources.

Internet Relay Chat (IRC) is a type of electronic conferencing much like online discussion forums.

Integrated Services Digital Network (ISDN) refers to a telecommunications link that allows the simultaneous transmission of voice and data over existing telephone lines.

Internet Service Provider (ISP) describes a company or institutional network system that provides access to the Internet to its subscribers.

Traditional Courses are courses that are essentially courses taught in a face-to-face classroom environment but may use some web-based technology to support of the course

content with web pages that display information such as the course syllabus and/or an online calendar to assist in course events and assignments management.

Blended or Hybrid courses combine online and face-to-face delivery of course content. These courses have a substantial amount of the course content provided on the Internet, and usually involve some type of collaborative online discussion forum. Some face-to-face learning environment is included, but much less than found in "Traditional" courses.

Learning style is a term meaning "the composite of such characteristics as cognitive, affective, and psychological factors that indicate how an individual interacts with and responds to a learning environment" (Duff, 2000, p.2), (Sarasin (1999) defines learning styles as "a certain specified pattern of behavior and/or performance according to which an individual approaches a learning experience. It is a way in which the individual takes in new information and develops new skills, and the process by which the individual retains new information" (p. 1).

Lifelong Learning: Cross (1981) wrote that there are many different interpretations of this popular term. Dave (1976) describes the term as a process that includes education in its totality. It includes formal, nonformal, and informal patterns of education. It attempts to integrate and articulate all structures and stages of education into vertical (temporal) and horizontal (spatial) dimensions. He characterizes it as having flexibility in time, place, content and techniques of learning. (pp. 35-36).

Online instruction or web based instruction is a particular form of distance education. Khan (1997) defines web-based instruction as "a hypermedia-based instructional program which utilizes the attributes and resources of the World Wide Web

to create a meaningful environment where learning is fostered and supported" (p. 6).Teaching style: Grasha (1996) defines teaching style as a "multidimensional construct" that cannot be explained in few statements. Grasha suggests eight approaches to identifying the elements of teaching style or preferred methods of teaching:

1. General modes of classroom behavior
2. Characteristics associated with a popular instructor
3. Teaching methods employed
4. Behaviors common to all college faculties
5. Roles teachers play
6. Personality traits
7. Archetypal forms
8. Metaphors for teaching (p. 10)

Streaming is a technology that decompresses visual and sound files in such a way that they will play while still downloading from the Internet.

Teaching style is linked to learning style and both should be considered together. Grasha refers to this linkage as the "teacher-student transaction," describing the attempt by teachers and students to create effective means of communication (p. 41). Part of the teaching style definition is instructional strategy. Most instructors employ instructional strategies that complement their personal learning styles (Sarasin, 1999). When instructors identify their own learning styles, they begin to understand their own teaching styles and can begin to branch out into new instructional strategies.

Traditional Courses are courses that involve no online technology and deliver all course content by writing or orally in face-to-face communication.

Uniform Resource Locator (URL) is the unique address of a Web site.

Theoretical Framework

This study applies an andragogical learning model that differentiates the unique learning processes of adults from juveniles for the purpose of measuring the effectiveness of online courses as offered by colleges and universities to adult learners. These learning assumptions, as presented in the works of Malcolm Knowles (1998), with his research on adult learners will be brought into even shaper focus by the parallel work of "common guidelines" (Merriam, 1998), "a set of assumptions" (Bookfield, 1985), "a philosophy" (Pratt, 1993), and the valuable adult learning research by Rosemary Caffarella (1999),

It is Knowles' studies of the characteristics of adult learners (andragogy) as opposed to juvenile learners (pedagogy), which provides the framework by which this study attempts to better understand adult learning and measure the appropriateness of online courses that target nontraditional adult learners. The concept of andragogy has been around since the 1930's, but Knowles condensed the notion of andragogy into six assumptions that provide other researchers a learning theory or framework useful in measuring learning effectiveness. For the purposes of this study, the principals of andragogy are compared with course design strategies of general education courses delivered electronically to students that exhibit andragogical or adult learner traits.

The Knowles' andragogical model identifies six adult learning assumptions that differ from students who learn primarily through pedagogical learning methods. These learning assumptions, plus the amplification of these assumptions by several other prominent theorists who have focused their research on adults, comprise the framework of

this study and the template by which the collection of online courses is evaluated for their appropriateness in meeting the needs of adult learners. This study concentrated on mature online courses, meaning those having been successfully taught for at least four semesters. These adult learning assumptions as defined by Knowles are summarized briefly in the following:

Table 1

Malcolm Knowles Andragogical Learning Assumptions

The need to know	Adults need to know why they need to learn something before they begin to learn it.
The learners' self-concept	Adult learners develop a psychological need to be recognized by others as being capable of self-direction.
The role of the learners' experiences	The richest resource for learning comes from the adult learners own experiences and adult learners learn best when techniques are used that tap into these experiences.
Readiness to learn	Adults become ready to learn when they realize there is much that they need to know to help them cope with their real-life situations.
Orientation to learning	Adults learn best when they realize that learning will help them perform specific tasks that they face in daily life, and the course content is presented in the context of real-life situations.
Motivation	For adult learners, the best motivators are derived from internal pressures such as the desire for more job satisfaction, increased self-esteem, and improved quality of life.

Procedures

This study first examined how adult students, experienced with online courses viewed their learning experiences and examined their narrative descriptions of what they liked, what they disliked, and what they would change about the online courses that they had just completed. These narratives were coded utilizing a wholly qualitative interpretative analysis technique, conducted as part of a traditional content analysis research method. This method fostered a research environment of constant discovery and revision. This choice of research was successful, in part, because of the experience and competence of the research observer. This system of analysis produces results more precise and challenging than most other forms of content analyses (Propp, 1968), (Neuendorf, 2002).

This study relied on assumptions drawn from widely accepted adult learning theory to filter the three major categories and five subcategories. As these categories were analyzed with the adult learning theory, it became clear how adult learners in online courses define and operationalize their work of learning with technology. Merriam (1988) made the profound observation that qualitative research assumes that there can be multiple realities that are functions of personal interaction and perception (p.17) and qualitative research offers an excellent rational for performing research in a human setting (Erlandson, Harris, Skipper, & Allen, p.9), such as an adult learners in online courses.

Researcher

As a teacher of online courses, I have become increasingly aware of the need to reexamine the online courses that I teach to determine if they are actually accomplishing

the teaching purpose for which they were implemented. As part of the distance education committee at my university, charged with supporting the development of new online courses and improving the quality of existing courses, I feel the need to examine the design of all online courses at my university for the inclusion of learning strategies that facilitate adult learning.

Fourteen years ago I began a teaching career in higher education. I immediately began to develop online courses utilizing personal computers. Online education was in its infancy and the task was to deliver course content from a distance with the technology available at that time. All resources were directed at applying existing computer technology to the delivery of course content, and little thought was given to learning theories or student needs. Little has changed. After teaching more than three hundred online courses and thousands of students by distance, I am prompted to study online courses with a determination to measure their effectiveness in meeting the needs of adult learners. I now teach mostly online courses from my own server with Internet software from FrontPage, Flash, Perl, HTML, PHP Forums, and numerous scripts for educators. My educational learning web site is over 450MB in size with over nine thousands pages of text, and receives over 30,000 hits per month (only about half from my students).

My experience in computer technology began in 1961 with my employment with International Business Machines (IBM), and continued with this company for 17 years with large main frames in the scientific, financial, and educational divisions of that company. My job was to figure out how cutting-edge computer hardware could be used to automate record-keeping functions even if, in the process, I made the job more complex and time consuming than if done manually. Regrettably, this frequently happens when

technology design gets ahead of user strategy. Never the less, my systems analyst career at International Business Machines was followed with a stint of eight more years at National Case Register, in the user software research and development department in conjunction with their “Century” family of main frame computers. Finally, I left NCR and founded three computer companies, Continental Time Share Corporation, Minicomputers Incorporated, and Turn-Key Software Corporation, where we installed hundreds of computers and developed thousands of programs for several different industries.

Because I have been competitively involved in implementing technology properly and in appropriate ways to appropriate applications for more than 30 years as a profession, my interests gravitate in the direction of consumers of technology to a greater degree than suppliers of technology. This characterizes my biases that likely will impact my observations about the use of technology for the purpose of teaching at a distance and the design strategies of the courseware as implemented to accomplish this task. I have no intent to evaluate any particular online course, instructor, participant, administrator, or institution with this study. Instead, I only want to tell the story of how one group of online adult learners, in the spring of 2004, perceived the online courses that they completed, and determine the extent to which those courses met their unique adult learning needs.

Methodology Implications

The objective of the study is to discover and interpret the interactions of adult learners taking online courses to ascertain how effectively these courses deliver course content that meets the adult learning assumptions as presented by contemporary adult learning authorities. Adult learners that find themselves in a technology-based learning

culture, for whatever reason, possess many values that are in conflict with historical-traditional values that survive the traditional face-to-face classroom.

This study employed a qualitative content analysis design to analyze student responses to questions concerning how well their online courses provided course content and learning strategies appropriate to their adult learning systems. This design is not a combined quantitative-qualitative mixed-method in the usual sense with multiple methods of data collection and analysis. Instead, it is theoretically driven by a dominant inductive qualitative method paradigm, which utilizes an alternative and complementary quantitative content analysis component instead of interviews for data collection (Creswell, 1994). In this two phase design, archived text from several thousand respondent perceptions that were categorized by content analysis using a learning theory partially to provide a starting point with as a series of assumptions to be tested, but more importantly, a set of assumptions to be modified and shaped (Creswell, 1994). The categorized narratives that resulted from this process were then qualitatively and inductively interpreted to both modify the learning theory categories and develop new ones as dictated by the narratives. This design process was nomothetic in the sense that the objective was to identify generalizable findings, from many respondents' texts, using specific and well-defined assumptions about adult learning. The conclusions from this study are broadly based, generalizable, objective and inflexible (Neuendorf, 2002). The systematic application of andragogical learning assumptions to the student responses revealed a rich set of texts of student learning data from which to measure how well typical online general education courses meet the needs of students with andragogical learning skills. Because most adult learning theory research is over twenty years old, and

because little research has been undertaken on adult learning in online courses, it was expected that this study using existing accepted learning theories would extend the knowledge base from learning theories linked with learning in traditional classroom environments to new and more meaningful theories that will guide future online course design appropriate for adult learners.

Adult students in a nontraditional academic setting present a complex culture. Their responses to questions about online course design and educational content delivery provide a data base with multiple layers and categories that can best, perhaps only, be explored by content analysis to identify and relate the responses to accepted learning assumptions of adult learners as available in current literature. A qualitative analysis of these linkages can then reveal to what extent typical online courses present course content in appropriate ways for the adult learning culture.

A test of the protocol was initially run using 100 student responses that related to one or more of the variables found in the protocol. The protocol was then revised slightly to better identify themes emerging from the student data and the data set was rerun. Qualitative analysis of the contents of the full data set provided a dynamic tool to track the relevant discourse by keying on issues, words, and themes across a wide range of representative online students with a wealth of experience in a wide range of online courses. The inductive nature of this qualitative data analysis resulted in such a high frequency of narratives associated with the variables of the protocol that the results quickly became rhetorically convincing (Berge & Collins, 1995).

Being able to draw on my 15 years of experience in online course design and online course delivery allowed me to access and understand the culture of online students,

to understand and review relevant literature, and identify variables that relate to respondents attitudes about the degree to which online courses they had recently completed met their learning styles. In this study, I developed a structured protocol by which I coded responses into categories and subcategories as they applied to variables from accepted adult learning theory from the somewhat dated literature.

Data Needs and Sources

Since the purpose of this study was to examine the process of adult learning in an online environment, data specific to the adult learning process in these courses was necessary. This data had to be retrieved from adult students with in-depth experience in both traditional face-to-face learning environments and contemporary online courses with state-of-the-art courseware. The site that provided the archived data for this study was recognized as being a provider of online courseware since 1988, and one that offered a large number of online courses each semester. The research department of this university cooperated to an exceptional degree by providing student narratives from students who were juniors or seniors and had completed two or more online courses. The research subjects and courses were taken from the Schools of Business and Technology, Liberal Arts, Mathematics, Science, and Health Sciences in a typical mid-western university of approximately 4,000 students.

Data Analysis

Researchers who desire to find out how people describe and make sense of their world often choose qualitative interviewing as their method of inquiry (McCracken,

1988). The qualitative long interview design was at first carefully considered for this project, but was discarded in favor of a qualitative content analysis design that analyzed the results of open-ended survey questions from a large number of adult student concerning how well they thought online courses that they had taken met their learning styles. The data analyzed for this project provided a greater number of student experiences in online courses than would have been possible with student interviews. The content analysis process continued until several recurring themes emerged from the assumptions framed around Knowles' principals of andragogy (Knowles, 1990, p. 40).

True to the qualitative research techniques, this qualitative content analysis design provides an analytical process to link the themes that emerged, from the respondents' narrative responses, to the survey questions being studied. This analysis was theory-driven in nature, but flexible enough to recognize new concepts and adult learning assumptions about online courses as they emerged during the deconstruction of the student survey texts. In this study no actual college or university is revealed, and it does not involve actual or specific subjects, or particular courses. No Institutional Review Board (IRB) was requested because I planned no research that involved human subject identification.

The respondent's narratives expressed many rich, intimate, and valuable insights as to how well online course design and methodology served the learning styles of these adult learners. These insightful narratives expressed distinct and explicit responses that turned out to be easily formulated into coding parameters that could be matched with the "andragogical" learning assumptions developed from Knowles (1998), "common guidelines" from Merriam (1998), "a set of assumptions" from Bookfield (1985}, "a philosophy" from Pratt (1993), and the excellent adult learning research by Rosemary

Caffarella (1999).

After tagging the thousands of narratives, SPSS software was employed to analyze the tagged texts and provided a number of differing views of the coded responses that narrowed the gap between the value-laden and the value neutral distinctions produced by the computer software, and the distinctions produced by ethnological qualitative methods. The texts included many meaningful responses within the context of this study's research questions. The inferences and linkages applied by this content analysis presupposes that the reader has a minimum amount of knowledge of this kind of material, some experience with online learners, and some insight as to how the research questions might relate to the respondent's texts (Krippendorff, 2004). This knowledge would be most useful in understanding and appreciating the value of the subtle revelations that emerged from what was not said as much as what was said.

Research Criteria

Throughout this study trustworthiness has two elements: (1) the correctness of the methodology; and (2) the rigor of the methodology. The intense nature of studying and interpreting adult learning styles and how they adapt them to contemporary online courseware are extremely exploratory and the rich, non-experimental narratives drawn from these students and analyzed through a sound learning theory can lead to new theories. This mixed method content analysis and qualitative study achieves trustworthiness because the criteria of credibility, transferability, dependability, and confirmability have been satisfied (Erlandson, 1993; Lincoln & Guba, 1985).

Credibility

The correlation between the perceptions and realities expressed by the respondents and the interpretations and articulation of the respondents' realities by the researcher represents credibility (Lincoln & Guba, 1985). My isolation as researcher from the respondents and the data they submitted contributes to the credibility of this study. The design and use of a clear protocol that matched respondent's narratives with the basic elements of accepted adult learning theory established with a high degree of accuracy results that all researchers experienced with online courses and adult-learning styles could replicate and arrive at the same conclusions. Additionally, three other researchers with extensive online experience and in-depth knowledge of adult learning styles reviewed these protocol worksheets to further enhance reliability.

Frequent debriefings with my dissertation advisor, Dr. Adirenne Hyle provided a professional analysis of the research process and included feedback about findings and conclusions with appropriate challenges and redirection when necessary.

Dependability

A qualitative study is dependable when its information and its process are reliable and tractable (Lincoln & Guba, 1985). This study provides massive amounts of detailed records creating an audit trail for other to track and verify the research process. The categorization process is clearly defined, the questions explicitly developed, and narrative analysis of the categories and development of new themes is straightforward and predictable.

Confirmability

Confirmability depends on the ability to follow data to their sources "and that the logic used to assemble the interpretations into structurally coherent and corroborating wholes is both explicit and implicit" (Lincoln & Guba, 1985, p. 243). The audit trail for this study includes all narratives collected from respondents, the coding protocol, numerous graphs and charts generated by the software (SPSS), and detailed descriptions of functions and features of a random sampling of the online courses used in this study.

The following rules were observed at all times to preserve the truth and meaningfulness of the data:

- The researcher had no previous knowledge of the course subject, content, or structure of the courses used in this study.
- The researcher had no involvement with the development of the course and had not worked with the developer (or instructor teaching the course if different from developer) or played any advisory role in the development or maintenance of the course.
- Courses were mature online courses that had been offered to multiple classes over four semesters or more.
- The researcher for this study received permission from the university's Director of the Center for Teaching and Learning to analyze the Spring, 2004 online course evaluations for research purposes, but no other contact was made and no other information was received such as information about type of course, course developer, or instructor's identification.
- Courses within the researcher's teaching discipline were omitted from the

data set.

- All respondents were anonymous.
- All courses were online courses that were offered to students in the spring 2004 academic semester.
- All identifying text and symbols that could identify a particular course, student, or instructor were removed from the respondent's narratives by other researchers before the narrative data set was used.

Significance of the Study

Research must accomplish three things to be significant (Hoy & Miskel, 1991). (1) The researcher must increase the knowledge base; (2) have an impact on practice, and (3) clarify or add to existing theory. This section explains how this analysis of online course adult teaching strategies accomplishes these goals.

Limitations of Study

This study only examined a population of online students enrolled in online courses at one university, at one campus, during the spring semester of 2004.

This study is limited to online courses offered by only one university in northeast Oklahoma. The information gathered in this study is descriptive of the perceptions and beliefs of the online students at this school who completed courses in the spring of 2004. The findings, conclusions, and recommendations of this study can serve as a valuable resource for other institutions of higher learning that are engaged in the continuous process of adding online courses and improving their effectiveness with adult student

populations. This study makes no attempt to compare student achievement in online courses with traditional courses or to compare online achievements in one course discipline with any another.

Online learning communities (usually linking students at multiple locations together with closed circuit monitors), while they are becoming an exciting contemporary learning environment are not part of this study. The focus of this study is restricted to online students as defined as individual students using a personal computers communicating to an instructor utilizing various course software by Internet connectivity. No attempt was made to determine if online students were a great distance from the instructor or perhaps living on campus, and no attempt was made to determine if the students were taking other online or traditional courses simultaneously with the course included in this study. Online student's computer skills, or lack of them, surely play an important role in online success, but were not a consideration in this study. Because of the long experience of this university in developing online courses, their investment in technology, their emphasis on faculty development in online course creation and instruction, and the university's extensive online support staff, the course design quality of online courses offered at this school are equal to or greater than those offered at much larger institutions.

Research

This study adds to the limited knowledge base concerning the design effectiveness of typical distance education courses that deliver course content electronically in ways that conform to the unique learning styles of adult students. Tom Russell of North

Carolina State University compiled a bibliography of hundreds of references to research projects that studied different learning technologies that have been used since the 1940s (http://tenb.mta.ca/phenom/phenom.html). He concluded that there was no significant difference in learner performance between students enrolled in traditional courses and students enrolled in online classes.

This study departs from the mass of research into online course with an examination of several dozen online courses, for evidence of course design based on accepted online learning assumptions as described from an adult student viewpoint and issues a kind of "wake-up-call for designers and distance educators of adult learners." Why has online technology, which has a number of important inherent structural parallels to the ways that adults learn, not produced superior results from online adult learners? Online education should not simply attempt to replicate a classroom on a computer monitor, but should incorporate strategies that capitalize on the natural advantages of online course delivery.

Practice

This study informs the practice of instruction in higher education by providing course designers and teaching faculty with new insights regarding teacher preparation, electronic teaching techniques, online teaching tools, and online course design strategies. This study impacts the practice of teaching adult learners online by presenting teachers with specific ways that achieve better outcomes in student motivation, knowledge acquisition, and student satisfaction. These significant accomplishments are achieved by simplifying the learning process, not complicating it with complex and sophisticated

computer systems and fancy software programs that distract more than inspire learning.

With the implementation of adult learning theory into online teaching strategies, less becomes more. Teaching becomes more "Socratic," and the teacher's role becomes more like a critical thinking tour guide, asking carefully constructed, purposeful questions designed to lead the adult learner through their own personal learning process. The teacher's mission becomes more thoughtful and complex but involvement with the adult student actually diminishes as the student assumes increased responsibility for her own knowledge acquisition. In Alexander Astin's study "What Matters in College," (1993) he discusses the impact of various variables in the college environment on student development. One important measure is "student orientation of the faculty." Student orientation is the extent to which faculty is interested and involved in student development. Astin claims that public universities score low in this area. Students do not perceive their faculty as interested in or available to assist them with problems. This study demonstrates that the online adult learning process is little different from the traditional classroom learning process for adults, except that the online process has a few critical built-in advantages not found in the day-to-day confinement of the classroom. Understandably, adult learners lose something when removed from the classroom; but, thoughtful online teaching strategies can outweigh the values of the traditional, continuous, and face-to-face, relationships between teachers and adult learners. The astute teacher can utilize the simplest of currently available computer technology to achieve great results. The key to adults learning online is the teacher's extraordinary skill in accommodating the adult learner's unique learning characteristics with the least complex technology possible.

Theory

This study analyzes the teaching tools and philosophies of various kinds of distance education courses to determine how well their design strategies meet accepted theories, guidelines, assumptions, and philosophies, as developed by the research and works of several notable and respected authors in the literature of adult learning theory. R. J. Torraco explains, “A theory simply explains what a phenomenon is and how it works” (Torraco, 1997, p. 115). This study will have a profound impact on existing learning theories because it applies these fundamentally traditional classroom theories to adult learners who have recently completed online courses, thus revealing the extent to which these adult learning assumptions are true in an online environment. This study will not only verify the applicability of current adult learning assumptions to contemporary online courses, but will facilitate the emergences of new “online course” specific assumptions and a resulting new theory.

Summary

The single most accepted set of core learning principles for adults that have stood the test of critique, debate, and challenge are the principals advanced by andragogy (adult learning theory). The strength of andragogy is its set of core adult learning guidelines that fit most, but not all, adult learning situations. Malcolm Knowles started a revolution in 1990 when he summarized andragogy into a core set of six adult learning principles (Knowles, 1990). These principles, 1) the learners need to know, 2) self-concept of the learner, 3) prior experience of the learner, 4) readiness to learn, 5) orientation to learning, and 6) motivation to learn, should all be considered in the design of any course directed at

adult learners. This study also examined several additional researchers of adult learning theory that have arrived at other sets of learning principles that have also contributed much to the field of adult learning but in the final analysis, most have included principles of andragogy or similar assumptions as the springboard into their research. The Knowles' contribution of andragogy to adult learning information has provided us with a useful set of widely accepted assumptions or theory by which to analyze any adult oriented learning course, traditional or online. This study adapts Knowles' work, which has primarily a traditional classroom orientation, but still offers a set of very persuasive universal adult learning assumptions. From these assumptions a theory emerges that provides a framework from which to organize this inductive investigation of adult learner's perceptions of online courses. Ultimately this study will develop an improved and expanded set of adult learning assumptions more specific and useful as design strategies for online courses appropriate for adult learners.

Reporting

Chapter II contains a review of literature associated with the history of online education and the adult learning assumptions which comprise the adult learning theory utilized to initially structure the text data for this study. This chapter also compares a traditional learning environment with an online learning environment in institutions of higher learning. A major distinction of adult learning theory is the focus of learning on the student rather than on the professor. I also examine the literature for explanations of ways in which adult learners deal with things, people, as part of their learning process. Adult learning assumptions in the literature include adults learning independent of the professor, adults relying of themselves and their accumulated experiences, and the assumptions that

adults have an internal motivation to learn.

Chapter III consists of more in-depth description of the design of the study, including the source-data, site, participants, processes and perceptions. Chapter IV includes the presentation of the data as manipulated by my reflexive involvement, including the qualitative content analysis design, the construction of contexts for the analysis, the interpretation of the texts, and the creations of narratives that answers the research questions of my study. Chapter V contains the summary, conclusions, implications, recommendations.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter will summarize existing literature regarding roles of communications and computer technologies in the evolution of online education at the university level. It will focus on adult learning characteristics, elements, and established adult learning theories. Finally, it will constitute the lenses of analysis through which this study will explore contemporary online courses to discover the extent to which technology and design strategies have been implemented that accommodate accepted adult learning theories.

Online Education

Online education has changed drastically over the last couple of decades because of new, more user-friendly telecommunication technologies that have permitted even the smallest education institutions to offer courses at a distance from their main campus. (Simonson, Smaldino, Albright & Zvacek, 2000). Along with new technologies, educational institutions have presented learners with many new terms that are often used interchangeably to describe the process of college course content that is delivered over a distance by some electronic technology. This study focuses on online course content delivered by means of personal computers to students who exhibit adult styles of learning.

Throughout the literature, online education is also described as self-directed learning, distance learning, and computer mediated learning, as well as several other labels. The common criteria for this review of literature are adult learner's evaluation of their needs from online courses, types of adult course content delivered by computers, and the degree of inclusion of adult learning theories within the courses that comprise this literature review.

The many different labels found in the literature in reference to this technology create some confusion in defining online education: andragogical learning (Knowles, 1975); independent study or independent learning (Johnston & Rivera, 1965) autonomous learning (Houle, 1972; Miller, 1964); self-education (Dickerson & Clark, 1975), individual learning, and independent self-education (Johnston & Rivera, 1965) are only a few of the most common titles applied to learning by electronic means where face-to-face contact is not part of the process. This study used the term online education.

Essential Elements for an Adult Learning Climate

In researching the ideal learning climate for adult learners, Knowles (1980) identified two components essential to acceptable learning climate: physical and psychological. The physical component of the environment the adult learners simply need to feel physically comfortable. Furnishing and equipment are appropriate to adult needs; the "meeting room should be arranged informally and should be decorated according to adult tastes: and acoustics and lighting should take into account declining audiovisual acuity" (p. 46).

In contrast, “the psychological climate should be one which causes adults to feel accepted, respected, and supported; in which there exists a spirit of mutuality between teachers and students as joint inquirers; in which there is freedom of expression without fear of punishment or ridicule” (Knowles, 1980, p. 47). Learners tend to be more effective where environment is academic, friendly, informal, and if others are present where they are known by name and feel that they are unique, as contrasted with a learning environment of formality, semi-anonymity, and status defined as teacher and student. Adult learners enjoy a learning environment where they feel that their life experiences have value. Adult learners enjoy learning where they are allowed to participate in the learning process (Knowles, 1980). Brookfield (1993) added to this concept by stating “that by setting a psychological climate where adults are respected and their experiences are valued, they cooperate in the learning journey instead of competing, and they can express their feelings and ideas without feeling intimidated and rejected” (p. 66).

Penland (1981) points out “circumstances in the learning environment may govern learning behavior at any given time” (p. 45). Differences in learning environments could impact the learning characteristics of the learner himself. Moan and Dereshiwski (2002) discussed the differences between traditional classroom learning environments and distance learning environments from an instructor’s perspective. In both environments, computer websites can be employed to monitor and assistance the learner’s progress through a course. In a traditional environment, learners can ask questions directly from the instructor; however, in the distance environment, questions must be posed through some electronic medium (e.g., fax, telephone, email, or website). Moan and Dereshiwski discovered that students with higher levels of self-directedness and independence actually

preferred some type of distance learning environment, with some degree of "independence" from the instructor. Students with lower levels of self-directedness and independence preferred a more traditional classroom with a traditional in-person instructor. This research suggested that the self-directed, independent, self-reliant, learner, not only learners better in a distance environment, but those same attributes are actually enhanced by the distance learning venue.

Technology has facilitated learner-to-learner and learner-to-teacher communication that can be made to resemble more traditional face-to-face interactions (Brothel & Enfinger, 2002). Newer technologies have facilitated the creation of hybrid courses, sometimes called blended courses, which have aspects of both traditional and distance learning courses. Brothel and Enfinger (2002) researched learner's needs, faculty support, and the use of technology to enhance adult learning traits and improve the learning process. In these hybrid courses, course content (e.g., case studies, assignments) was published to the website; and grades were placed in password protected pages of the website where students can observe them at any time. All quizzes and tests were proctored in person. Each learner had the opportunity to meet face-to-face with the instructor at least one time during the semester. Learners' self-directedness was not measured, but it was believed that learners with high levels of self-directedness would require no more than one meeting with the instructor. More dependent learners were scheduled face-to-face visits several times during the semester.

Dong (2002) studied "cyber" learners to determine if learning environments (e.g., traditional learning, distance learning) impacted the learners' ability to finish a degree program. Distance learning by computer can be an isolating experience; however, Dong

discovered that learners who completed a computer mediated educational learning experience were usually older adults, often employed full-time, and frequently under pressure to earn a degree for their career or for personal accomplishment.

Anakwe (2001) concluded that there were significant differences between traditional-learning and distance-learning environments related to the level of sophistication of the technology, and that distance learners, who probably have greater computer skills would probably achieve better outcomes. They discovered that distance learners in a graduate business program, with past technology experience and presumably enhanced computing skills often preferred learning by distance over learning by traditional learning that included face-to-face contact. Anakwe remarked that these results would probably be generalizable to similar demographic populations, but not hold up too well if population demographics varied very much. This research proved that adult learners were more comfortable with distance learning when they had past experience with various communications technologies (e.g., email, search engines, WWW) When adult learners have little technology experience, their outcomes are not nearly as impressive. Adult learners prefer personal flexibility with their course curricula and seek out technology that affords them more independence from “traditional” course content delivery, and allows them to act with more self-reliance.

Much of the learning research as applied to adults has been conducted with adults in the worker environment as opposed to the educational environment. Two structures have been examined; a rigid training structure and a cooperative learning structure (Robotham, 1995). The rigid training structure was imposed on workers to meet course requirements. This rigid structure has repeatedly proven to restrict adult learning for

individuals that do not perform well in any rigid circumstances. Robotham made note of adult learning characteristics that included independence, self-confidence, self-reliance, and self-directedness. The traditional classroom and rigid learning environment provided little interaction between teacher and learner unless the worker/learner asked questions specific to the material being presented. The learners in the rigid classroom had lower levels of self-directed learning imposed on them than in the co-operative learning structure.

The co-operative learning structure offered learners greater flexibility, more personal choices, more challenges, and did not present nearly as threatening of a structure as the rigid course oriented more toward the course content and less on the learner. Where adult learners were challenged to learn in various ways and even create their own path to knowledge, they invariable build on previous knowledge they had acquired, and the outcomes exhibited higher levels of self-directedness, independence, increased self-confidence, and self-reliance. Research has often criticized courses that cannot strike the proper balance of flexibility necessary for an adult learner and create the appropriate structure to achieve the training goals of an adult learner. The research is additionally complicated because learners have different levels of independence, self-directedness, and self-reliance.

Traditional Learning Environments

Traditional education is usually defined as the normal offering or presentation of education in schools and universities. It usually includes some classroom dialogue, lectures, tutorials and seminars presented by the teacher. In recent times, laboratory work,

field trips, library or resource center activity has been added. Technologies such as overhead projector and black (or white) board still require students to travel to the institution to receive their education. The traditional classroom style of teaching can be traced to the beginning of formal education around the 4th and 5th century B.C. (Keegan, 1986). Traditional classroom teaching styles have been impacted in the last decade by advancing technologies (e.g., computers, Internet), and the distance education format has become popular with adult learners who present special considerations (e.g., time, responsibilities, travel constraints, employment demands).

As mentioned above, Robotham (1995) researched worker learning in two environments: a rigid, non-traditional structure where no interaction between learner and teacher was provided unless the worker had specific questions directly related to the subject being taught. The rigid structure served the dual purposes of satisfying the basic course requirements and providing a learning environment for workers that could perform well when allowed to make their own learning choices and questions were not limited, and workers were allowed to choose from various learning options made available to them. Workers in the rigid learning environment had lower levels of self-directed learning than in the co-operative learning environment.

Online Learning Environments

Present-day online education in higher education institutions utilizes many types of technology to separate the teacher from the learner and the learner from the learning group. The strong interpersonal face-to-face communication of the traditional classroom is replaced by an impersonal mode of communication mediated by technology (Holmsberg,

1986). Virtual, or electronic, classrooms may be created by linking to satellites or by using compressed video technology, enabling instructors and students to achieve an electronic face-to-face communication, albeit somewhat one-dimensional. Often learners are disappointed and may have difficulty maintaining focus with compressed video courses because the technology is substandard to that quality that students have come to expect from commercial television. The personal computer has become the most popular vehicle to link teachers, learners, and learning groups. This literature review targets material that deals with personal computer technology and its appropriateness to effectively deliver course content to adult learners.

Online education is defined as being self-directed and focused on the adult learners' control of their own learning process. (Candy, 1991) Candy contended that adults, unconsciously, already do a large amount of self-directed learning every day; therefore, they have a natural orientation that complements online learning. He wrote that an adult's choice of self-directed learning stems from the adult's value system that is based on the desire to be independent. Most adults are forced to make independent decisions daily or even hourly for the sake of survival in the complex world in which we live. As an adult learner acquires adult learning abilities, they require less intervention and direction from outside sources to understand of new material. Candy (1991) explored the adult learner's desire for increased control of their learning environment and the related ability for self-direction that adult learners experience as they mature. He believed that giving adult learners increased control of instructional functions produces improved outcomes.

Others have arrived at similar conclusions. Self-directed learning outcomes are improved in terms of subject matter acquisition and material retention as the adult learner assumes more responsibility for her own experience. Student interest and involvement is enhanced as the adult student begins to comprehend that their breadth of understanding of what is learned may be the solution of some of their real-life problems, “Adult learners exhibit increased self-confidence and self-reliance, ability to work effectively with others, understanding of goals and direction, and are self-motivated to continued learning” (Wright, 1980, p. 246). “While learner-controlled education has proven to lead to improved outcomes, if learning is defined in conventional ways as merely the acquisition of information, the evidence to support the idea that self-directed learning is superior to instructor-controlled learning is pretty thin” (Candy, 1991, p. 242).

Candy analyzed numerous examples of how increasing control over their own learning process produced several advantages. “First, prolonged and consistent exposure to high levels of learner-control of their own learning process seems to lead to collateral gains in curiosity and critical thinking: second, the quality and retention of understanding seem to be enhanced when learners have to sort out essential from nonessential information on their own; and third, learning outcomes are probably better if learning is measured qualitatively instead of quantitatively” (Candy, 1991, p. 242). Candy focused on online learner’s improvements in areas such independently finding solutions to real-life problems, improved self-confidence, and improved self-reliance.

Professor-Centered Learning Versus Student Centered Learning

For online courses to facilitate learning most effectively, they must be structured to accommodate a student-centered philosophy in their design. Not all teachers of online courses and or researchers of the subject agree with this premise under the guise that "their content is static" or "their course has worked well even though it's more teacher centered" (Cornell, 1999, p. 60). These arguments, such as it takes too much time to teach in a student-centered learning environment, are weakened by the outcomes of teachers that have adopted student-centered teaching styles, especially regarding online courses. Most early attempts at online education utilizing personal computers were nothing more than clumsy attempts to replace the classroom with machines, and little thought went into designing courses that incorporated any accepted learning theories. Even today, many courses that pass for online courses are nothing more lectures being e-mailed to students. Students are left to struggle with the lecture content, and they have little communication with other students or the teacher. With most of these so-called online courses, a student presents themselves at some point to a testing center to prove that they have mastered the material. Teaching literature is abundant with great research and learning theories that document the learning process in a face-to-face leaning environment (Bloom, 1984; Brooks & Brooks, 1993; Freire, 1993). There is far less literature offering guidance when the situation moves from the professor-centered, face-to-face learning environment, to the design and learning theories best suited to the student-centered learning environment of the online student. Much of the literature is of little use because it is too discipline-specific

to be universally applied to other online learning situations (Skinner, 1954; Cobb & Bowers, 1999; Fraser & Deane, 1997). For adult learners to be successful in online courses, they must possess all the learning skills essential to traditional, professor-centered, face-to-face world, but additionally need skills associated with the independent student in a student centered learning environment (Connelly & Clandinin, 1988). Connelly and Clandinin divided learning into categories of things, people, and processes. These categories provide some basic guideposts for subdividing literature into manageable components for the purpose of evaluating available literature relative to student centered learning.

Learning Theory

It's easy to visualize how things, such as lab tools, maps, films, and chalkboards, are used in a traditional classroom. Things are used to explain course content and offer new perspectives on course material. In a face-to-face leaning environment, teachers determine what is worthy of study and what learning tools should be used to best convey an understanding of the course content. Professors choose how these things will be used to impart values, meanings, and explanations to students in the teacher-centered learning environment (Kauchak & Eggen, 1998).

The Role of Things in Learning Theory

In student-centered courses, such as online courses, students must assume responsibility for finding their own things to help them find and master their own knowledge. "Things" help students establish what has learning value to them, and creates

a bridge from their previous knowledge base to new concepts and ideas so that they may be mastered and assimilated. Online students engage in an active process of creating their own meaning from things (Jonassen, Davidson, Collins, Campbell & Haag, 1995). Students adopt things relevant to their personal experiences that facilitate a better learning experience than any teacher could provide. When students take charge of their own learning process, they are also deciding what knowledge is valuable to them personally, and what knowledge will be most useful for their future. As students become active learners, as in a student-centered, online course, they are mastering skills, and gaining knowledge that is relevant to their lives.

The Role of People in Learning Theory

In teacher-centered learning environments, the professor decides what knowledge is important to know, as judged according to the teachers own experience, and dispenses that knowledge based on learning methods related more to how the teacher learns, and thus the methods may be more effective for the teacher than the student. In all learning environments teachers and students play roles that accommodate that environment, and assigned by decades of tradition, but in teacher-centered classes, the role of the teacher is to stimulate, and the role of the student is to respond (Kauchak & Eggen, 1998).

In a student centered learning environment such as an online course, the teacher is relegated to being only one of many voices of authority, and does not unilaterally make decisions concerning what is knowledge worthy. Students can and must assume active roles to best manage their own learning processes and master the course content in ways that work most efficiently for them. The professor is still an important participant, but her

role is elevated to one of a coach, facilitator, and mentor (Rolfe & Alexander, 1996). The resulting learner group now acquires a valuable pluralistic component (Jonassen, 1999).

The Role of Processes in Learning Theory

In teacher-centered learning environments, the teacher assumes that "structure can be modeled and mapped onto the learner" (Jonassen, et al., 1995). In this process communication is mostly a one-way street flowing from teacher to learner. By their definition online courses have the teacher separated from the presence of the learner by some type of technology. Even though the teacher is removed from the process, it does not automatically follow that this process becomes student-centered. To become student-centered requires a course design and teacher philosophy that is oriented toward collaboration between student, student groups, and the teacher (Anderson, 1998; Kearsley & Shneiderman, 1998; Johnston & Rivera, 1965; Savery & Duffy, 1995). Adult learners learn best when tasks and material are relevant to real-world experiences. "Constructivist sense of 'active' learning is not listening and then mirroring the correct view of reality, but rather participating in and interacting with the surrounding environment in order to create a personal view of the world" (Jonassen, et al., 1995, p. 11). In the student-centered learning environment, students are responsible for engaging in academic activity and teachers become facilitators who structure learning activities to accommodate the learner's individual learning techniques (Axelrod, 1991). Student-centered learning processes have produced outstanding results in many fields of study (Conway, 1997; Branch, 1998; Spicer & Bonsell, 1995).

Characteristics of Adult Learners

There are several constant theme found in all the confusing and redundant definitions of self-directed learning, which have only subtle differences; the adult learner's ability of controlling the learning process (Candy, 1991), the adult learner's ability to assume responsibility for planning, implementing, and evaluating her own learning experience (Brockett & Hiemstra, 1991), and the adult learner's high degree of dependency on the instructor's constant direction (Knowles & Swanson, 1998).

In his book *Theory of Androgogy*, Knowles (1980) argued that there are four differences between pedagogy (youth oriented learning) and andragogy (adult oriented learning). The first difference is the adult learner's concept of his or her own self. Secondly, and most important according to Knowles', is the role of the adult learner's experience. Thirdly, adult learners have an eagerness to learn just for the sake of learning, and lastly, they have a more advance orientation to learning. Knowles believed that adult learners are more independent and require less direction from an instructor than youth oriented learners. Of course all adult learners possess different levels of these adult learning traits according to the learning maturity of the individual. In general Knowles argues that, because of age, adult learners have acquired more life experiences than youth learners; thus adult learners have a greater experience base from which they can relate new material and independently understand it. According to Knowles, adult learners have greater readiness for learning a new skill from which to solve a problem or complete a task than youth learners. Finally, Knowles concludes that adult learners accept the responsibility for learning because they view education as a process of developing new competencies with which to improve their personal potential and ultimately their

individual success in life. This is in contrast to the view of youth learners that education is a process that concludes with acquiring subject content. Youth learners generally do not assume responsibility for completing specific learning tasks independently because they do not have the experience base that would allow them to place high importance on learning as a process and a valuable experience that may pay dividends later in life. Of course Knowles asserts that youthful learners have varying levels of orientation toward learning for its own sake, just as adult learners.

Adult Learning Theory

A study of the various adult learning theories and the acceptance of an appropriate theory to guide a researcher through this particular research project is essential if one is to understand the implications of the role of the learner, the instructor, and the design methodology in which the course content is delivered (Knowles, 1990, p. 8). Knowles, in his 1998 work in cooperation with Elwood Holton III and Richard Swanson, summarized two decades of research into a concise set of adult learning assumptions (theory) by which this study draws much of its direction. In this study, adult learning theories are useful in this study to suggest patters and themes, more to developed inductively and shaped, rather than something to be tested (Creswell, 1994).

Most adult learning theories were developed over twenty years ago for teaching in the traditional face-to-face learning environment and are not very useful for the development or teaching of online courses. Adult learning theories abound (Cross, 1981) (Freire, 1970; Houle, 1972; Jarvis, 1987; Knowles, 1980; Knox, 1980; McClusky, 1963), but none of these are specific to online courses; however, the theories can still be used to

guide online course developers to create courses that can effectively deliver course content electronically to adult learners. For this study Knowles & Swanson (1998) and Merriam (1999) were especially relevant for their excellent contributions to understanding the adult online learning environment. Malcolm Knowles (1980) theory of andragogy, was the defining research on adult learning theory and his subsequent works on the subject have established him as the as the premier authority in the field. In one of his recent works he defined andragogy as “the art and science of helping adults learn” (Knowles & Swanson, 1998, p. 61).

From these adult-learning assumptions Knowles has provided future researchers and course designers (traditional and online) with his theory of adult learning referred to as andragogy (37). A theory that is both comprehensive and coherent. Knowles distinguishes between “andragogy” (adult learning), and “pedagogy” (youth learning) which literally means “the art and science of teaching children” from the Greek words for “child” and “leader of.” Pedagogy has been the foundation of organized education for several centuries (Knowles & Swanson, 1998).

Knowles learning theory provides six useful adult-oriented learning assumptions applicable to this study.

1. Adults realize the need of learning something before they can satisfactorily learn it.
2. Adult learners have a concept that they are responsible for their own lives and all decisions that they make.
3. Adult learners have a wealth of experiences from which to draw and better understand new material. This is the adult learner’s greatest learning tool.

4. Adult learners are eager to learn new material because they understand that it likely will help them cope with real-life situations.
5. Adult learners are better oriented to learning because they are life centered (task oriented).
6. Adult learners are more motivated to learn because they experience external pressures intensely such as job performance, and internal pressures such as self-esteem, and quality of life.

Adult learners need to know why they need to know something before committing fully to learning it (Tough, 1979). Tough's research found that Adults don't learn well unless they understand why they need to know something. Adults exert far greater energy to learn something on their own, and will invest much time in exploring the benefits of something to be gained from learning it, and the negative consequences from not learning it (64). The first task of the online course designer is to assist learners to become aware of their "need to know." The designers and teachers of online courses should constantly remind their adult learners that the thing to be learned has great value to help them perform something better, or improve the quality of their lives. Activities that assist learners to discover for themselves the path from where they were to where they will be after learning something motivates adults to learn. This kind of "consciousness-raising" may be propagated with learning events that help adults visualize the possibilities. Strategies such as introducing successful role models, or collaborative work with others who have successfully master the material and have benefitted from it motivate adults to achieve on their own.

Adult learners possess a self-concept of being a responsible person, and one that is capable of making their own decisions for their lives. When the learners move from the youth oriented externally motivated stage to the adult oriented self-concept stage, they develop a deep psychological need to be seen by others and treated by others as individuals that are capable of self-direction. Any learning system developed for adults that give adults the sense that others are imposing their wills on them is met with resistance. Often with adults, words like education and training have negative connotations and bring back memories of youthful days in school where others made the decisions about what is important to be learned, and how the material to be learned. This produces a sense of resentment and usually is followed by non-cooperation. This style of education is counter-productive with adults and triggers a subconscious resistance when directed or told what to do. The manifestation of this condition usually results in the learner trying to avoid the thing (education) that triggers these feelings, which may be an underlying reason that when learners move from pedagogy to andragogy, the dropout rate increases at the very moment that learners are developing an individual self-concept that could be useful for expanding their interest in learning (Knowles, 1975).

In andragogical theory, the most important attribute of the adult learner is his experience (Knowles & Swanson, 1998, p. 37). Education is life and life is education. Authoritative teaching, examinations that do no stimulate original thinking, rigid pedagogical formulae – all have no place in adult education…Small groups of aspiring adults who desire to keep their minds fresh and vigorous, who begin to learn by confronting pertinent situations, who dig down into the reservoirs of their experience before resorting to texts and secondary facts, who are led in the discussion by teachers

who are also searchers after wisdom and not oracles: this constitutes the setting for adult education, the modern quest for life's meaning (Lindeman, 1926).

Adults approach the learning process with a greater volume of experience, more kinds of experiences and a higher quality of experiences than youth learners (Knowles & Swanson, 1998). This difference in quality and quantity has several important consequences for adult education and adult learning. Adult learners will generally have a much wider range of unique individual experiences, even though their needs, interest, goals, and learning styles may be quite similar. Anyone considering design strategies for courses for adults must focus on the individual and their vast array of experiences that can be brought to the process and design courses that will encourage the widest possible use of each individual's rich experiential resource.

The downside and a negative consideration that course designers for adults must consider is that andragogical learners in fact have this large bank of experiences, but not all experiences are positive. Adults accumulate biases and presuppositions along the way that may cause them to have closed minds to new ideas and ways of thinking (Knowles & Swanson, 1998). Online course design strategies that encourage adults to be aware of their own habits and biases, and sensitize them to new ideas and approaches allow the learning process to become truly a mind-altering experience. Various types of collaborative learning techniques, interactive discussion groups, simulation exercises, problem-solving activities, case method, or any activity based on peer helping peer motivate adults to pursue learning.

Adult learner's experiences are closely connected with the learner's self-identity. Young learners acquire their identity from external influences such as parents, siblings,

other family members, or institutions where they live. Experience is what happens to them. Adult learners are defined by their experiences and experiences become who they are. In a learning situation if experiences are allowed to have no role or they are treated as trivial, adults perceive the situation as one that not only rejects their experiences but rebuffs them as individuals as well (Knowles & Swanson, 1998, p. 66).

In this study I argue that the vast inventory of online courses offered to adult learners today were designed with little conscience thought given to capitalizing on this rich reservoir of experience. If online courses in fact do probe the learner to draw upon her individual experiences, it is mostly by accident, or as in so many cases, the adult learner transposes poorly designed courses components into something that allows them to improvise with the course learning tools to accommodate their personal learning style which includes an individual experience component.

One of the distinctions between conventional and adult education is to be found in the learning process itself. None but the humble become good teachers of adults. In an adult class the student's experience counts for as much as the teacher's knowledge. In many of the best adult classes it is difficult to discover who is learning the most, the teacher or the students. Authority is shared (Knowles & Swanson, 1998, p. 39).

Another adult learning assumption expressed by Knowles (1967), is that adults possess a readiness to learn because they realize that the more they learn, the more information they have, the more they can handle real-life situations. If an online course is designed in such a way as to present course content that is appropriate to the development stage of the learner, the adult learner will be comfortable adding content on top of content to his personal database. This concept makes important the careful building on one set of

facts on top of another, constantly increasing the learner's range of experiences and their body of knowledge. Moving to new material before old material is mastered is more detrimental to adult learners than youth learners, because the adult learner is constantly adding material to their body of experiences and knowledge. Moving on prematurely interrupts the process and sort-circuits the process of building block method of adding knowledge. The youth learner is less put off by moving on to new material prior to mastering the old material because their learning style is based to a larger extent on external motivation. They are simply told what is important to learn, and they

The learning orientation of the learner is critical. Adult learner motivation is directly related to how they perceive the real-life usefulness of the material to be learned (Knowles & Swanson, 1998, p. 67). Youth learners tend to be subject oriented, while adult learners then to be life-oriented or centered. Youth learners focus on the specific task or problem at hand, with little concern for the contextual nature of the material, or the subtle and abstract uses that the material to be learned might have. Adult learners always master new material more effectively, when the information, knowledge, skills, or values are presented in the context of real-life situations.

Some adult learners may respond to external motivators, such as a better job, more money, or some tangible reward, most adult learners have matured in learning style to be more motivated by internal stimuli, such as more satisfaction on their job, more self esteem, or may even be motivated by such vague notions as improved quality of life. Normal adults are motivated to keep growing and developing unless their motivation is blocked by a negative self- concept, lack of opportunities or resources, too little time, or as the focus of this study, the thing to be learned violates the way adults learn (Tough,

1979).

It might be worth mentioning that Knowles Theory of andragogy contained only four learning assumptions (Knowles, 1980), but was increased to six over the years. The two most recent adult learning assumptions are motivation to learn and the need to know. It should also be noted that maturity in learning style from youth to adult is not smooth or predictable. No two individuals progress at the same rate or progress to the same level in all adult learning or even in any one learning assumption. Age is irrelevant to an individual's learning style maturity. One learner may possess a highly refined set of learning skills, while another learner may possess a low level mastery of only one or more of the six adult learning skill that comprise Knowles andragogical learning theory. Online courses should be carefully designed to accommodate the wide range of adult learning capabilities and from the most sophisticated down to the least sophisticated.

Knowles andragogical learning theory informs us that adults are motivated to learn as they experience needs and interests that learning will satisfy; adults' orientation to learning is life-centered; experience is the richest resource for adults' learning; adults have a deep need to be self directing; and individual differences among people increase with age (Knowles & Swanson, 1998, p. 71).

Additionally, Knowles wrote that adult learners' "self-concept becomes that of a self-directing personality. They see themselves as being able to make their own decisions" (Knowles, 1980, p. 45) He states that adult learners want to be more independent in their decision-making and this independence may increase over time. Knowles (1975, 1980, 1997) argued that isolated adult learners would have higher levels of independence when they were responsible for their own educational planning, compared with adult learners

working in groups. When adults work in groups, some learners with lower levels of self-direction may retreat from personal decision-making and delegate that responsibility to other adult learners with higher levels of self-direction.

Researchers may disagree on the priorities of certain skills and abilities for adult learners, but Knowles, 1975; Guglielmino, 1978; and Skager, 1978 Knowles believed that independence, control of educational goals, leadership, and readiness to learn were the most important skills and abilities for adult learners.

Characteristics of Adult Learners

Independence has become a common expression for any educational process that has any aspect of learner-control. Independence is a condition where one has the intentional control of one's life and accordingly, "a person could not be to any marked degree independent, without this being an important part of their self-concept" (Dearden, 1972, p. 460). In addition, "to be independent, therefore, is very much a matter of degree" (p. 23). Adult learners are more independent than the child learner by a matter of degrees (Knowles, 1980). Individuals who are independent establish goals, policies, exercised freedom of choice, used critical reflection and self reliance, believed they were independent, and acted independently (Candy, 1991). Candy also argued that much research about independence is flawed because the researchers did not account for the situation-specific or context-bound nature of personal independence. He found that most researchers assumed that an independent learner would experience personal independence in all situations. Actually, the literature has not proven that independence is not context-bound. In other words, the literature indicates that a situation cannot automatically be labeled an independent environment and expected to produce independent learners

without measuring the responses of the learner to that particular situation. The impact of the learning environment on an adult learner's level of independence must be studied on a learner-by-learner basis because the propensity for independent activity is different with each learner (Candy, 1991; Dearden, 1972; Krimmerman, 1972; Oddi, 1995).

Technology has been the catalyst for forcing the adult learner to be more independent as more frequently the teacher is physically separated from the learner by some means of electronic technology (Kegan, 1994). Keegan discovered two things about online learners. First, they needed and developed higher levels of independence than learners taking traditional face-to-face courses, and secondly, they had a greater reliance on outside help such as tutors, other learners in their cohort. Actually the usage of learning tools such as tutors is further evidence of an online student's readiness to shape his personal learning environment to include tools that complement their unique learning process.

Many variables impact the adult learner's personal ability to control learning activities, such as the learner's ability to complete tasks with little assistance and her ability to recognize and command useful resources. Learners need to be comfortable with the level of control over their learning environment that they perceive themselves to have, if they are to achieve their maximum level of independence (Garrison, 1997; Bandura, 1986).

The Self-Reliance Characteristic of Adult Learners

Adult learners that are highly self-reliant or self-directed quickly take charge of and take responsibility for their own learning process. They need little direction from their

teacher and they reflect on what they know and what they have learned. Self-directed learners have an internal motivation and enthusiasm for learning. Self directed learners usually display leadership traits that allow them to benefit from group activity.
Nearly all researchers in the field of adult learners agree that strong instincts toward self-reliance in a self-directed learning environment are valuable and defining characteristic adult learners (Brookfield, 1986; Candy, 1991; Garrison, 1997; Keegan, 1986; Knowles, 1980; Robotham, 1995). Numerous studies have explored self-directed learning, but the research has been fragmented, and the evolution of course design that best incorporates self-directed learning has been slow in evolving. The lack of progress on self-directed course design has three causes: little consideration for existing learning theory; calls for future research have not been answered; continued use of quantitative models for research that have difficulty measuring human traits that are so abstract (Candy, 1991).

Candy argued that the lack of research in self-directed learning throughout the literature has led to the growth of superficial theoretical frameworks and models that would have been more mature if constructed on a greater body of previous research. Self-directed learning research has been limited to the instructional process of teaching adult learners, producing an incomplete picture (Penland, 1981). The one thing that makes the self-directed situation unclear is that adult learners with high levels of self-direction often gravitate toward the learning environments allowing the most independence. In many instances their learning outcomes are outstanding, but with spotty research and lack of a good model to measure how much impact on their learning stems from their environment how much flows from their superior learning skills, we do not know how to replicate their learning successes.

The adult learners have the ability to assume responsibility for planning, implementing, and evaluating her or her own learning experience. Adult learners are self-directed learners (Brockett & Hiemstra, 1991). This ability would make the learning process learner-controlled and self-directed (Garrison, 1997). A learning environment that is collaborative, where goals and activities are the domain of the learner is most conducive to gaining useful knowledge (Prawat, 1992; Resnick, 1991). When adult learners have more control and independence, self-directed learning is reinforced (Garrison, 1997). Learner-control and self-management supports the adult learner's tendency to be goal oriented and focus on performance (Garrison, 1997).

Self-direct learners are not necessarily isolated learners, even though they might be (Moore, 1972). Self-directed learners should have more ability to work "somewhat independently" (Knox, 1986, p. 55), while Smith's (1982) view of a self-directed learner was one that worked all alone, and he separated self-directed from collaborative learning and organizational learning. Research from the 1970s and 1980s established a baseline for self-directed learning, but did not delve into how adult learners respond to different learning situations (Moore, 1972; Knox, 1986; Smith, 1982). Garrison, (1997) has written, "An adult learner when self-directed has moved beyond simple task control and has learned to think critically and construct meaning in ill-defined and complex content areas" (p. 21). Where adult learners have different levels of control over their learning environment, the results will be different levels of self-directed.

Learning occurs when after performance of an act, one examines the results, and results are enhanced to the degree that the learner actively reflects on the meaning of the act (Dewey, 1951). It is important to emphasize the importance of the active process of

discovery in a learner's development into an "autonomous and self propelled thinker" (Bruner, 1961, p. 23).

The Readiness to Learn Characteristic of Adult Learners

The degree of success in an online, self-directed learning environment is related to the self-directed learning readiness of the adult learner. This readiness for self-directed learning, or the learners drive to learn has consumed much of the literature on the success of adult learners in online courses. "People become ready to learn something when they experience a need to learn it in order to cope more satisfyingly with real-life tasks or problems" (Knowles, 1980, p. 44). An adult learner's self-directed learning readiness if directly related to the learners need to learn something.

When an adult must complete a task to advance from one phase of development to another, it is know as a developmental task. "A developmental task…arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness in the individual, disapproval by society, and difficulty with later tasks" (Havighurst, 1971, p. 2). Havighurst writes that adults go through several developmental phases as they undergo certain experiences. These changing developmental tasks are reflected in changes in an individual's readiness to learn. There is a direct linkage between the developmental phases of adult learners and their degree of self-directed learning abilities.

It may be a fact that the learning environment can impact a learner's level of self-reliance. A poor learning environment may well have the effect of elevating a learner's

level of self-reliance (Oddi, 1995). Robotham (1995) researched the question, “What is the effect of the social and physical learning environment on the individual’s level of readiness in a self-directed learning environment?” (p. 4). He made a great contribution to the literature by examining the difference between two learning environments at the worker’s level of self-directed learning, where they were worked in an inflexible learning environment with classroom instruction with limited interaction with instructor or other learners. He compared these results with results from a learning environment perceived as very flexible, non-threatening, and challenging. The results indicated that workers in a flexible learning environment had higher levels of independence, self-reliance, and readiness to learn. While these studies were interesting, their value was restricted as there was no control for level of education, age, gender, marital status, occupation, or years employed. Regardless of these limitations, Robotham’s research provided a springboard into the study of adult learner’s attributes in different learning environments. A conclusion drawn from several studies indicates that self-directed learners who are isolated will probably have increased levels of self-reliance, but self-directed learners may have high levels of readiness and not necessarily be isolated to achieve these high levels. In other words, high levels of self-directed learning readiness probably will be enhanced by isolation but not in all cases.

Summary

The use of online learning by adult learners has received much scrutiny. Definitions of online learning have been confusing and sometimes contradictory. Online learning can be defined as learning that is focused on the adult learner’s control of his or

her own learning (Candy, 1991).

Knowles' (1980) in his *Theory of Andragogy* postulated that pedagogy and andragogy were distinctly different in four basic areas: concept of the learner, role of the learner's experience, learner's readiness to learn, and learner's orientation to learning. Knowles discovered that adult learners are more independent than youth learners and when challenged, are prepared to learn new skills and tasks when given the opportunity. He mentioned two components that define the learning climate: physical and psychology. The first describes the physical surroundings (e.g., tables, chairs, equipment), and the second encompasses the mental surroundings (e.g., feelings of acceptance, respect, support). The psychological climate in particular helps the adult learner to become more self-directed (Knowles, 1980; Brookfield, 1993).

Knowles (1975), Guglielmino (1994) and Skager (1978) believed that the most important adult learning skills are independence, control of educational goals, leadership, and motivation to learn. "People become ready to learn something when they experience a need to learn it in order to cope more satisfyingly with real-life tasks or problems" (Knowles, 1980, p. 24).

Self-directed learning, online learning, and independence are terms used interchangeably in any discussion of learner-control. Independence is a matter of degree in the adult learner (Dearden, 1972; Krimmerman, 1972). Candy (1991) found that it was difficult to quantify independence, especially to the extent that that learning environment impacts learner independence. Adult learners in a rigid traditional classroom will experience lower levels of independence than adult learners in a more flexible online learning environment.

Verduin and Clark (1991) conducted research into learning communities and wrote that online learning should facilitate the creation of the learning communities to support a system where adult learners can develop their self-directed learning skills. These communities could be a physical learning space or an electronic virtual learning space. Either way, Clark (1996) mentioned six categories with which to measure the effectiveness of a learning community: people, tasks, surroundings, interaction, relationships, and technology. The question that Clark did no answer is: Are there significant differences in levels of self-directed learning readiness, independence, and self-reliance between adult learners in traditional classrooms and online learning environments?

CHAPTER III

PRESENTATION OF THE DATA

The purpose of this study was to examine the courseware of all online courses offered by personal computer at one university through the lenses of an adult learning theory as revealed by the narrative descriptions of those courses as written by adult learners having successfully completed those courses. A qualitative-content analysis method (Kippendorff, 2004) was employed in this study. Through content analysis, the knowledge, abilities, and usage of various technological tools and learning techniques of online adult learners were explored, categorized, and analyzed.

Site Description

The archival data used in this study was collected from respondents attending single four-year, liberal arts university, founded in 1909. The Midwestern university has a student population of approximately 4,500 students, consisting of three academic schools, situated on a main campus and two satellite campuses. It is a national pioneer in distance education, offering seven degrees by a variety of distance education technologies, including live interactive television courses, telecourses offered via public televised broadcasting, and online courses using personal computers.

At this particular university nearly all full time faculty have had the opportunity to teach online courses and, according to the director of institutional research at this school,

about 70% of the full-time faculty employed for at least three years, have taught some distance education courses in at least one distance learning medium. This university has been associated with state-of-the-art industry developed courseware as supplied by leading educational software institutions for nearly 20 years.

Beginning with a relationship with the Electronic University Network in 1989, the school took its first major steps into the distance learning world. A few years later, a contractual arrangement was made with Real Education to supply courseware that could be adapted to the requirements of individual teachers, and faculty development programs were begun to educate most of the faculty in courseware development and online teaching philosophies. For the last decade, the university has delivered online courses with courseware developed in conjunction with eCollege, WebCT, Blackboard, and in some cases developed from scratch using tools such as Microsoft FrontPage and Macromedia DreamWeaver.

In 1987, the college built an on-campus full-power public television station and began to broadcast telecourses and live-interactive courses for college credit to multiple regional training centers and high schools, reaching traditional, nontraditional, and con-current students. This public TV station has been upgraded to new full digital technology and still offers a slate of both telecourses and live-interactive courses for college credit over cable channels to a potential audience of 1.2 million viewers.

Sources of Empirical Data

Access to the online respondent group was provided by the director for teaching and learning. This person is directly responsible for all of the various types of distance

education programs including the online programs offered by personal computer. I became acquainted with this mid-level administrator when she was hired in 2000. She was familiar with my desire to study online programs and have access to generic archival data. She provided essential course evaluation data, carefully editing the respondent data to make sure that no individual subject material was included in the data archive.

An online open-ended questionnaire consisting of three likert style questions sets and four open-ended narrative style was questions presented to online students at the end of the spring semester of 2004. Respondents wrote their narrative responses to the following questions.

1. What did you like about your online course? (1,594 responses)
2. What did you not like about your online course? (244 responses)
3. What suggestions for improvement do you have for your instructor? (233 responses)
4. What suggestions for improvement do you have for your course? (1,029 responses)

Respondents answered the online questionnaire with over 3,000 narratives describing their experience with 41 online courses. Some individuals responded at great length to several of the narrative questions while others wrote narratives to only one. In a few other cases individuals responded with narratives that superficially touched on the questions or not at all.

The questionnaire was purposefully designed to replicate an interview process, with a personal opening statement, and a few limited instructions. Then came the first of three questions sets which asked respondents to provide descriptions of the instructor's

organization skills (seven questions), knowledge and experience of the course material (eight questions), and the instructor's sensitivity to students needs (seven questions). Students were asked to answer each of these question sets using a five part Likert Scale (7x1), indicating their choices from strongly disagree to strongly agree. These questions and answers were only for background purposes and included in this study only to allow me to better understand the respondent group as a complete cohort. These questions provided excellent triangulation and validation of the qualitative conclusions in the analysis portion of this study

Likert Questions

In the introductory section of the archival online survey document the first likert question set asked students to rate the instructor's organizational skills, knowledge, and experience, and sensitivity to student needs. Table 2 presents the responses to questions focusing on organizational skills. Table 3 depicts the questions, answers, and respondent's percentage of agreement from the first seven likert type questions focusing on knowledge and experience. Table 4 presents the responses focusing on instructor sensitivity to students needs.

Table 2

Organizational Skills of Online Instructors

	Disagree	%	Neutral	%	Agree	%
Instructor had content on time?	55	5	61	5	1036	90
Instructor communicated clearly?	110	9	115	10	932	81
Instructor readily available?	114	10	155	13	888	77
Content organized?	91	7	104	9	962	84
Expectations known?	66	6	73	6	1018	88
Timely feedback?	152	14	117	10	888	76
Explained course grade clearly?	68	6	67	6	1022	88

Table 2 indicates a high level of approval of adult learners for the organizational skills of their online instructors. It is noteworthy that the highest levels of dissatisfaction with their instructor's organizational skills are in the areas of communication, being readily available, and timely feedback. These are the same three areas where elevated numbers of students were neutral. If the percentages for neutral were interpreted as not in agreement and added to the disagreement percentages the totals would run from 19% to 23%. It should also be noted that these elevated percentages of student dissatisfaction

would generally be classified as criticism of their teacher's provision of clear and timely communication.

Table 3

Knowledge and Experience

	Disagree	%	Neutral	%	Agree	%
Instructor knew subject?	39	4	102	9	1016	88
Instructive effective w/online?	95	9	98	8	964	83
Instructor used examples?	118	10	144	12	895	78
Instructor coherent?	111	10	123	11	923	79
Content relevant?	70	7	82	7	1005	86
Challenged your abilities?	60	5	101	9	1050	86
Promoted learning?	99	8	145	13	913	79
Tested achievement effectively?	63	6	107	9	987	85

Table 3 indicates a high level of approval of adult learners for the knowledge and experience of their online instructors. It is noteworthy that the highest levels of dissatisfaction with their instructor's knowledge and experience are in the areas of communication, instructor readily available, and instructor provided timely feedback.

These are the same three areas where elevated numbers of students were neutral. If the percentages for neutral were interpreted as not in agreement and added to the disagreement percentages the totals would run from 13% to 24%. It should also be noted that these are areas where students expressed a higher level of dissatisfaction with their instructor's ability to be clear and concise in the administration of their online course.

Table 4

Instructor Sensitive to Student's Needs

	Disagree	%	Neutral	%	Agree	%
Instructor showed enthusiasm	101	8	158	14	898	78
Made sure you understood?	145	13	188	16	824	71
Encouraged you to ask questions?	109	10	129	11	919	79
Fair and impartial?	80	7	187	16	890	77
Encouraged you to think?	58	6	119	10	980	84
Concerned with you progress?	139	12	208	18	810	70
Communicated in a timely manner?	118	11	132	11	907	78

These likert questions were not integrated into the design of this study, but they were useful as organizational tools as the data coding and classification process of the narrative data went forward. Even though these archived likert questions and responses by

themselves provided insufficient data on which to base a research project, they remained useful tools to point out general areas of interest and provide expectations of the narrative data to follow

Open-ended Narrative Questions

Qualitative studies allow researchers to look at the meaning or the process of one unique bound system (Merriam, 1998). The data used for this study consisted of written archival information resulting from an online survey document that was e-mailed by the university research department to all students that had just completed an online course in the fall 2004. This online survey was used by the subject university as an assessment tool to measure student satisfaction with the online course content, the courseware used to execute the course, and the teacher that had administered the course. The university research department made individual parts of this survey available to each respective instructor in order for them to be knowledgeable about areas in which improvement of their teaching and course content might be needed; however, their version only had data that related to them and their particular course. Instructors did not have access to individual student information and neither did I with my version which had anonymous respondent's data for all courses. The online survey document asked students to write a narrative response to four open-ended questions about their online learning experiences. The resulting archived text from these narratives-discussion questions was used as the focal point of this study.

Data Management Processes

First, all narratives were read and many notes were made to guide the contextualization process (Tesch 1990). The narrative content that made up the archival data set used in this study maintained separately according to association with one or more of the following four original survey questions.

This separation was essential to maintain the positive or negative context of each narrative to later indicate its relevance in this study's data analysis as described in chapter four. The conclusions from this study are broadly based, transferable, objective but inflexible (Neuendorf, 2002).

Data

Table 5 summarizes all student narrative excerpts as they relate to learning assumptions of this study's adult learning theory. The "course positive" column contains the adult online students' content analysis coded responses to the question, "What did you like about your online course?" The "course negative" column contains the adult online students' responses to the question, "What did you not like about your online course?" The "instructor vision" column contains the adult online students' responses to the question, "What suggestions do you have for teacher improvement?" The "course visions" column contains the adult online students' responses to the question, "What suggestions do you have to improve your course?"

Table 5

Responses

	Course Positive Responses	Course Negative Responses	Instructor Negative Responses
Total Responses	1594	1311	644

The data produced a number of obvious emergent themes and was noted throughout this study (Erlandson et al., 1993). Using the process of coding and categorizing themes from the archival online survey documents, the data sets emerged into three categories: course positives, course negatives, and instructor negatives. The course positive category was closely aliened with the survey question, “what did you like about your online course?” The course negative category was closely aliened with the survey questions, “what did you not like about your online course?” and “what suggestions do you have for your course?” The instructor negative category was closely aliened with the fourth and last survey question, “what suggestions do you have for your instructor?” Even though responses to the first question were predominantly positive and the responses to the remaining three survey question were predominantly negative, part or all of some narrative responses were had both a negative and a positive connotation, and categorized accordingly. Listed below, are the adult learners’ positive responses to their online course, their negative responses to their online course, and their negative responses to their instructor.

Course Positives

Typical positive responses were numerous and very enthusiastic in tone. A large number of respondents indicated by their narratives that it was important to them that new learning material would be useful in the real world. Adult online students often use the expression such as, “real world learning” as opposed to textbook learning or more abstract learning. This was a very popular and recurring theme that adults are interested in learning material that can be immediately applied to their lives, or their jobs, or both.

When asked what they liked about their online course, most respondents had responses similar to the following:

Respondent 40 reflected,

> I loved the opportunity to do coursework using tools that I will be using at work. I enjoyed working in a situation much like my work, and it was neat to apply the business world to the technology world.”

In like kind, Respondent 66 mentioned,

> I have always been aware of the different things that affected business, but wasn’t exactly sure until how, but this course was very informative and now I have a much better understanding of how things work. I really enjoyed it.

Respondent 74 reported,

> Topics were interesting and directly applicable to real life.

Respondent 77 volunteered,

> Mainly the subject. I work in the telecom industry and can use a lot of this stuff right away.

Respondent 108 stated,

> Great material, very interesting content, I'm already using it.

When asked what they liked about their online course, most respondents remarked in their narratives that they liked to learn at their on pace and in their own way. The online learning environment has a naturally pleasing aspect that affords adult learners many options as to how and when they manage their time and work load. Some of the most representative narrative excerpts from this category include the following:

Respondent 35 stated,

> I liked the ability to work at our own pace but yet have the deadlines to help me stay on top of everything. The ability to do homework at the time I want too was an important opportunity provided by the course.

Respondent 85 mentioned,

> I like online courses in general, being an older student I feel I can go straight to the course material by downloading the lecture and getting straight to my assignments.

Respondent 142 reiterated,

> I felt the flow of material was great, especially the fact that you could work ahead if need be.

Respondent 208 stated,

> I like being able to turn in a few weeks of work all at one time.

Respondent 216 declared,

> The ability to learn/work at our own pace within limits. This enabled us to work through each program at our own pace, but complete each unit before the unit test.

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- The ability to do homework at the time I want to was an important opportunity provided by the course. (Respondent 35)
- I like online courses in general, being an older student I feel I can go straight to the course material by downloading the lecture and getting straight to my assignments. (Respondent 85)
- I felt the flow of material was great, especially the fact that you could work ahead if need be. (Respondent 142)
- I like being able to turn in a few weeks of work all at one time. (Respondent 208)
- The ability to learn/work at our own pace within limits. This enabled us to work through each program at our own pace, but complete each unit before the unit test. (Respondent 216)

Positive responses applicable to the learning assumption about learning based on experience were far fewer in number and a little less supportive than was expected from the emphasis placed on this learning dimension in the literature. When asked what they liked about their online course, most respondents remarked in their narratives that they liked to draw on their family or job experience especially with assignments that require a lot of writing. Most respondents sounded pretty much like these:

Respondent 328 admitted,

> The critical writing we had to do in this online class allowed me to take what I already knew and expand on it. This was probably the most useful all around activity in the course. It made me better understand my own writing by making me look into the writing of others in depth. The rest of the class did not seem to be something I would every use on my job.

Respondent 540 pointed out,

> Having the students' post their discussion for the other students to read and respond to has been an enjoyable experience. Not only have I been able to express my own opinion, but I was able to open my mind up to other opinions and build on what I had already known. I'm not sure how I will ever put any of this stuff to a good use. May have wasted my time.

Some respondents talked about the course being similar to daily activities on their job or at home. They especially liked familiar learning that had the image that it would be applicable in day-to-day applications. Some representative responses are:

- The course will be useful for me in the near future in the telecommunications field. It is also useful as a consumer in understanding how our telecommunications systems are developing. (Respondent 78)
- The course provided real world experience in installing and setting up the operating system and I am using the knowledge already. (Respondent 232)
- I particularly like the fact that the instructor utilized instructional tools that fit with the point of the class, and let us use personal examples to make our points. Instead of relying strictly on memorizing this or that, the class is set up to get students to comprehend information. This is very important in a time period when vast quantities of information are being rapidly created and replacing information for relevance. (Respondent 46)
- Of all the classes I've taken and I only have three left this one has made me learn to think for myself and not just regurgitate material. I was able to relate to things in my life to understand much of the course. (Respondent 100)
- Sound structure of course utilized the law of primacy in learning and promoted retention as well as critical thinking. The course covered a broad range of topics that are relative issues today and some of the challenges we face tomorrow. I particularly liked the instructor's enthusiasm and knowledge of the material. The best course I have ever taken. (Respondent 134)

Several respondents commented on their motivation for taking the course. In most cases they described things that they could use in their work place such as:

Respondent 166 pointed out,

> It allows one to clearly see behavior patterns in the workplace and be able to evaluate situations in the workplace with a clear understanding of how people think and how I can better get along with them

Respondent 71 confirmed,

> The course will be useful for me in the near future in the telecommunications field. It is also useful as a consumer in understanding how our telecommunications systems are developing.

Some respondents remarked in their narratives that they had their own way of doing things and they preferred to learn in an environment that had options that allowed them to customize the learning to accommodate their learning style. Most of the responses were similar to:

Respondent 41 as they stated,

> I loved the opportunity to create another database using this course content. I enjoy working the programs and it was neat to apply the business world to the technological world.

Respondent 151 was in agreement as they avowed,

> It was very convenient to take this course online. I feel I have learned a lot including about managing my own time. A large number of learners raved about the structure and organization of their courseware. A representative sample is:

A very complementary respondent 352 bragged,

> This course was so well organized that you knew the first week what would be expected of you and when for the rest of the semester.

Followed by respondent 253 who declared?

> The streaming video/cd lecture format was in the study guide and is what got me through the course. The information presented in the lectures and the manner in which it has been presented has been easy to follow and (more importantly) available for quick review when I needed to study for a test or answer a question. I would definitely recommend continuing use of the format used in this course.

And respondent 8 felt the same way when they pointed out,

> All assignments were there when they said they would be. The arrangement of the class was easy to follow. While the content was challenging, the class structure was easy to follow.

Followed by respondent 6 who stated,

> Seem to be well organized

Respondent 9 declared,

> All expectations clearly stated.

Respondent 165 avowed,

> The instructor was very helpful when I asked questions about the course. He also responded fast. I also enjoy the subject and I am able to use much of the course on my job.

Respondent 143 confirmed,

> I really like that the instructor keeps the online grade book up to date and records our grades on assignments in a prompt manner. It really helps to know how you are performing.

Respondent 124 stated,

> I enjoyed the ability to contact and receive teacher feedback from the instructor in a very timely manner. The instructor was very clear on the assignments and due dates. He sent reminders to those of us that forget easily.

One area that seems to be near the heart of the online learner is collaboration and the following learners praise for their courses that included collaborative activities is typical: A very satisfied respondent 363 acknowledged,

> Lots of feedback in the threaded discussions from the instructor and peers.

And likewise respondent 349 mentioned,

> I liked the flexibility of the course being online as it fits well with my busy schedule I enjoyed the threaded discussions and I appreciated the feed back from my peers on the threaded discussion forum.

In agreement, respondent 284 stated,

> I like the online discussion portion of the class. I learned a lot from reading about the problems and solutions that the class members offered. I like the ability to view other class members and assignments. I liked learning all of the different languages involved in the course.

Course Negatives

The representative negative responses were not nearly as great in number, even though these and most all of the negative responses were more intense in their descriptions than the positive responses. Typical negative responses that indicated displeasure with their online course and the fact that this learning assumption was lacking in their courseware are as follows:

Several respondents responded with narratives to the question about suggestions for their instructor with critical comments such as:

> Let students write more like they do at work or like they do in every day communication with each other. I think I am a charismatic writer and write with enthusiasm, but that is my personality and it comes out in my writing. As long as a students writing structure is correct they should be able to prepare assignments in a style that they would normally use and not be graded off for it. Students should be allowed to or even encouraged to show their personality in their writing. (Respondent 300)

And respondent 145 followed up,

> I was not very interested in the material. Can't see how it will help me.

Followed by frustrated respondent 106 as they alleged,

> The course has not been a useful tool for me in my job.

Respondent 271 acknowledged,

> I don't see why this course was required. The whole semester was pretty much a waste of time as far as anything I can use.

While Respondent 7 declared,

> I think the only thing that would help is having actual questions that go along with each chapter. The problem is to make sure we learn the stuff that we need on the quizzes and in the real world, but there's a lot of stuff on the test that were not in the problems and that would not be of any use on the job. A simple question styled like an exercise or even as a study guide assists the students in being prepared for the tests.

A number of respondents offered severe criticism when they responded to suggestions to improve their course. Many responses were too angry to be repeated but the following are typical:

- I could use more job oriented problems. I write accounting software for a living, so I knew a lot of the mechanics and terms of the course. What I didn't know was the theory behind it. This course never gave me what I needed to use in the real world. (Respondent 8)
- The entire course was useless in today's world. (Respondent 105)
- Nothing in the course seemed to be real useful in my life. (Respondent 115)
- I can not use the content of the course in my everyday life. (Respondent 145)
- I would have liked to have more practical everyday applications that revert back to real world and real life situations in the work place. (Respondent 153)

- I didn’t need the use of labs and exercises out of the book. They didn’t help me a great deal this semester. Also we didn’t spend any time on really useful research activities that would help me on my job. (Respondent 209)

A few of respondents’ suggestions to improve their course came across as negative. Many were vague when describing how they would go about fixing their course, with comments about removing all due dates and just have one completion date for the whole course, but most sounded like these:

Respondent 265 declared,

> The one thing that I learn from online courses is doing and redoing the assignments for myself. Although I have hardly received any suggestions from the instructor, I have taught myself many important things that I will need to know on my job. I guess from this stand point, online courses are more effective than in classroom classes.

And Respondent 81 asserted,

> The threaded discussion sessions have been worthless. I would especially like to be able to work in the virtual office for classroom chats that would normally occur at the end of a traditional class.

Respondent 86 had the perception that he was being treated as a child when he expressed,

> The work involved did not make it easy for the students who are taking the online classes because they have hectic schedules. I think I’m mature enough to set my own schedule.

Respondent 265 was in agreement as they declared,

> The one thing that I learned from this online course was doing and redoing the assignments for myself. Although I have hardly received any suggestions from the instructor, I have taught myself many important things that I will need to know on my job. I guess from this stand point, online courses are more effective than in classroom classes.

Respondent 206 was pretty unhappy when they wrote,

> I really like the course content but I didn't learn much. We didn't cover anything in detail in the book, just covered some of the components the teacher thought was important. I learned more when I follow up on web sites to find more and I discovered there are a lot more things to learn that are related to what we did actually cover in the course. I find writing the assignments online very useful but wish we could have done more with designing real world applications in the class. I think we would have got more benefit of this kind of class if the online review of the chapters covered stuff that we didn't cover in class but were expected to already know. This forced more in depth learning; I didn't realize how much I did not know until I found that I actually could write more about the assignments from scratch when I had to review the information on my own.

Respondent 21 recommended,

> Leave more of the scheduling to the student. Being able to work on my own timetable instead of attending a structured class is why I take online courses in the first place.

A number of respondents offered severe criticism when they responded to suggestions to improve their course in the area of real-life oriented learning. Criticisms of their courseware as far as being real-life oriented were pretty tame by other standards, but the following two reflect the opinion of some.

Respondent 63 declared,

> We should have more than presentation. Presentations and any other work that would help us solve problems like those we will face on the job would be helpful. I feel this would be a very good skill to have. Teachers should also let students use more of their own experiences in their assignments or let them use things that they are knowledgeable about rather than assignment such strict topics that don't mean anything to anybody.

Respondent 50 claimed,

> I missed the online sharing of reviewing/studying reports prepared by other students as opposed to traditional text seems like a more natural and educational way to learn.

A number of online students found their course to be poorly structured and organized posted a large number of complaints about their courseware design. A few of these unhappy responses are:

Respondent 15 declared,

> Threads would have been a good idea: The working papers on paper do not really help us. It there were more forms on a disk or online which could be loaded into our computer this would be more helpful. As it is right now if you use the working paper workbook you have to do it twice in order to submit the info electronically.

And complaints continued with respondent 19 as they said,

> Power point presentations are good for working meetings, but not good for an effective learning environment. I think they need to save some money by getting rid of the power point stuff. It didn't work for me at all. I observed one lecture for 3 minutes and found I can learn more by reading on my own.

Respondent 69 mentioned,

> The study guide tests and interactive tests have numerous mistakes and have some poorly worded questions. I have reported at least 8 different questions that the study guide test or interactive tests have the wrong answers for. This is extremely frustrating, in that it makes you wonder whether there are further inaccuracies that you have not caught because of not understanding the material correctly. Both the study guide and interactive tests need an independent review by an expert.

When learners thought their courses were lacking in collaborative activities, they complained as loudly as they praised those courses with abundant collaborative activities. The complaints that follow are typical:

Respondent 58 mentioned,

> I disliked the lack of use in the online class chat room where students could discuss homework and objectives.

Respondent 89 confirmed,

> I didn't like the fact that we did not have online discussions.

Respondent 91 mentioned,

> I found it hard to clearly present material online and the discussion forum was too confusing.

Respondent 136 wrote about,

> The lack of interactions with the instructor and students.

Respondent 148 stated,

> I could not relate to my classmates in the discussion forum.

Respondent 346 alleged,

> The collaboration was way too difficult

Instructor Negatives

Negative responses were also numerous when students responded to the question about suggestions for their instructor. Some responses were:

"Go back to California." And "you should not be in the teaching profession." Responses to suggestions for instructor improvements clearly indicated that many adult learners believed that the main problem with their online course was the instructor. Suggestions for instructor improvements often sounded like:

> Instructors should put everything online. All lectures should be available on line and should be connected to the conversations going on with the discussion forums. The textbook website is junk, and there is so boring that no one really spent any time messing around with it. Simple discussion statements and questions based on the material should be on the discussion forum and should be the heart of the course. Sending a link to some publisher's website does not make an online course. You should just lay out the course content and let the students get on with it. (Respondent 630)

And respondent 305 followed up with,

> Teachers should be a little more flexible in their criticism of students writing styles and choice of topics. Students are trying to prepare for public world out there and the highly structured style of writing about ambiguous subjects is going to be of little use. Students should be learning how to succeed in the commercial world and be persuasive and clear, but their speech and writing has to have a human touch.

Respondent 62 had their own complaints as they wrote,

> It was a waste of time. The instructor did not utilize the book to its fullest extent, but constantly has students go outside the book for information. When doing our research paper, we have to send him a copy by email and a hard copy. That is a waste of my time and his. It needs to be one or the other, not both. The way the instructor submits assignments and the returning of same assignments with grades. When a unit is opened, the threaded discussion and written assignments should open up at the same time.

Respondent 74 stated,

> I didn't like the untimely manner in which the instructor responded to the students or graded the exams. Poorly done.

Respondent 80 avowed,

> Grades took a long time to be posted.

Respondent 110 claimed,

> There was not much communication between students and instructor. Having to mail in the assignments when email or the drop box would have worked much better.

Respondent 122 alleged,

> Grading was not done in a timely manner.

Respondent 123 pointed out,

> I sometimes wondered if the instructor even knew we existed. I do not think they really interacted with the students much.

Respondent 127 Stated,

> I do not like the fact that I really never heard from the teacher. He never posts in the general section. He doesn't seem overly concerned about my grade in the class. For example I have taken numerous online classes and the format had always been the same. This was the first class where Week one had us clicking on Chapter 1 and 2 and that there was a quiz in the first week.

Respondent 171 wrote,

> Had problems communicating with the instructor

Summary

All of the data presented in this chapter came from one archived data file consisting of over 3,000 narrative documents from anonymous students that had completed at least two online courses. Data sets emerged as excerpts from online students narratives were coded by student perceptions of their online learning experience. These positive and negative experiences were reported in this chapter. Typically when students offered complements they seem a little mild and when they offered criticism, it seemed intense. This was a consideration in the final data analysis.

CHAPTER IV

ANALYSIS OF THE DATA

The aim of this chapter is to take the data presented and described from the previous chapter a step further to focus on the unique themes that emerged from analysis through the lens of the learning assumptions. This focus moved the study towards its primary purpose, which was to describe and interpret these themes in light of this study's learning theory. The data presented in Chapter III were analyzed individually and collectively to explain adult student narratives reflecting on online courses they had just completed, through the lens of adult learning theory (Knowles, 1990). Adult learning theory was used in this study to effectively view the occurrence of various types of learning assumptions and provide a rationale for the study, but this rationale was also tested by a qualitative analysis of the final summarization of the work. The learning theory also provided valuable insights into the origins and background of many of the students' narratives. Lastly, the leaning theory provided important predictions concerning the relationships among the respondents' narratives within the content analysis process (Neuendorf, 2002).

The definition of the term "learning" is imprecise and often confused with "education" or "teaching." In this study "learning" emphasizes the person in whom some kind of change occurs. The term "education" emphasizes the educator, the agent of

change who presents stimuli and designs activities to induce change. Learning is an act or process where attitude or behavior is altered, and/or knowledge and skills are acquired (Boyd et al., 1980).

Adults learn very differently from children or youth learners, and since the 1970s, there have been many attempts to codify the learning traits of adults into sets of principles, assumptions, models, or theories of adult learning by adult educators (Merriam, 1999). There is no single theory of adult learning that explains all adult learning in all situations but Knowles' theory, "Model of Assumptions" (1980, p. 43), offers educators a set of six adult learning assumptions or a "systems of concepts" (Knowles, 1984, p. 8). His model of andragogy, introduced from Europe in a 1980 article is the best know and most widely recognized set of learning assumptions that define characteristics of adult learners (Merraim, 1999).

All adult learning theories have their critics and Knowles certainly has his, but the single criticism of andragogy heard most often is that Knowles ignores the context in which learning takes place (Pratt, 1993; Grace, 1996). Pratt attacks andragogy as a set of assumptions that characterize the adult learner as autonomous, free, and growth oriented. Andragogy offers little awareness that the learner is socially situated and in a cultural context of the times; nor is there any awareness that social institutions may be defining the learning process separate and apart from the individual student. Even if this criticism were true (a distraction in which I do not want to be involved), it would not make andragogy any less suitable for this study, because the common context of adults in an online courses is one of independence and lack of a physical context. On this point the literature offers little that enlightens researchers about adult learning theory in an electronic context, and

especially based on personal computers over a wide variation of course types. Furthermore, the goal of this study is to ascertain how well institutions are providing online courses that meet the needs of adults, and in the event that their needs are not being met, devise new adult learner driven strategies to better meet those needs.

Analysis Strategies/Procedures

Qualitative data collected in this study were analyzed using methods outlined by Stake (2000) and Creswell (1998): categorical aggregation, direct interpretation, patterns, naturalistic generalization. Categorical aggregation was used to determine trends or themes emerging from the data. Direct interpretation was used to examine each narrative individually. I used naturalistic generalization to draw conclusions that may be applied to other populations. I explored several qualitative software packages to help manage the large number of respondent's narratives; however, I eventually decided to collect and analyze the data manually. As Creswell (1998), Stake (2000) and Merriam (1998) point out; it is still the responsibility of the researcher to do the actual analysis of the data.

To ensure validity and reliability of this study, member checks and triangulation were used as suggested by Creswell (1998), Lincoln (1985), Merriam (1998), and Stake (2000). Member checks involved sharing the results of the respondent's narrative analysis with experienced online students to see if they found the results plausible. I had two of my peers perform a content analysis and duplicate my analysis on the first 100 narratives to ensure at least a 90% agreement on the coding values. On the remaining 2,700, spot checks and many analysis discussions were help to validate my coding analysis. In addition, I used rich description of all processes of data collection, content analysis,

evaluation, and clarified potential bias as all results were shared. All of these methods are suggested by the literature on conducting qualitative research (Stake, 2000, Cresswell,1998, Merriam, 1998, Lincoln, 1985).

As research analyst for this study, I have documented my qualifications and credentials that contribute to an accurate reading of the respondent's narratives in this ethnographic content analysis study (Altheide, 1987). The content analysis called for coding the narratives into one or more categories corresponding to this study's learning theory's learning assumptions. This approach was driven by the Knowles' andragogical learning theory and was followed with a qualitative data analysis of the deconstructed and summarized data from the archived survey document.

This study presupposes that, as this study's analyst, I have the necessary background and knowledge to competently read and code the narratives. As previously stated, I have taught many different online courses to over 8,000 online students by means of personal computer. The original Knowles' andragogical learning theory provided an excellent set of assumptions with which to deconstruct the narratives into meaningful units. These units were recorded and current responses were compared repeatedly with earlier responses in a search for consistencies and discrepancies (Glaser, 1965; McCall & Simmons, 1969).

Categories were modified and responses were compared again, and one-by-one three new categories were added to the already much-modified six categories. As sufficient numbers of narratives emerged that did not closely conform to the andragogical learning theory, an interpretative analysis process was used to formulate new categories and eventually evolve a new theory that was more specific to adult online students. This

process was wholly qualitative in nature and involved a summarizing or cumulative process requiring a constant state of discovery and revision (Neuendorf, 2002).

The modified categories and the newly evolved categories that emerged from the constant comparative analysis process began to produce a sufficiently different set of assumptions as to have a grounding effect on this study. The combined coding and analysis process began to suggest grounded theories from the original learning theory categories, the modified categories, and the newly evolved data categories. This process required that I become immersed in the narrative data and become completely grounded in the reality of each narrative. Having been a student of several online courses as well as having taught online courses for more than a decade, I applied the empirical reality; large numbers of adults take online courses that may or may not include learning strategies that meet the needs of adults, to the pragmatic theory driven research questions in an effort to evaluate the appropriateness of online courses for adult students (Neuendorf, 2002).

Coding

The coding process was reliable and repeatable through intercoder reliability. To accomplish this, a coding document was developed corresponding to the learning theory assumptions and tested on 500 narratives. The document was revised several times during this process and then a sample, consisting of the first 100 narratives was coded, using the latest coder document, by this study's researcher and two peer coders, which had a minimum of five years experience teaching online courses. The result produced outcomes that were within 95% agreement. The multiple coder method was used in random samples

throughout the remaining 2,600 narratives with the similar results. Sample coding documents are attached (See Appendix B).

Responses that were ambiguous, had no relevance to the questions, or had no impact on the research data as a whole were placed aside for review toward the end of the study at which time a final determination was made on that data as to whether it would impact the ultimate findings. This process allowed me time for reflection and synthesis, which was necessary to further inform the analysis process to insure that appropriate descriptions evolved, and accurate interpretations were made and reported. In general, this approach followed the excellent examples of qualitative data analysis in Merriam's (1988) milestone work.

Coding was first focused around the six learning assumptions representing Knowles (1980) andragogical adult learning theory:

1. Adults need to realize the need of learning something before they can satisfactorily learn it.
2. Adult learners have a concept that they are responsible for their own lives and all decisions that they make, including the learning process.
3. Adult learners have a wealth of experiences from which to draw and better understand new material. This is the adult learner's greatest learning tool.
4. Adult learners are eager to learn new material because they understand that it likely will help them cope with real-life situations.
5. Adult learners are better oriented to learning because they are life centered (task oriented).

6. Adult learners are more motivated to learn because they experience external pressures intensely such as job performance, and internal pressures such as self-esteem, and quality of life.

After analysis of the first 100 narratives, three new themes emerged with enough clarity that they became permanent new adult leaning assumptions which created a new more online specific set of learning assumptions.

7. Adult learners learn new material best when their online course components are intuitive and well structured
8. Adult learners learn new material best when their online course provides them with good access to their teacher
9. Adult learners learn new material best when their online course makes good use of collaborative learning techniques

Ultimately nine categories represented the adult learning theory of this study. All nine learning theory categories were summarized and compared based on frequency of responses to obtain grounding for each of the learning assumption categories. All categories of the original andragogical learning theory were well represented; verifying the value of each adult learning assumption.

Data coding and analysis focused on the most significant and the most definitive narrative excerpts from the respondents, especially those that provided an overall perspective of some aspect of online learning as applied to adult learners. This focus guided the study towards its primary objective, which was to describe and interpret the respondents' experiences and perceptions in view of the study's learning theory framework.

These excerpts, in some cases, were part of narratives that may have related to more than one learning assumption category. Where narratives supported multiple conclusions, multiple excerpts were counted in each appropriate learning assumption category. Even though there were many more responses to the respondents' online courses than indicated by the numbers in this chapter, many comments were trivial or did not fit the parameters of this study.

The most revealing aspect of this data collection process was the inability of the original six category, classroom-oriented, learning theory to account of all the dimensions of adults taking courses in an online learning environment. Chapters IV and V present the analysis of the data as well as the possible conclusions and recommendations for future research.

Peer Review

The process of ethnographic content analysis of the narratives in this study was constructed in such a way as to yield the same results by other analyst's experienced in the teaching of adults with online technology and reading similar student narratives. In an effort to increase reliability this study used a strategy of triangulation and peer examination, as recommended by Cresswell (1990); Lincoln and Guba (1985); Merriam (1998); and Stake (2000). The purpose of triangulation is to use "multiple investigators to confirm the emerging findings" (Merriam, 1998, p. 204). In addition, peer examination asks "colleagues to comment on the findings as they emerge" (Merriam, 1998, p. 204). I shared the raw, archival, anonymous data, with two peers at Rogers State University who were each involved with designing and teaching online courses for adult learners. The

peers consulted were, Dr. Monica Varner, Assistant Professor of Psychology, and Dr. Larry Ashbaugh, Assistant Professor of Psychology. Varner and Ashbaugh agreed with the conclusions drawn in this study and expressed interest in facilitating more research in this area.

Themes

The reflective excerpts of adult learning respondents grouped into this category report positive experiences and/or perceptions of ways they believed online courses met the needs of adult learners. The revealing aspect of this chapter is not that some respondents agreed with the assumptions of this study's learning theory, but the extent to which the frequency of narratives indicated that they agreed, or did not agree.

All of the six original learning theory assumptions were well represented by the number of respondents' narratives. Frequency of responses in the category of things that students liked about their online courses was about equal to the total number of negative responses to all three of the other category of learning assumptions. The total numbers of narratives for all nine learning assumptions of students responding to what they liked about their courses were greater in number than the total of the narratives responding negatively to the learning assumptions other three survey questions combined (Table 6). This would indicate that in spite of many responses from respondents indicating that their online courses were deficient in many of the original andragogical learning assumptions as well as the three new online dimensions, for the most part adult online students report satisfaction with their online courses. Even with this reasonably good indication of online course satisfaction, this study reveals a gap between the learning components of typical

online courses and what students have indicated would make online courses more suitable for adult learning needs.

Table 6 depicts respondents' narrative responses as retrieved from the archived survey questions as related to each of this study's nine learning assumptions.

Table 6

Respondents' Positive and Negative Narratives about Online Courses and Instructors Depicted by Learning Assumption

	Course Positive Responses	Course Negative Responses	Instructor Negative Responses
Need to know value	308	99	3
Self concept	240	113	20
Experience	40	63	0
Help in real-life	178	85	0
Learning oriented	133	109	1
Self-esteem and job	81	80	0
Course organized	308	318	89
Good teacher access	163	140	90
Collaborative	143	269	33
Total Responses	1594	1276	236

Learning Assumptions

The following nine learning assumptions make up this study's learning theory and reflect the analysis of the narratives from the 3,100 narratives found in the archived data set presented to this researcher with no course, student or teacher identification information. The data analysis presents each adult learning assumption in the following format:

- Positive responses from the archived narratives reflecting things students liked about their online course and supported the learning assumption.
- Negative responses from the archived narratives reflecting things that students did not like about their online course.
- Negative responses from archival narratives reflecting things that students did not like about their online teacher needed to do to improve the course, and needed course changes students suggested to improve their course.

Need to Know Learning is Useful

Adults need to know why they need to learn something before they try to learn it (Knowles, 1990). Tough (1979) discovered that when adults undertake to learn something on their own, they will spend a great deal of energy weighing the benefits of learning the material against the bad consequences of not learning it.

As indicated in Table 6, there were 308 positive responses affirmed the presence of this learning assumption in their online course and the 102 negative responses indicated that learners found this assumption lacking in their online course. Clearly this was a highly important learning assumption category for these learners. In this learning

assumption category learners frequently reported that they need to know that the learning content is useful before they can satisfactorily learn it. Many respondents repeated this theme as they stressed that their online instructors had successfully made the intellectual case for the value in learning the course material. Some respondents also confirmed that they had prior knowledge that the course material would improve their performance in some area of their personal life. Many learners when asked what they liked about their online course responded similar to the following:

Respondent 40 reflected,

> I loved the opportunity to do coursework using tools that I will be using at work. I enjoyed working in a situation much like my work, and it was neat to apply the business world to the technology world.

In like kind, Respondent 66 mentioned,

> I have always been aware of the different things that affected business, but wasn't exactly sure until how, but this course was very informative and now I have a much better understanding of how things work. I really enjoyed it.

Other respondents expressed the notion that they did well in the online course because they knew that the course content had value in the "real world." Respondents often used the expression, "real world learning" as opposed to textbook or more abstract learning. It was a recurring theme that the respondents wanted courses that presented learning material that could be immediately applied to their personal lives, or their jobs, or both, and they confirmed that their courses had done so. The following respondents expressed the sentiments of this group.

Respondent 74 reported,

> Topics were interesting and directly applicable to real life.

Respondent 77 volunteered,

> Mainly the subject. I work in the telecom industry and can use a lot of this stuff right away.

Respondent 108 stated,

> Great material, very interesting content, I'm already using it.

Respondent 404 summarized the theme of this adult learning dimension when he/she stated,

> I liked the content. This is my favorite subject. I could hardly wait to take this course. I have no complaints about the course and that's saying a lot. I enjoyed the material so it was easy to learn. This was a subject that everyone needs to know more about to just be a good informed citizen.

A large group of 98 unhappy respondents, when asked to suggest improvement for their online course, followed up with various degrees of negative suggestions that could only be interpreted as negative responses to components that they found lacking in their online courses. The following excerpts are typical of this large, unhappy, and pretty intense group.

Respondent 86 had the perception that he was being treated as a child when he expressed,

> The work involved did not make it easy for the students who are taking the online classes because they have hectic schedules. I think I'm mature enough to set my own schedule.

Respondent 265 was in agreement as they declared,

> The one thing that I learned from this online course was doing and redoing the assignments for myself. Although I have hardly received any suggestions from the instructor, I have taught myself many important things that I will need to know on my job. I guess from this stand point, online courses are more effective than in classroom classes.

There was only one negative response directed specifically toward the course in this assumption category, and they responded with the following:

An unhappy respondent 145 volunteered,

> I was not very interested in the material. Can't see how it will help me.

And, one unhappy student when asked how their instructor could improve their course, they responded in the negative to this learning assumption category with the following information:

Respondent 8 summarized the theme of this adult learning component when they affirmed,

> I live the problems. I write accounting software for a living, so I knew a lot of the mechanics and terms. What I needed to know was the theory behind it. Use some spreadsheets that we could use on our jobs.

Need to Be in Charge of Learning Process

Adult learners have a concept that they are responsible for their own lives and all decisions that they make, including the learning process. Knowles (1990) explained that andragogical learners have a deep psychological need to be seen by others and treated by others as being capable of self-direction. Adults resent situations where they feel others are telling them what to do. Certain labels "education," and "training," or similar expressions often make adults remember earlier learning experiences as unpleasant. Old memories of school days with the teacher totally in charge and students expected to sit and listen are not pleasant memories. Such memories often make adults reluctant to partake of learning situations; especially where they perceive teachers are the adults and students are children. Learning experiences that resemble this top-down teaching model are usually synonymous with low attendance and high drop-out rates (1990).

Respondents in this learning assumption category indicated that they preferred being responsible for their own decisions, and events in their lives. As indicated in Table 6, there were 240 positive responses affirmed the presence of this learning assumption in their online course and the 133 negative responses indicated that learners found this assumption lacking in their online course. Clearly this was a highly important learning assumption category for these learners. Respondents remarked that they preferred to learn at their on pace and in their own way. These learners confirmed that their online course had provided them with enough options and flexibility to direct their own learning process.

Respondent 46 declared that:

> I particularly like the fact that the instructor utilized instructional tools that fit with the point of the class, and let us use personal examples to make our points. Instead of relying strictly on memorizing this or that, the class is set up to get students to comprehend information.

Respondent 100 followed up with similar thoughts and affirmed:

> This is very important in a time period when vast quantities of information are being rapidly created and replacing information for relevance Of all the classes I've taken and I only have three left; this one has made me learn to think for myself and not just regurgitate material. I was able to relate to things in my life to understand much of the course.

Most of the negative responses to this learning assumption appeared when learners responded to the request for suggestions for improvement of their online course. Respondent 300 had the following unfavorable words,

> Let students write more like they do at work or like they do in every day communication with each other. I think I am a charismatic writer and write with enthusiasm, but that is my personality and it comes out in my writing. As long as a students writing structure is correct they should be able to prepare assignments in a style that they would normally use and not be graded off for it. Students should be allowed to or even encouraged to show their personality in their writing.

And respondent 206 agreed:

> I really like the course content but I didn't learn much. We didn't cover anything in detail in the book, just covered some of the components the teacher thought was important. I learned more when I follow up on web sites to find more and I discovered there are a lot more things to learn that are related to what we did actually cover in the course. I find writing the assignments online very useful but wish we could have done more with designing real world applications in the class. I think we would have got more benefit of this kind of class if the online review of the chapters covered stuff that we didn't cover in class but were expected to already know. This forced more in depth learning; I didn't realize how much I did not know until I found that I actually could write more about the assignments from scratch when I had to review the information on my own.

A number of criticisms in this learning assumption category came from learners when they were asked to suggest improvements for the instructor of their course. Typical negative responses from this group were:

> A disgruntled respondent 630 declared:
>
> Instructors should put everything online. All lectures should be available on line and should be connected to the conversations going on with the discussion forums. The textbook website is junk, and there is so boring that no one really spent any time messing around with it. Simple discussion statements and questions based on the material should be on the discussion forum and should be the heart of the course. Sending a link to some publisher's website does not make an online

> course. You should just lay out the course content and let the students get on with it.

And respondent 305 affirmed:

> Teachers should be a little more flexible in their criticism of students writing styles and choice of topics. Students are trying to prepare for public world out there and the highly structured style of writing about ambiguous subjects is going to be of little use. Students should be learning how to succeed in the commercial world and be persuasive and clear, but their speech and writing has to have a human touch.

Learning Based on Experience

Adult learners have a wealth of experiences from which to draw and better understand new material. This is the adult learner's greatest learning tool. When asked what they liked about their online course, most respondents remarked in their narratives that they liked to draw on their family or job experience especially with assignments that require a lot of writing.

As indicated in Table 6, there were 40 positive responses affirmed the presence of this learning assumption in their online course and the 63 negative responses indicated that learners found this assumption lacking in their online course. Respondents' narratives in this learning assumption category stated that their online course included learning activities that allowed them to build on a lifetime of experiences. Activities such as the collaborative activities, problem-solving, simulation exercises, and case methods were cited for being useful to stimulate their learning processes. Discussion forums that

permitted respondents to share experiences were particularly favored learning tools as well as online case studies that encouraged online students to share collective experiences from work, education, and life. Some respondents exhibited pleasure in being identified with their experiences, and mentioned that they were motivated by it. In collaborative activities respondents made reference about their experiences to the point that students were associated with and identified by their experiences. Few online students met face-to-face with others but became known to others by what they do and what they have done.

The richest resource for learning resides in the adult learners themselves. An adult accumulates a reservoir of experience, which is a rich resource for learning (Knowles, 1990). This learning assumption was not well supported by my study. In any learning theory, reflection and critical thinking are part of the learning process, and adult learners have a greater bank of memories and experiences on which to reflect and increase their ability to learn (Usher, Bryant, & Johnston, 1997).

Boud and Miller (1996, p. 7) wrote a great description article describing the general roles that adults can play in helping others learn from their experiences. They refer to the helping person as an animator. This person takes on the role of animator as they enjoy acting with learners to let the learner appreciate the value of their personal experience and shows them how to make the most of their experience.

A number of respondents supported the adult learning assumption that adults learning comes from an adult learner's own experience and they affirmed that their course had allowed them to use previous experience when learning new material. These learners acknowledged that their online course had allowed them to apply personal experiences from childhood, school, work or home to learning the course material. Some respondents

mentioned in their narratives that as a parent, or spouse, or counselor they used this experience to motivate themselves, and add to a knowledge base that they had accumulated over a lifetime. Some of respondents expanded on this theme as they mentioned that they became close to their instructor and had the impression that they were co-learners with them going through the course together. Respondents also spoke of how their instructor had shared their own experiences of work and home and this motivated them to learn and follow in their steps.

Respondent 46 had the following complementary comments:

> I particularly like the fact that the instructor utilized instructional tools that fit with the point of the class, and let us use personal examples to make our points. Instead of relying strictly on memorizing this or that, the class is set up to get students to comprehend information. This is very important in a time period when vast quantities of information are being rapidly created and replacing information for relevance.

And likewise Respondent 100 wrote:

> Of all the classes I've taken and I only have three left this one has made me learn to think for myself and not just regurgitate material. I was able to relate to things in my life to understand much of the course.

Surprisingly no respondents criticized their course and no respondent criticized their instructor for limiting their ability to use past personal experiences as tools for learning new material. However, when respondents were asked to make suggestions to improve their online course, there were a number of respondents that complained that

their course should encourage adult learners to use their life experiences to help learn new material.

Respondent 63 made the following recommendation after a request for suggestions to improve the online course just completed.

> We should have more than presentation. Presentations and any other work that would help us solve problems like those we will face on the job would be helpful. I feel this would be a very good skill to have. Teachers should also let students use more of their own experiences in their assignments or let them use things that they are knowledgeable about rather than assignment such strict topics that don't mean anything to anybody.

Respondent 50 added a note of agreement.

> I missed the online sharing of reviewing/studying reports prepared by other students as opposed to traditional text seems like a more natural and educational way to learn.

Learning Has Immediate Value

As indicated in Table 6, there were 178 positive responses affirmed the presence of this learning assumption in their online course and the 85 negative responses indicated that learners found this assumption lacking in their online course. Clearly this was a highly important learning assumption category for these learners. Knowles declared that adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations (1990, p. 67).

Respondents wrote excitedly about how the course material would help them in their job immediately, or some important area of their life. Some respondents mentioned that they were going through major changes in life, either personal or professional, and there was a natural readiness to learn something new that would be useful with these changes. Respondents mentioned that their online course presented new things that helped them cope with the challenges of these life changes.

Respondents alleged that their interaction with their instructor had much to do with how perceived the value of the course that they took. When instructors were enthusiastic about the course and its value, and the student-teacher relationship was positive, then respondents tended to view the course material as having more value. In a few cases respondents acknowledged that the courseware had content itself that revealed its value. In either case when respondents perceived that their course material was of immediate value; motivation to master that material was increased.

Some respondents expressed fear of not being prepared for new developments as well as excitement of starting a new chapter in their life as motivation for doing well in their course. In a few cases respondents explained that they were motivated to learn because of anticipated new developments for which they wanted to prepare or were afraid of being unprepared. In this category there was little difference in motivation caused by new developments in the respondent's life that were eminent and motivation brought about because respondents wanted to prepare for some new unknown opportunity.

These excerpts reflect respondents' positive and negative responses related to the learning assumption that adult learners learn best when the subject matter will be useful to know. These excerpts, in some cases, were part of narratives that may have related to

more than one learning assumption category. Where narratives supported multiple conclusions, multiple excerpts were counted in each appropriate learning assumption category. Even though there were many more responses to the respondents' online courses than indicated by the numbers in this chapter, many comments were trivial or did not fit the parameters of this study.

The large number of respondents' narratives related to this learning assumption category affirmed that it was much easier to prepare to learn, get motivated to learn, and actually learn and retain the material when they knew they would put the new knowledge to work quickly. Respondent 71 confirmed,

Respondent 71 had the following praiseworthy comments when asked about their online course:

> The course will be useful for me in the near future in the telecommunications field. It is also useful as a consumer in understanding how our telecommunications systems are developing.

Some respondents remarked in their narratives that they had their own way of doing things and they preferred to learn in an environment that had options that allowed them to customize the learning to accommodate their learning style. Most of the responses were similar to:

In a similar reflection, Respondent 41 stated,

> I loved the opportunity to create another database using this course content. I enjoy working the programs and it was neat to apply the business world to the technological world.

When asked what they did not like about their online course and what suggestions they had for instructor improvements, there were no negative responses; however, when asked to make suggestions to improve their online course, many respondents indicated shortcomings in their courseware in this learning assumption.

Respondent 8, when asked how their online course could be improved complained that:

> I could use more job oriented problems. I write accounting software for a living, so I knew a lot of the mechanics and terms of the course. What I didn't know was the theory behind it. This course never gave me what I needed to use in the real world.

And in a similar complaint, Respondent 209 claimed:

> I didn't need the use of labs and exercises out of the book. They didn't help me a great deal this semester. Also we didn't spend any time on really useful research activities that would help me on my job.

Learning is Life Oriented

Respondents narratives related to this learning assumption category indicated that they learned best when the learning strategies of their online course resembled processes and activities they experience everyday in life and on their job. Adult learners are eager to learn new material because they understand that it likely will help them cope with real-life situations.

Respondents confirmed the learning assumption that their online course had encouraged them to use personal life-oriented problem solving strategies and they indicated that this helped them to learn. Knowles in “Modern Practice of Adult Education” (1980) stated that adults have an orientation to learning that children do not have. He referred to adults as being motivated to learn to material that they perceive will help them perform tasks and deal with problems that they confront in their life situations. Furthermore, they learn new material and retain it more effectively when that material comes to them in the context of real-life situations.

This learning dimension has a strong situational component that would indicate that adult learners learn best when learning situations include tasks that replicate familiar life methods that they have developed to manage their life’s circumstances. This usually requires a lot of options and choices in their learning system much like they have a variety of options and choices from which to choose to solve problems in life. Some respondents acknowledged that, as adults, they had developed learning styles that worked for them and they praised their online course as having allowed them to use techniques that resembled those had worked successfully for them in the past. Some respondents preferred a heavy reading component while others enjoyed more online interactive exercises such as threaded discussion forums and case study exercises. The theme of this learning dimension strongly indicated that adult learner’s learn in many different ways. Online courses that are designed with narrow strategies are not favored nearly as much as courses that accommodate a variety of learning styles.

Respondents commented that they enjoyed the way their course used everyday examples to explain new material to them. They mentioned that their course set up

problems to learn concepts that were similar to the problems they encountered on a day to day basis. Oddly, some respondents indicated that initially they found their online course a little messy, and not too user friendly, but with a certain amount of pride, they describe how they adapted the course content to their own style, much like they would approach a situation in real-life, and constructed a set of activities that took them through the material in a way that made sense to them. After doing this, they found the course very acceptable.

Adult learners in this learning component frequently mentioned that it was important for them have guidelines for success in their course. They highly valued examples of written work from students in previous semesters. Respondents praised courses that put sample documents online that were similar to those required in their assignments. Just as in real-life students when faced with an unfamiliar task, they look around for examples of how this task has been successfully handled in the past to give them guidance in how they should proceed with the problem at hand. Adult learners particularly do not like ambiguous and incomplete instructions in their online courses.

Another component of this theme was that adult learners need some immediate success in their course to reinforce their confidence. Quizzes and exercises at the beginning of the course need to be designed to begin more simply and build the learners confidence. Adults taking online courses experience a double set of risk factors. Not only are they concerned about mastering the course content, but they are also stressed out about being able to master the technological aspects of the course. For this reason the early exercises should be simple and scheduled close together to reassure adult learners that they can handle the challenges of an online learning environment and learn new material simultaneously.

As indicated in Table 6, there were 133 positive responses affirmed the presence of this learning assumption in their online course and the 110 negative responses indicated that learners found this assumption lacking in their online course. Clearly this was a highly important learning assumption category for these learners.

Many respondents mentioned they learned best with case studies methods or a Socratic problem solving learning strategy. Several respondents stated that they liked the case studies and problem solving components because these kinds of activities reminded them of how they work on their job. Most respondents' comments in this category indicated that they learn best when the course material had close relationship with the everyday tasks either at work on in their social role in their world.

Respondent 41, when asked what they liked about their online course, had the following praise:

> I loved the opportunity to create another database using this course content. I enjoy working the programs and it was neat to apply the business world to the technological world.

Respondent 151 was in agreement as they avowed,

> It was very convenient to take this course online. I feel I have learned a lot including about managing my own time.

When respondent were asked what they did not like about their online course, they had no response; however, when Respondent 62 was asked to make a suggestion for improvement about the instructor that taught their course, they had the following comment:

> It was a waste of time. The instructor did not utilize the book to its fullest extent, but constantly has students go outside the book for information. When doing our research paper, we have to send him a copy by email and a hard copy. That is a waste of my time and his. It needs to be one or the other, not both. The way the instructor submits assignments and the returning of same assignments with grades. When a unit is opened, the threaded discussion and written assignments should open up at the same time.

Respondent 63 declared,

> We should have more than presentation. Presentations and any other work that would help us solve problems like those we will face on the job would be helpful. I feel this would be a very good skill to have. Teachers should also let students use more of their own experiences in their assignments or let them use things that they are knowledgeable about rather than assignment such strict topics that don't mean anything to anybody.

Learning for Job Rewards

Respondents in this learning assumption indicated that they preferred learning material that would help them perform their jobs better and make them better persons.

The most powerful motivators are internal. They involve the desire for improved job satisfaction, self esteem, and quality of life (Knowles and Associates, 1984, p. 9-12). Tough (1979) described in his research that all normal adults are motivated to keep growing and developing intellectually as well as in other life skills, but he discovered that motivation can be blocked by negative internal constraints such as an adults perception

that they have no opportunities to better themselves, or their resources limit them from accomplishing any rewarding goals.

The theme that emerged from this learning assumption mirrored Tough's in that they expressed similar attributes from the respondents as they perceived their online course as being doable and having the potential for increasing their confidence and job satisfaction. This theme can be supported by Maslow's (1970) hierarchy of needs theory, in which he claimed that adults use education to climb the ladder of needs from survival through safety, affection, and esteem and self-actualization. Maslow would place emphasis on the teacher and online course strategies to appeal to the adult learner's internal desire to increase self esteem and do everything possible to minimize individual doubts and perceived barriers to the learning process.

As indicated in Table 6, there were 81 positive responses affirmed the presence of this learning assumption in their online course and the 80 negative responses indicated that learners found this assumption lacking in their online course. These excerpts reflect respondents' positive and negative responses related to the learning assumption that adult learners learn best when the subject matter will be useful to know. These excerpts, in some cases, were part of narratives that may have related to more than one learning assumption category. Where narratives supported multiple conclusions, multiple excerpts were counted in each appropriate learning assumption category. Even though there were many more responses to the respondents' online courses than indicated by the numbers in this chapter, many comments were trivial or did not fit the parameters of this study.

When asked what they liked about their online course, most respondents had responses similar to the following:

Respondent 40 reflected,

> I loved the opportunity to do coursework using tools that I will be using at work. I enjoyed working in a situation much like my work, and it was neat to apply the business world to the technology world.

In like kind, Respondent 66 mentioned,

> I have always been aware of the different things that affected business, but wasn't exactly sure until how, but this course was very informative and now I have a much better understanding of how things work. I really enjoyed it.

A number of respondents offered criticisms when asked for suggestions to improve their online course. In response, Respondent 8 made the following contribution:

> I could use more job oriented problems. I write accounting software for a living, so I knew a lot of the mechanics and terms of the course. What I didn't know was the theory behind it. This course never gave me what I needed to use in the real world.

And similarly, Respondent 105 added:

> The entire course was useless in today's world. (Respondent 105)

When asked to make suggestions for improvements with the instructor of their online course, no responses were forthcoming; however when asked to suggest improvements to their online course many respondents contributed with negative comments such as:

Respondent 63 suggested,

> We should have more than presentation. Presentations and any other work that would help us solve problems like those we will face on the job would be helpful. I feel this would be a very good skill to have. Teachers should also let students use

> more of their own experiences in their assignments or let them use things that they are knowledgeable about rather than assignment such strict topics that don't mean anything to anybody.

Respondent 50 claimed,

> I missed the online sharing of reviewing/studying reports prepared by other students as opposed to traditional text seems like a more natural and educational way to learn.

Course Well Organized

This learning assumption category was added to the original six because of the high number of responses in this category that described something outside the realm of this study's original learning theory's six learning assumptions. A large number of respondents wrote that they learned well when their online course was well organized and when the course directions were clear and confusion and problems were controlled that they not become a distraction to their learning process. Adult learners are more self-directed that youthful learners and prefer learning that moves through a predictable series of steps to reach their learning goals (Tough, 1971; Knowles, 1975).

Respondents exhibited a dislike for surprises; they indicated a preference for a learning environment that is consistent, where the human and material elements can be found intuitively, and that all elements are there when they need them. Adults indicated that they wanted to be in control of their learning. Respondents in this learning assumption sounded a repetitive theme about self-management, and self monitoring of their learning process. In this adult learning component, adult learners indicated that they want a course

that is predictably structured and all the components are readily available when and where they expect to find them.

Respondents indicated that they particularly liked courses that offered units with clear structure. They described how frustrating it was when they had to search for instructions, or if there was insufficient direction from the instructor about assignment due dates, length of writing assignments, number of sources, or formatting guidelines. Respondents mentioned that they liked the set-by step procedures that their course had provided them. They discussed how important time management was in their life and how limited their time was for learning purposes. Respondents expressed how much more they learned from courses with no guesswork about procedures or assignments.

Another oft-mentioned response in this learning assumption category involved instructor and course feedback. Respondents mentioned that they liked the way their course communicated their progress, and constantly let them know how well they were doing. Sometimes this was a function of the instructor's communication with students through e-mail or some other means of communication that was a separate function from the course design.

In other cases, respondents mentioned that their course had been designed with automatic or built-in provisions to measure their progress, and they found this useful. Several times respondents mentioned that practice tests helped prepared to take tests. Respondents used practice quizzes to good advantage to prepare for all quizzes including midterm and final exams. Adult learners told of high levels of stress before taking tests when study tools were lacking. Respondents took advantage of all quiz preparation tools

in an effort to reduce test taking anxiety, and increase the likelihood of making a good grade.

Respondents indicated a sense of pride in not only learning the material, but excelling in the process. Earning good grades were important to self esteem, much like excelling with some task at work or in some other area of their life. Respondents reported that when their online courseware allowed them to travel methodically and predictability through a set of pathways the learning process was more interesting and their outcomes were improved. They voiced their preference for online courses that provided flexibility in how individual units were covered, but not to the extent that instructions became unclear.

Respondents in this learning assumption stressed that adult learners were more likely to take up new material and learn new things when the risk for failure and humiliation are perceived to be minimal. When course instructions were not clear they became frustrated quickly. They preferred learning strategies that were linear in nature. Adult learners do not want to be seen as foolish as a result of trying something new. Most adult have experienced problems in learning something in the past, and negative memories cause them to resist taking chances. When the learning process is designed with strategies that remove most of the possibilities for repeating the embarrassing learning memories of the past, adult learners move much more aggressively into new material and the learning process is much more positive.

These excerpts reflect respondents' positive and negative responses related to the learning assumption that adult learners learn best when the subject matter will be useful to know. These excerpts, in some cases, were part of narratives that may have related to more than one learning assumption category. Where narratives supported multiple

conclusions, multiple excerpts were counted in each appropriate learning assumption category. Even though there were many more responses to the respondents' online courses than indicated by the numbers in this chapter, many comments were trivial or did not fit the parameters of this study.

As indicated in Table 6, there were 308 positive responses affirmed the presence of this learning assumption in their online course and the 407 negative responses indicated that learners found this assumption lacking in their online course. Clearly this was a highly important learning assumption category for these learners.

When asked to describe things that they liked respondent 352 exclaimed,

> This course was so well organized that you knew the first week what would be expected of you and when for the rest of the semester.

Followed by respondent 253 who declared,

> The streaming video/cd lecture format was in the study guide and is what got me through the course. The information presented in the lectures and the manner in which it has been presented has been easy to follow and (more importantly) available for quick review when I needed to study for a test or answer a question. I would definitely recommend continuing use of the format used in this course.

There were many respondents that volunteered negative responses in the category of this learning assumption when asked to describe things about their online course that they did not like, such as:

Respondent 265 declared,

> The one thing that I learn from online courses is doing and redoing the assignments for myself. Although I have hardly received any suggestions from the instructor, I have taught myself many important things that I will need to know on my job. I guess from this stand point, online courses are more effective than in classroom classes.

And Respondent 81 asserted,

> The threaded discussion sessions have been worthless. I would especially like to be able to work in the virtual office for classroom chats that would normally occur at the end of a traditional class.

Respondents responded with intensity when asked to make suggestions to improve their instructor and many of their contributions fell within this learning assumption category such as:

Respondent 630 made their unhappiness obvious as they responded.

> All lectures should be available on line and should be connected to the conversations going on with the discussion forums. The textbook website is junk, and there is so boring that no one really spent any time messing around with it. Simple discussion statements and questions based on the material should be on the discussion forum and should be the heart of the course. Sending a link to some publisher's website does not make an online course. You should just lay out the course content and let the students get on with it.

And respondent 62 followed up with,

> It was a waste of time. The instructor did not utilize the book to its fullest extent, but constantly has students go outside the book for information. When doing our

> research paper, we have to send him a copy by email and a hard copy. That is a waste of my time and his. It needs to be one or the other, not both. The way the instructor submits assignments and the returning of same assignments with grades. When a unit is opened, the threaded discussion and written assignments should open up at the same time.

Most of the negative responses in this learning assumption category were from students who were asked to make suggestions to improve their online course. Typical of these negative responses were the following:

Respondent 19 responded with,

> Power point presentations are good for working meetings, but not good for an effective learning environment. I think they need to save some money by getting rid of the power point stuff. It didn't work for me at all. I observed one lecture for 3 minutes and found I can learn more by reading on my own.

And in totally agreement Respondent 69 mentioned,

> The study guide tests and interactive tests have numerous mistakes and have some poorly worded questions. I have reported at least 8 different questions that the study guide test or interactive tests have the wrong answers for. This is extremely frustrating, in that it makes you wonder whether there are further inaccuracies that you have not caught because of not understanding the material correctly. Both the study guide and interactive tests need an independent review by an expert.

Good Assess to Teacher

This learning assumption category was added to the original six because of the high number of responses that described something outside the realm of this study's original learning theory's six learning assumptions. The theme of this adult learning assumption category can best be described as respondents indicated that they learn best when the teacher of my online course is readily assessable.

These excerpts reflect respondents' positive and negative responses related to the learning assumption that adult learners learn best when the subject matter will be useful to know. These excerpts, in some cases, were part of narratives that may have related to more than one learning assumption category. Where narratives supported multiple conclusions, multiple excerpts were counted in each appropriate learning assumption category. Even though there were many more responses to the respondents' online courses than indicated by the numbers in this chapter, many comments were trivial or did not fit the parameters of this study.

As indicated in Table 6, there were 163 positive responses affirmed the presence of this learning assumption in their online course and the 230 negative responses indicated that learners found this assumption lacking in their online course. Clearly this was a highly important learning assumption category for these learners.

Probably no learning assumption category attracted so many intense responses, both positive and negative as this learning assumption category. there was little middle ground. Learners either thought their instructor was available when needed or not and responded in extreme terms, such as the positive comments of:

Respondent 165 when they pointed out that,

> The instructor was very helpful when I asked questions about the course. He also responded fast. I also enjoy the subject and I am able to use much of the course on my job.

And Respondent 143 confirmed,

> I really like that the instructor keeps the online grade book up to date and records our grades on assignments in a prompt manner. It really helps to know how you are performing.

Not all was rosy in this learning assumption when respondents were asked share criticisms of what they did not like about their online course such as the following:

Respondent 127 complained,

> I do not like the fact that I really never heard from the teacher. He never posts in the general section. He doesn't seem overly concerned about my grade in the class. For example I have taken numerous online classes and the format had always been the same. This was the first class where week one had us clicking on chapter 1 and 2 and that there was a quiz in the first week.

Respondent 123 pointed out,

> I sometimes wondered if the instructor even knew we existed. I do not think they really interacted with the students much.

Respondents responding to the request for suggestions to improve the instructor of their online course invited many additional instructor criticisms in this learning assumption category similar to the following:

Respondent 74 bluntly stated,

> I didn't like the untimely manner in which the instructor responded to the students or graded the exams. Poorly done.

Respondent 80 was equally blunt and short of words when they avowed,

> Grades took a long time to be posted.

Learning is Collaborative

This learning assumption category was added to the original six because of the high number of responses that described something outside the realm of this study's original learning theory's six learning assumptions. The theme of this adult learning component can best be described as respondents indicated that they learn best when their online course includes collaborative activities.

Adult learners particularly need to know they are not alone in the learning process. Even when they don't need to share learning information, they needed to feel that they are part of a group sharing common emotional experiences as well as academic experiences of the course. Just like in real-life, adults do not want to feel different or feel alone in what they are attempting to accomplish.

John Dewey (1938) had great impact on the field of learning, identified one of the key concept of learning as "continuity." He stressed that continuity of experience where every experience takes up something from those which have gone before (p 27-28). A primary responsibility of the educatory so to shape the learning environment and conditions and to recognize the importance of creating surroundings that is conducive to learning growth. The learning experience must include conditions that contribute to building one experience on top of another (p. 35). Jerome Bruner (1966) in his theory of instruction, emphasizes that it teachers should rarely tell students what they think they

should know. Telling deprives students of the excitement and sensation of accomplishment when doing their own finding. Student-student interaction as opposed to student-teacher interaction should be encouraged (p. 40-41).

As indicated in Table 6, there were 143 positive responses affirmed the presence of this learning assumption in their online course and the 302 negative responses indicated that learners found this assumption lacking in their online course. Clearly this was a highly important learning assumption category for these learners.

These excerpts reflect respondents' positive and negative responses related to the learning assumption that adult learners learn best when the subject matter will be useful to know. These excerpts, in some cases, were part of narratives that may have related to more than one learning assumption category. Where narratives supported multiple conclusions, multiple excerpts were counted in each appropriate learning assumption category. Even though there were many more responses to the respondents' online courses than indicated by the numbers in this chapter, many comments were trivial or did not fit the parameters of this study. When respondents were asked what they liked about their online course, responses supporting this learning assumption were similar to:

A very satisfied Respondent 363 acknowledged,

> Lots of feedback in the threaded discussions from the instructor and peers.

And likewise respondent 349 mentioned,

> I liked the flexibility of the course being online as it fits well with my busy schedule I enjoyed the threaded discussions and I appreciated the feed back from my peers on the threaded discussion forum.

There were a few respondents that expressed criticism when asked to make suggestions to improve the instructor of their online course such as:

Respondent 110 claimed,

> There was not much communication between students and instructor. Having to mail in the assignments when email or the drop box would have worked much better.

There were many more responses to this learning assumption category from respondents when asked to make suggestions to improve their online course such as:

Respondent 89 confirmed,

> I didn't like the fact that we did not have online discussions.

Respondent 91 mentioned,

> I found it hard to clearly present material online and the discussion forum was too confusing

Respondent 136 wrote about,

> The lack of interactions with the instructor and students.

Respondent 148 stated,

> I could not relate to my classmates in the discussion forum.

In terms of original learning assumptions with the highest levels of responses both positive when present in their courses and negative when not present in their courses, this study found that it was very important that:

- Adults need to realize the need of learning something before they can satisfactorily learn it.

- Adult learners have a concept that they are responsible for their own lives and all decisions that they make, including the learning process.

In terms of the new learning assumptions with the highest levels of responses both positive when present in their courses and negative when not present in their courses, this study found that it was very important that:

- Adult learners learn new material best when their online course provides them with good access to their teacher
- Adult learners learn new material best when their online course makes good use of collaborative learning techniques.

Summary

The large population of online students took one or more of 41 online courses taught in the spring of 2004 at a small regional university. The archived narratives that were examined for this study totaled 1,827 after discarding all that had information that might identify any person, place, or online course. Also set aside were narratives that contained information not germane to the learning theory assumptions of this study. Also discarded were students that were not at least 24 years of age, students that were not at least in their third year of college work, and students that had not taken at least two online courses.

From these narratives, 3,179 excerpts were coded and applied to this study's learning theory consisting of nine learning assumptions to define the needs of adult learners in online courses.

The remaining adult learners shared their experienced perceptions about the online courses that they had completed, with written narratives to four general, open-ended questions that came to them in the form of an e-mail questionnaire. They responded with electronic narratives that were collected and analyzed for specific content and the deconstructed excerpts were assigned to one or more of nine adult online learning assumption categories. Each set of excerpts deconstructed from the archived narratives data set was maintained separately as related to the four questions on the archived online survey document until they could be associated with one or more of the nine learning assumption categories as described in this chapter. Information relevant to the research question can be found in this chapter. Themes emerged during the content analysis of the narrative responses. Quotes from the narratives provided thick description and documentation of the importance and priorities of the emerging learning assumptions through the adult learner respondents' own words.

Brief findings, conclusions, and recommendations for further study will be given in Chapter V based on the content analysis and qualitative data reported in this chapter.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS AND COMMENTARY

Summary

This study examined a set of archival data that contained the reflections of adult learners who had recently completed a representative number of online courses entirely at a distance with only a personal compute to connect them to the courseware, course material, instructor, and their class cohorts. The process began by documenting the opinions and recommendations of the online adult learners as they reflected on online courses that they had recently completed. The process ultimately analyzed the archival data content from 3,106 narratives from adult online students who had just completed one or more of 41 online general education courses at a four year university. This archival data had been collected by the university research department and made available to me with no information that could identify students, courses, or teachers, and provided only their reflections of their online learning experience. All respondents with less than two years college experience and experience with less than two online courses were also removed from this data set. Students had been sent an e-mail questionnaire asking their participation in answering four open-ended narrative questions, which were accompanied

by likert-style demographic questions. All data was submitted anonymously and voluntarily. All narratives submitted by students having taken less than two online courses, or who had not completed at least two years of college work were discarded before the data was released to me.

This study emerged from this researcher's concern that universities, in an attempt to meet the demands of increasing adult learner enrollments, may be using internet technology to deliver online courseware without full appreciation of the unique adult learning needs of this rapidly expanding student population. And, adult learning priorities may be misplaced when they make course choices based mainly on the availability of a course at a convenient time and place and the learning effectiveness of the course is relegated to secondary consideration. As indicated by the literature reviewed in chapter two, most research concerning adult learning theory is based on traditional learning environments, and requires much research into the modern phenomenon of adults learning over the Internet.

Microcomputer network technology makes possible the delivery of course content removed from the face-to-face classroom, but may impose new strategies to meet adult learning needs where the element of human contact is removed from the process. The findings of this study can be used to guide, (1) courseware developers as they create courses for the adult learner market, and (2) adult learners as they make choices as to the appropriateness of online courses to meet their unique learning needs.

Purpose of the Study

The purpose of this qualitative, content analysis study was to investigate the effectiveness of online courses in meeting the needs of students who demonstrate adult learning skills regardless of their chronological age. This purpose was accomplished with the following process:

- Data collection from archival records consisting of narrative answers to four open-ended questions from adult online students about the likes and dislikes of their online courses and suggestions for improvements in areas of instruction and course design.
- Data presentation into (1) respondent narratives and (2) perceptions.
- Data analysis according to nine learning assumptions: Six adult learning assumptions were based on Knowles' (1990) andragogical learning theory, and three additional assumptions that evolved in the data-collection and content analysis process of respondents' narratives.

Procedures

Data from a diverse body of adult learners with experience in both online courses by personal computer and traditional face-to-face traditional courses, concerning their perceptions of how well online courses met their needs were needed to achieve the purpose of this study. I preferred that this data to be in narrative form to elicit unstructured responses from adult learner about their learning experiences. A long interview qualitative design was first contemplated for this study, but was abandoned when a rich, varied, and large archival narrative data source of online adult learners' perceptions became available.

Data Source

I was fortunate to be given access to a large archival data source that focused on four general, open-ended questions that yielded a rich body of data that corresponded closely to this study's research questions. Adult learners responded to one or more of the four questions with their narrative perceptions of their online learning experience. The questions and the number of responses were:

1. What did you like about your online course? (1,594 responses)
2. What did you not like about your online course? (244 responses)
3. What suggestions for improvement do you have for your instructor? (233 responses)
4. What suggestions for improvement do you have for your course? (1,029 responses)

The use of a learning theory such as the widely accepted Knowles' (1990) andragogical leaning theory, even though this theory is acknowledged to be traditional classroom oriented, was absolutely necessary because no sufficiently acceptable online oriented learning theory emerged from the literature. This theory provided an excellent starting point for this study and it endowed it with theoretical grounding. The adult learning assumptions from the original theory were expanded into a new theory that additionally grounded the study with the online oriented themes that emerged from the respondent's data as the source data was analyzed.

Data Analysis

Data collection and analysis occurred simultaneously as emergent themes were noted throughout the study (Erlandson, 1993). Using the process of coding and categorizing emergent themes from respondents' narratives, the data sets emerged into nine themes or subcategories as listed below according to frequency of response.

Data coding to supported nine adult learning assumptions. Analysis and coding dictated modifications to the original six learning assumptions and the requirement of three new learning subcategories to accommodate the totality of the adult learners' narratives of their perceptions of online courses by personal computer. The first six learning assumptions evolved from the adult learning assumptions of Knowles' adult learning theory of andragogy (1990), but were also influenced by the adult education research of Merriam (1999), Bruner (1961), Erikson (1959), Erikson (1964), Getzels & Jackson (1962), Bower & Hollister (1967), Cross (1981), and Smith (1982).

These andragogical learning assumptions were:

1. Adult learners learn new material best when they perceive that the course material will be useful for them in the real world.
2. Adult learners learn new material best when they perceive that they are in charge of their learning process
3. Adult learners learn new material best when they are allowed and encouraged to use their previous experiences to learn new material
4. Adult learners learn new material best when they perceive how they will be able to use the new material immediately in the real world

5. Adult learners learn new material best when allowed and encouraged to use life-oriented, problem solving techniques to learn the material
6. Adult learners learn new material best when they perceive that the material will increase their self-esteem and/or will improve their job performance

The three new online oriented assumptions were required as 50% of the 3,106 respondent's narratives did not fit the traditional classroom oriented andragogical adult learning model. These respondents' narratives required a more online specific set of learning assumptions and the three new learning assumptions are:

1. Adult learners learn new material best when their course components are intuitive and well structured
2. Adult learners learn new material best when their course provides them with good access to their teacher
3. Adult learners learn new material best when their course makes good use of collaborative learning techniques.

Respondent data relating to any of the nine learning assumptions from all questions were collected and analyzed to demonstrate the degree of importance, based on frequency that adult learners cited a learning assumption as important, either because their course did well, did poorly, or provided nothing in relationship to a particular learning assumption.

The new adult online learning model with all nine learning assumptions and their frequency of responses are as follows:

The role and importance of each of nine learning assumptions was analyzed by comparing the themes that emerged from respondents' narratives as evidenced by the data

analysis in chapter IV and the analysis of the frequency of responses for each of the learning assumptions.

Two observations became clear from the emerging themes from the content analysis of the narratives and data analysis, and the frequency of responses that correlate to the learning assumptions of this study. The first observation of this study was that the andragogical learning theory as adapted and evolved from Knowles (1990) and applied to this study was essential to sort out the needs of adult learners and compare these needs to contemporary online courseware in an effort to evaluate the effectiveness of this courseware in meeting adult learners' needs. As respondents' narratives were analyzed for content, the language clearly spoke to the importance of each of the original six adult learning assumptions with strong references to each in their narrative responses. These themes were also reinforced by the frequencies with which these learning assumptions were referenced by the respondents, who clearly indicated they were learning according to the andragogical theory no matter what their learning environment.

The second observation was that the Knowles' (1990) andragogical adult learning theory, no matter how effective in defining adult learning, was insufficient to account for all learning dimensions of adult learners taking courses in an online leaning environment. One-half of all responses analyzed for this study had an online learning dimension outside of the original andragogical learning theory, and required expansion of the Knowles' (1990) set of adult learning assumptions. Online courseware must include three additional components for adult learning to be successful, and without all three of these additional components, online courseware will be unsatisfactory even if all andragogical learning assumptions have been carefully considered in the courseware design.

Findings

Based on the data and analysis, several findings emerged:

- As an educational vehicle, the Internet offers many technological tools, such as e-mail, listservers, newsgroups, net-conferencing, and many web-based application software packages that can be implemented into an online course. It is tempting to incorporate all kinds of gadget software into an online learning course, but this study reveals that online courseware must be developed to accommodate the adult learners. This statement may appear overly simplistic, but many of the adult learners in this study who possessed in-depth online learning experience responded that courseware designers frequently ignored this fact. All the dazzling technological wonders of the internet can become a distraction if used indiscriminately or excessively, and may likely cause the learning process to be dysfunctional. Many respondents praised their online teachers as being great subject specialists, but criticized the same teachers for throwing together online course components with little awareness of how they could be used in a seamless learning process.
- Adult learners are not risk takers. Respondents to this study stated in various ways that they don't like to make mistakes, or follow ambiguous learning paths. They need constant reinforcement that they are preceding correctly. Adult learners do not favor trial and error education. They do not want to feel foolish, be embarrassed, or be reminded of unpleasant mistakes of the past, even subconsciously. They become frustrated quickly when they don't have

clear instructions of what to do next. Adult learners put up barriers and resist learning new material if it involves the possibility of making errors.

- The respondents of this study mentioned directly and indirectly over 400 times that they hate to feel isolated, or out of touch. They responded vigorously that they learned best and most comfortably as part of a cohort group. Sharing experiences, problems, fears, uncertainty, discoveries, and ideas about how they should proceed in their learning quest as a group was fundamental to adults learning online. Adult learners clearly indicated the importance of collaboration. Collaboration with other online learners and collaboration with their teacher, who they often visualized as one of them, taking an educational journey. Adult learners learn best when they have a sense of being bound together in a community of learners.
- Adult learners mentioned frequently the importance of ready access to their teacher. It was clear that the most sophisticated online courseware was worthless if there was no feeling of connection with their teacher. Some respondents' spoke of only needing a question answered or something made clear a few times during the semester, but with no teacher response, the learner became frustrated and the learning experience became unpleasant and ineffective. Adult learners need frequent reinforcement throughout the learning journey. Respondents mentioned the need for feedback, to reassure them that they were on the right track. Guidance from their teacher by e-mail, drop box, or a current grade page, reassures the adult learner that they are not alone, and their work has meaning.

- Respondents frequently cited the difficulty of learning abstract, hypothetical, or theoretical material unless they can see how they apply to real life. Adult learners in their work world habitually make judgments about budgeting their time, setting priorities for the events in their lives, and in general taking responsibility for their own actions. They approach the learning of new material much the same way. They must believe that the material is worth learning, that it will be relevant to their personal life, and that they will be able to use this new information very quickly in their life to be motivated to learn.
- Teachers of online courses can go a long way to motivate adult learners if they constantly stress the practical aspects of the course material; use authentic teaching examples, utilize real world solutions to problems solving in the courseware, and in their collaborative activities with all the learners. Teachers can better motivate adult learners if they personalize their examples in dialog with their students. This requires learning something about the learners in the course by interactive conversation or perhaps a short survey at the beginning of the course, or some open invitation early in the course for the learner to describe themselves and their world in a short writing assignment.
- Adult learners like to do it their way. Malcolm Knowles (1990) described in this andragogical learning assumptions that adult learners need to perceive that they are in charge of their learning. He declared that adults are self-directed learners. Adult are oriented to learning styles that have worked for them in the past. Some learn well by reading, while others must try practical exercises. Learners may be visual, auditory or kinesthetic. Some adult learners prefer to

work in isolation and solve problems by themselves. Still more learn better in cooperative situations. Some students prefer simple, detailed step-by-step instructions, while others prefer to the global situation first and let the learner devise their own personal steps to solve the problem.

- Because adult learners possess a variety of learning methodologies, online courseware cannot be specific to any one method or learning system. Respondents indicated that the wanted options and choices in their courseware. Some searched for opportunities and resources for learning independently, while others declared that they benefited from online role playing, simulation exercises, and especially online case-studies as might be found on a discussion forum.

Adult learners need to be encouraged to explore their own learning styles and have choices that allow them to adapt the courseware components to benefit their personal learning needs.

Conclusions

The preceding analysis and findings are admittedly a preliminary investigation into adult learning assumptions as applied to an online learning environment with a personal computer on each end of an Internet connection. Quantitative dimensions within this study were minimized because I believed they extended the study beyond the introductory overview of this research plan, and there was the concern that reviewers could easily become distracted by the numbers, tables, and charts and concentrate less on the qualitative aspects of the respondents' themes that clearly describe the state of online

courseware as available to adult learners in the early 21 century. Having said this, there would be great value in attaching a 5 or 10 point rating scale to each learning assumption to measure not only frequency but intensity of each respondent's narrative. This was simply beyond the scope of this study with such a large data source, and with the limited time constraints of this research.

I make no claim that the nine learning assumptions described throughout this study, which included the six slightly modified learning assumptions presented by Malcolm Knowles in his 1990 work of Andragogy "the art and science of helping adults learn," are the magic number of assumptions or that they are the only ones that have value. Even Malcolm Knowles started with only four learning assumptions in his ground-breaking research in 1980. Many widely accepted authorities in adult education document any number of assumptions from six to over twenty, but this study concluded that 95% of the learning dimensions described by the respondents herein fit comfortably within the nine learning assumptions utilized with this research.

This study was guided by three main research questions. Based on this study's findings, the answers to the research questions frame the conclusions that follow.

Research Question One

> *How closely do the learning assumptions of Knowles (1998) and Merriam and Caffarella (1999) correspond to the learning expectations of the adult learners in the online general education courses of this study?*

Based on the results of this study, it is clear that all of the learning assumptions as cited by such great educational researchers as Knowles (1998) and Caffarella (1999) and others correspond very closely with the data expectations of the adult online learners of this

study. This was evident from the fairly even distribution of andragogical learning assumptions recognized by the large number of respondents. As respondents described what they liked and disliked about their courseware functions; the frequency of their responses to each learning assumption offered a clear indication as to the importance of each learning function.

Research Question Two

How effectively do on-line general education courses incorporate Knowles (1998) adult learning assumptions in their design strategies?

This question was answered with a resounding "not well at all." Even though most respondents of this study frequently exhibited the use of andragogical learning assumptions in their approach to their online work activities, these learning assumptions were not, for the most part, included in the design strategy of their online courseware. Many respondents acknowledged that their online course had met their online needs, with surprisingly high levels of satisfaction, but simultaneously they described online course that met their needs in spite of the fact that their courseware was devoid of most of the learning functions identified with this study's adult learning assumptions. Some respondents reflected on courseware that apparently met their needs by accident, and included collaborative activities or research options but they were random and disorganized and apparently not part of any overall design strategy.

Some respondents spoke of courses that met their needs only because their responses indicated that they had applied adult learning dimensions or traits to accomplish their activities within courseware that possessed minimal built-in consideration of adult

learning theory. These respondents usually appeared to have had above average experience with computers and internet tools.

Many respondents affirmed that they had happily completed courses in which they had to personally generate their own justification for learning the course material. They explained that initially they perceived no value or real-life usefulness for the course material, but their curiosity caused them to contemplate how they might apply the course material or they undertook research on their own as to how they would use the material. Within the courseware they rarely found an explanation as to why the course content had value or how they would use in their day-to-day lives. They further asserted that their instructor devoted all their resources to teaching the subject matter but rarely if ever offered rational as to why or how the course content was valuable for them as students to learn. This response was often followed by a comment that their instructor was apparently enthusiastic about the course content, and they thought the instructor should share some of their enthusiasm.

Other respondents cited courses that they completed with satisfaction that had consisted of little more that a few documents placed on a server and a series of hyperlinks, yet they took charge and turned the learning experience into a self-directed adventure that capitalized on their personal life's experiences and used their problem solving skills to adapt the course to meet their needs. Again, adults that possessed many of this study's learning assumptions were able to make the best use of online courseware that had little consideration for the ways that adults learn.

These conclusions vindicate the learning assumptions as defining tools and strategy instruments to design online courseware, but as many respondents described their

online courseware it was obvious that on the basis of inclusion of adult learning strategies, most of the courseware in this study was ineffective, but by default the courseware succeeded because of the learners orientation to adult learning assumptions.

Respondents reported using learning skills and traits that easily fit the descriptions of learning assumptions in their online courses, even though these assumptions were rarely accommodated within the design strategy of their online courseware. Even when an online course was poorly designed or limited in design, adult learners frequently adapt or create activities within the courseware that accommodate the learners' adult learning assumptions. Amazingly, in spite of design shortcomings of the courseware, adult learners are usually pleased with their outcomes. In short it is the truth of the learning assumptions within the adult learner that often makes the online course successful even when the online courseware may not be designed with the greatest of care for the adult learner.

Research Question Three

What unforeseen realities, if any are revealed by this study?

This study revealed a startling lack of student/instructor and student/student interaction. Most of the learning assumptions of this study were impacted negatively by this lack of interaction. Andragogical learning requires a great deal more association with others in their online journey. Pedagogical learning, with it top-down hierarchy where teacher's teach and students sit and learn, methodology requires less interaction, but adults, in a learning maturity sense, not necessarily chronological age sense, learn best when part of a cohort group, no matter whether real or virtual.

This researcher was fortunate in the sense that the head of this study's University Research Department made available archived data with most data not associated with the focus of this study already removed. Data outside of the scope of this study, and previously removed, included students under twenty-four years of age, students having taken less than two online courses, students having completed less than two years of college work, and all identifier information about subjects, courses, and instructors. This left a small amount of text that was set aside because the information was to nonspecific for use. Comments like: My course was wonderful, or my teacher should get out of the teaching business, or I hated the textbook, were not useful.

Implications

Hoy and Miskel (1991) declared that research must meet three criteria in order to be significant: (1) clarify or add to existing theory; (2) add to the knowledge base: and (3) have an impact on practice. The ways in which this study satisfied each of these criteria are documented in this section.

Theory

Initially this study examined the dimensions of learning as described by adult online learners through the lenses of a six learning assumption theory based on the classic Malcolm Knowles' (1998) Andragogical learning model for adult learners. Additionally, this study extended the Knowles' andragogical theory of adult learners, which is based on adult learning methodology as applied to the traditional classroom, to analyze adult learners experienced in online courses. The six learning assumptions of the andragogical

theory proved to be an excellent choice to frame the basic learning dimensions of adults, and the six assumptions traveled well to the online environment as all were reported by the a large percentage of the respondents as being critical to their learning process.

The wisdom as well as the limitations of the six andragogical learning assumptions became obvious as the research progressed, and the data revealed an incredible story of the ways that adults adapt these basic learning assumptions from one environment to another, often in creative ways that were not conceived in the design strategies of their online courseware. The andragogical framework was validated by the narrative responses of this study's respondents as it adequately framed nearly all mainstream responses not specifically related to the unique attributes of learning by online; however, the theory was incomplete as a theory for adult learners taking online courses, until it was expanded with the three new assumptions revealed by this study.

Three dimensions of adult learning that are important in traditional learning environments become absolutely essential and take on the role of primary learning assumptions when the learning environment involves course content being delivered from personal computer to personal computer via the internet. This study found great intensity in the responses of adult learners when they described courseware that included one of these three online-oriented learning assumptions. And, this study found equal intensity in the responses of adult learners when they described courseware that lacked one of these learning assumptions. The three new online-oriented learning assumptions of this study are:

Course Well Organized

This learning assumption category was added to the original six because of the high number of responses in this category that described something outside the realm of this study's original learning theory's six learning assumptions. Adult learners are more self-directed that youthful learners and prefer learning that moves through a predictable series of steps to reach their learning goals (Tough, 1971; Knowles, 1975).

In this adult learning component, adult learners indicated that they want a course that is predictably structured and all the components are readily available when and where they expect to find them. They preferred learning strategies that were linear in nature.

Good Assess to Teacher

This learning assumption category was added to the original six because of the high number of responses that described something outside the realm of this study's original learning theory's six learning assumptions. The theme of this adult learning assumption category can best be described as respondents indicated that they learn best when the teacher of their online course is readily assessable.

Learning is Collaborative

This learning assumption category was added to the original six because of the high number of responses that described something outside the realm of this study's original learning theory's six learning assumptions. The theme of this adult learning component can best be described as respondents indicated that they learn best when their online course includes collaborative activities.

Adult learners indicated the need to know they are not alone in the learning process. Even when they don't need to share learning information, they needed to feel that they are part of a group sharing common emotional experiences as well as academic experiences of the course. Just like in real-life, adults do not want to feel different or feel alone in what they are attempting to accomplish.

John Dewey (1938) had great impact on the field of learning, identified one of the key concept of learning as "continuity." He stressed that continuity of experience where every experience takes up something from those which have gone before (p 27-28). A primary responsibility of the educatory so to shape the learning environment and conditions and to recognize the importance of creating surroundings that is conducive to learning growth. The learning experience must include conditions that contribute to building one experience on top of another (p. 35). Jerome Bruner (1966) in his theory of instruction, emphasizes that it teachers should rarely tell students what they think they should know. Telling deprives students of the excitement and sensation of accomplishment when doing their own finding. Student-student interaction as opposed to student-teacher interaction should be encouraged (p. 40-41).

Research

A review of the literature revealed that a great amount of learning research had been done in the area of adult learning as listed below:

- studies have explored adult learning in traditional classroom settings
- studies have focused on gender in adult learning
- studies have concentrated on distance education technologies
- studies have researched small groups of adults that took particular courses
- studies have looked at adult satisfaction or retention in online courses
- studies have explored adults learning styles
- studies have looked at adults in corporate learning environment
- studies have analyzed adult student costs in varying learning environments

No contemporary study was found that specifically performed a content analysis of a large number of adult online learners, having taken a broad number of general education online courses exclusively with Internet connectivity utilizing personal computers. This study contributes to the knowledge base in this rapidly expanding area of adults taking online courses by computer with a careful analysis of experienced adult learners' responses to questions about how well a broad cross-section of online general education courseware met their expectations and needs.

Practice

Hoy and Miskel (1991) suggest that theory is refined through research, and when applied to individual action, it becomes practice. This study's expansion of the rigorous

work of acknowledged scholars of adult education extends their remarkable works focused on the conventional classroom, specialized technology, gender oriented, chronological age specific, and course specific research to adults learning general education courses online by Internet. This study's expansion of adult leaning theory should be standard design strategy in the design of any online course destined to be used by adult learners.

Adult learners can gain insights from this study by taking note of their own unique learning needs and placing them ahead of course convenience. And, they should check before enrolling in an online course to verify that the design strategies accommodate all nine learning assumptions described in this study, especially those related to collaboration, teacher access, and courseware structure for organization and learning choices.

Teachers can gain insights from this study by taking note of the adult learners demand for reasonable teacher access. Teachers not comfortable with the Internet and willing to spend much more time in student interaction than required in a traditional classroom environment will suffer really low student evaluations.

Course designers can gain insights from this study by taking note that all learning assumptions of the traditional learning environment are still important and must be part of online learning strategies, but this study's three new online-oriented learning assumptions must be considered as priorities of course design and course administration.

University administrators can gain insights from this study by taking note that adult learners have unique learning needs and those needs are met more with teacher student interaction and learning options than pure technology. Administrators should be

aware that adults may enroll in online courses because of convenience and not because the course offers a good learning experience. They should not take comfort that student evaluations are often satisfactory, for mediocre courses. If adult learners choose online courses because they are convenient their evaluations may reflect only their satisfaction that the course provided the convenience they expected but not necessarily that it was a good learning experience. This study focused on the actual adult learners' responses to questions about the presence of adult learning assumptions in their online learning experience.

Recommendations

The preceding analysis is an admittedly preliminary study to determine the extent that typical general education online courseware meet the needs of adult learners. To accomplish this, adult learners' reflections of their online courses were compared with a model of nine adult learning assumptions to measure how well their courses met their needs as defined by these assumptions. The following recommendations are made in an effort to improve their usefulness.

First, this study's expanded set of adult learning assumptions should be subjected to rigorous review by course designers and experienced teachers of online courses. Additional surveys and studies should specifically measure the levels of student response to these new assumptions. The subjects of teacher access by electronic means should be the subject of more definitive investigation. Clearly the students' concept of what is appropriate teacher access and appropriate teacher response time is different from most teachers of online courses in this study. This study's high level of responses on the subject

of student with student collaboration and student with teacher collaboration was surprising, and additional research into various types of collaborative activity, appropriate amounts collaborative activity, and appropriate collaborative technology are areas for additional study. This study indicates that simple and frequent collaboration is preferred over interactive and scheduled collaboration, but as students acquire more powerful and faster computer at home, this may be an emerging area for courseware consideration.

Second, this study only dealt with the frequency that respondents' narratives related to one of this study's learning assumptions it did not attach quantitative measurements to the respondents' data. Future studies should integrate these values on a five or ten point scale in an effort to prioritize and attach a level of intensity to each of the nine adult learning assumptions in this model. Additional study into the intensity of adult learners' responses to various learning assumptions would be valuable. This study's data set offered only a measurement of frequency of learner response to learning assumptions, but clearly if a weighted value could be attached to the negative versus positive responses, a dramatic result might emerge that could be useful for future courseware design considerations.

Third, all nine of this study's learning assumptions should be applied to different universities in a broad variety of educational courses. This study's data set represented only one university's catalogue of online course offerings. Additional study of courses from different sizes of institutions, and perhaps of institutions of varying levels of online experience could extent the utilitarian value of this research.

Fourth, additional study should be initiated to compare the relationships of this study's adult learning assumptions with actual learning outcomes to measure effectiveness

of online courses designed with this study's nine assumption learning theory imbedded in their design strategy. Additional research that connects adult learner outcomes in a particular online course with that learner's perception of the presence of learning assumptions in the same course could be of great usefulness.

Commentary

Fifteen years of teaching thousands of adult learners with various kinds of distance technology, particularly by personal computer and the Internet, had convinced me that technology was far out in front of courseware design for online courses in higher education. This study has reinforced that belief more then ever. With courseware design for adults, there is a fine line between offering all the online learning options that some adults require and offering technological choices that are ineffective and even distracting. This study proves one thing above all else, and that is that with adult online education, "less is more." Respondents ranted that they wasted too much time reading tons of boring server archived documents and searching meaningless hyperlinks, often broken, that had little to do with the course material.

Adults must quickly and frequently see the relevance and value of every activity and every scrap of learning material or they become disenchanted with all of the courseware. Adults grow tired of cute dancing "Flash" images and all the clever "PERL" scripts with banners and count-down windows. This study clearly revealed that adults wanted simple, intuitive courseware that worked, and plenty of collaborative activities such as "chat" and "discussion forums." They wanted a teacher who is a friendly facilitator and cohort in their learning process, and above all they want a teacher who puts up grades in a reasonable period of time and responds promptly to their e-mail. This study

evidenced by hundreds of respondents' narratives that even mediocre courseware with collaborative activities and good teacher access was more effective and enjoyable than high tech courses with tons of bells and whistles that didn't basic adult learning needs.

As I discussed this study's findings with old-time online teachers and courseware designers, several with more than ten years of experience, they all agreed that these findings closely reflected their own personal unpublished conclusions. A couple of these seasoned online teachers mentioned that with new designers of online courseware, there is a tendency to throw in every technological kitchen sink available. Some even adopt a publisher's textbook combined with online publisher supplied courseware and force their students to operate in a kind of schizophrenic learning world halfway between course material presented by their subject oriented teacher and generic one size fits all courseware created by technology oriented computer-Internet experts working for the publisher.

Lastly, this study clearly demonstrated that adult learners are creative and extremely resilient. If this study's three new online learning assumptions, good organization, good teacher access, and abundant collaboration, are given priority in even a technologically basic set of online courseware, adults will adapt their proven traditional learning traits to make their online experience successful. If anything this study indicates that online courseware might be a more natural way for adult learners to learn than the traditional classroom. The mechanical constructs of the online format would seem to accommodate more dimensions of the adult learner than the traditional classroom and surely suggests an area for further study.

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APPENDIXES

APPENDIX A

ARCHIVED SURVEY SUMMARY DETAILED REPORT WITH WRITE-IN RESPONSES MULTI-COURSE REPORT DOCUMENT

1. Organizational Skills: The Instructor.....

Had course content ready on time

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Communicated clearly

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Was available for assistance

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Organized the course content in a manner that promoted learning

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Communicated expectations at the beginning of the course

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Provided feedback in a timely manner

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Explained how the course grade would be determined

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

2. Knowledge and Experience: The Instructor.....

Appeared to know his/her subject

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Made effective use of the online environment for learning

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Used examples and illustrations that made the materials clearer

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Presented the material coherently, emphasizing major points and clarifying Relationships

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Ensured content, activities and discussions were relevant to course objectives

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Challenged students' abilities

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Facilitated online discussion in a way that promoted learning

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Had sufficient evidence, class participation or written work or tests to evaluate students' achievement

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

3. Sensitive to Students' Needs: the Instructor.....

Showed enthusiasm and interest in teaching the course

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Attempted to determine whether students understood discussions and concepts

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Encouraged students to ask questions and express opinions

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Was concerned with students' progress in class

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Responded to student communication in a timely manner

Strongly disagree	Disagree	Neutral	Agree	Strongly agree

4. What do you like about this course?

5. What do you not like about this course?

6. What suggestions do you have for the instructor?

7. What suggestions do you have for the Course?

APPENDIX B

CONTENT ANALYSIS CODING DOCUMENT

1. Learning in useful (real world)
2. Need to be in charge (self directed)
3. Learning based on experience
4. Learning of immediate value
5. Learning in self-oriented (problem solving)
6. Learning motivated by self-esteem /job rewards
7. Learning organized/structured
8. Good teacher access
9. Collaborative learning

VITA

Gary W. Rutledge

Candidate for the Degree of

Doctor of Education

Thesis: A STUDY OF ADULT LEARNING ASSUMPTIONS AS APPLIED TO ONLINE COURSE DESIGN STRATEGY

Major Field: Higher Education

Biographical:

Education: Graduated from Abilene High School, Abilene, Texas in May,1959; received an Associate of Arts degree in History from Tulsa Community College, Tulsa, Oklahoma in May, 1986; received a Bachelor of Arts degree in History from Oklahoma State University, Stillwater, Oklahoma in May, 1988; received a Master of Arts degree at the University of Tulsa, Tulsa, Oklahoma in May, 1991: completed requirements for the degree of Doctor of Education, Oklahoma State University, Stillwater, Oklahoma in May, 2005.

Experience: Worked as system analyst for IBM in Texas and Georgia, from 1962 until 1980; Worked for Cessna Citation in Nashville, Tennessee from 1980 until 1983; Worked for Marcel Dassault Aviation in Paris, France from 1983 until 1990; Moved to Tulsa, Oklahoma in 1990; Employed with Rogers State University as Professor of Political Science from 1990 until present.

Name: Gary W. Rutledge Date of Degree: May, 2005

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: A STUDY OF ADULT LEARNING ASSUMPTIONS AS APPLIED TO ONLINE COURSE DESIGN STRATEGIES

Pages in Study: 207 Candidate for the Degree of Doctor of Education

Major Field: Higher Education

Scope and Method of Study:

The objective of the study is to discover and interpret the archived narrative responses of adult learners having completed online courses to ascertain how effectively these courses deliver course content that meets the adult learning assumptions as presented by contemporary adult learning authorities. Adult learners find themselves in taking online courses with design strategies that may not have considered the unique adult learning traits. This study employed content analysis to analyze responses of over 3,000 adult learners having completed 41 online courses to ascertain how well these online courses met the needs of these adult learners.

Findings and Conclusions:

The archived data was analyzed using qualitative content analyzed. Nine categories of adult learning assumptions emerged. The analysis revealed that widely accepted learning assumptions about adult learning are important considerations when designing online courses; however, these assumptions are based almost exclusively on traditional face-to-face classroom research, which is insufficient for adults learning online. Collaboration, good teacher access, and intuitive course design are the primary considerations when designing online courses for adults. If online course design does not account for these three adult learning assumptions, the course will not be successful even if all the conventional adult learning assumptions are present in the course.

ADVISER'S APPROVAL _____