LEARNERS' PERCEPTIONS OF INTERNET-BASED

LEARNING IN THE COLLEGE OF EDUCATION

AT OKLAHOMA STATE UNIVERSITY

By

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CHAPTER I

INTRODUCTION

Distance education has been popularly utilized in delivering course materials to

learners in many countries since the late nineteenth century. The formats of distance

education have changed from strictly correspondence courses to include broadcasting,

teleconferencing, and networks and multimedia due to the availability of communication

technologies (Picciano, 2001). Today many people pursue knowledge and skills through

Internet resources and technology mediated instruction and information. One of the main

reasons Internet-based learning has grown is the ability to educate people in remote areas

who didn't have access to a local school. Other reasons included; perceptions of

convenience, flexibility, and comfort; a part of the worldwide educational movement for

globalization; and a viable alternative to traditional formal education (Irvine, 2003;

McIsaac & Blocher, 1998).

Recently, the use of computers for distance teaching and learning has been

promoted by innovations in information and computer technology. The developments of

the Internet and World Wide Web (WWW) have been changing delivery methods of

distance education (Internet learning, virtual learning, e-learning) and pushing the

progression of distance teaching and learning to a new media era. Rich (2001) stated,

"Learning at a distance encompasses not only what can be achieved electronically in

pedagogic terms between teacher and learner, but new forms of student support, modes of

assessment, quality assurance, and timescales for learning" (p. 68). As a result, technology has provided more effective and efficient tools, and delivery methods in education. Computer networks and technology have increased the amount of information exchanged and have also offered flexible alternatives for learners who may learn at a distance.

Many educational institutions are being challenged by the rapid change in globalization and new technologies, especially in the United States. Cappelli (2003) indicated that some educational institutions were using the distance education format to satisfy learners' needs, decrease operational costs, increase enrollment, and remove constraints of learners. To offer learners more educational opportunities without increasing financial budgets, colleges and universities in the United States have realized that distance education would be an essential and practical solution to competitively satisfy diverse backgrounds of their customers. According to a report published by the National Center for Educational Statistics (NCES, 2003), there were 3,077,000 enrollments in distance learning courses offered by 2,320 institutions, 56% of all 2- and 4-year Title IV-eligible, degree-granting postsecondary institutions (public and private). Among those institutions, 90% indicated asynchronous Internet courses were the primary mode to deliver instructional materials.

Background

The University Extension, International & Economic Development Office at Oklahoma State University (2003) reported that 357 distance education courses were offered in the 2003 academic year for the entire institution. Four formats were used.

These formats included; Internet-based (42%), CD-ROM based (36%), correspondence study (15%), and compressed video (7%). Specifically for the College of Education, the major format used was Internet-based with Blackboard as the platform for course delivery. During the 2003 academic year, 26 courses were offered in this manner.

Currently, Blackboard is the primary platform for delivering and facilitating Internet-based learning in the College of Education. Blackboard provides an online Internet-based educational interface with asynchronous and synchronous approaches for instructors and learners. Instructors might post, upload, and update learning resources in the course website; learners might access to the posted learning resources and download what they wanted to learn, they also can discuss and interact with instructors and peers whenever they have inquiries. Learners chose the online delivery method because it might create a learning environment in which they might pursue knowledge while they simultaneously fulfill their commitments.

There were several factors that affected learners' perceptions towards Internet-based learning environment (Webb, 2001). Studies showed that students' self-direction and experiences were factors that might affect students' learning process. Ausburn (2002a) addressed that adult learners' perceptions of a hybrid distance education course might be different in gender, preferred learning strategies, previous technology experience, and experience with self-directed learning. Ausburn (2002b) also addressed that more adult learners than younger learners perceived the Internet helped them learn in a self-directed pace. Furthermore, well-organized curriculum and well-structured instructional design developed both students' knowledge and motivation (Ames, 1990; Shinh, 1998; Small & Gluck, 1994). As Coppola, Hiltz, and Rotter (2002) commented

"The factors (knowledge, attitudes, course design, communication, and interaction) that influence learning in the traditional classroom are present in the distance learning situation. However, the media for transmission of these factors change from direct contact via telecommunication" (p. 172). As could be seen, using the Internet as a delivery method was not only a trend for educational providers but also a convenient way for learners who were looking to further their education but had little free time. It has provided access where it might not have existed, due to geographical barriers or financial, time or family constraints.

Educational institutions now realize learners as their customers whose needs and goals shall be satisfied; learners shall be privileged and authorized to gain and access to whatever levels of information and knowledge associated with their learning and growths. Internet-based distance learning is a bridge, which can connect not only people to people and people to knowledge, but may also offer an interactive learning place to minimize the educational gaps such as gender, race, and age. Many factors may affect a given learner's motivation to learn: interest in the subject matter, perception of its usefulness, general desire to achieve, self-confidence and self-esteem, as well as patience and persistence (Sass, 1989). In Internet-based distance learning, several studies recommended advantages (flexibility, self-tailored, more choices, and more personal attention) and disadvantages (possible loneliness, possible expense, more reading and writing, importance of self-regulation and time management); and demographic characteristics influencing learners' performance of distance education (Galusha, 1997; Coleman-Ferrell, 2001; Wahlstrom, Williams, & Shea, 2003).

The researcher synthesized the available literature and used as a framework for

this study, the nine categories of factors and some demographic variables which influenced utilization of Internet-based learning courses identified in the review of literature.

A review of the professional literature showed many educational providers have been establishing and utilizing the resourceful learning environment via the web for delivering instruction to their current and prospective customers. Rodchua (2004) recommended that further research of Blackboard learning should be conducted to investigate factors that would affect learners' perceptions of course content, student's achievement, interaction among classmates, and satisfaction. Therefore, it was meaningful to understand whether learners perceived Internet-based learning would help them learn better and also remove barriers from their learning process. This study mainly focused on Blackboard as the platform of Internet-based learning approach.

Statement of the Problem

Much research discussing Internet learners' perceptions could be found, but there was limited information of learners' perceptions towards Internet-based learning by using Blackboard as a platform for this college. This was true although Internet-based learning has tremendously increased since the late 1990s. Only standard end-of-course evaluations which were completed for all courses have been done. This information was shared only with the instructor of a specific course and as a result only impacted one instructor. It did not provide data for systemic change of all Internet-based courses and did not assess the totality of learners' perceptions in all courses.

A research study using an Institutional Review Board (IRB) and consent forms;

specifically looking at all Internet-based learning in this College has not been done. Without solid research, the learners' perceptions of whether or not the learning met their needs can not be assessed. If the learners perceived their needs being met, this would lead to the desired consequences of more enrollments in Internet-based learning courses, increased student learning and satisfaction with this type of instruction. This study was needed to contribute to the body of research and inform practice by discovering learners' perceptions of Internet-based learning in the College of Education.

Purpose of the Study

The purpose of this study was to describe learners' perceptions of Internet-based learning of three courses taught by one instructor in the College of Education Outreach at Oklahoma State University. This study would have the potential to improve Internet-based learning courses. The goal of this study was to gain more knowledge and provide data concerning learners' perceptions to refine and/or revise Internet-based learning courses to better meet the learners' needs.

Research Questions to be Addressed

The following research questions guided this study:

1. What was the demographic profile of learners who took an Internet-based learning course? And what demographic variables were associated with learners' perceptions of Internet-based learning in the College of Education at Oklahoma State University?

   a. Did gender affect learners' perceptions?

    b.   Did age affect learners' perceptions?

    c.   Did family considerations affect learners' perceptions?

    d.   Did job responsibilities affect learners' perceptions?

2. What were the perceptions of Internet-based learning of learners in the College of Education at Oklahoma State University in the following nine categories identified in the literature?

    a.   Attitudes and prior computer proficiency;

    b.   Communication and interaction;

    c.   Convenience;

    d.   Course design;

    e.   Knowledge and accessibility;

    f.   Learners' autonomy;

    g.   Modes of assessment;

    h.   Satisfaction; and

    i.   Timescales for learning.

3. Overall, what did learners perceive most positively in Internet-based learning courses?

4. Overall, what did learners perceive least positively in Internet-based learning courses?

Definitions of Terms

The following definitions were addressed for this study to minimize the chance of misinterpretation of terms as used in the study:

Asynchronous Learning: Learning in which interaction between teachers and students occurs intermittently with a time delay. Examples are self-paced courses taken via the Internet or CD-ROM, and e-mail.

Blackboard: Blackboard Inc. is a leading enterprise software company for e-Education. Founded with a mission to transform the Internet into a powerful environment for the education experience, the company traces its roots to its original teaching and learning software platform, CourseInfo. Blackboard is Internet-based learning platform for the College of Education at Oklahoma State University.

Demographic Variables: Some characteristics of learners that subjects would be requested to answer in survey, such as gender, marital status, age, children, job, ethnic, academic backgrounds, Internet learning experiences.

Distance Learning: The acquisition of knowledge or skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance.

E-learning: Covers a wide set of applications and processes such as Internet-based learning, Web-based learning, computer-based learning, virtual learning, and digital collaboration. It includes the delivery of content via the Internet, intranet/extranet (LAN/WAN), audio- and videotape, satellite broadcast, interactive, TV, and CD-ROM.

Hypermedia: A function of browsing the Internet. It is any medium with pointers to other media. This means that browsers might not display a text file, but might display sound or images or animations.

Hypertext: A function of browsing the Internet. Hypertext is text with pointers to other text. The browsers let users deal with the pointers in a transparent way.

Internet: An international network first used to connect education and research networks begun by the U.S. Department of Defense. The Internet now provides communication and application services to an international base of businesses, consumers, educational institutions, governments, and research organizations.

Internet-based Learning: Learning delivered primarily by TCP/IP network technologies such as email, newsgroups, proprietary applications, and so forth. Although the term is often used synonymously with Web-based learning, Internet-based training is not necessarily delivered over the Web, and may not use the HTTP and HTML technologies that make Web-based learning possible. Blackboard was the learning interface in this study.

Learner's Perception: Reactions and satisfactions of learner who have taken Internet-based courses.

Synchronous Learning: A real-time, instructor-led online learning event in which all participants are logged on at the same time and communicate directly with each other. Synchronous learning is led by an instructor who maintains integrated classroom control, with the ability to "call on" participants who raise their electronic hands from a distant location. Students and teachers can use a "white board" to see work in progress and share knowledge. Content can be delivered using live webcasts (virtual classrooms), audio/video conferencing, Internet telephony, and two-way live broadcasts of lectures to students in a classroom.

Virtual Learning: It is a part of distance learning primarily through electronic methods. It covers a wide set of applications and processes such as Internet-based learning, Web-based learning, computer-based learning, virtual classrooms, and digital

collaboration.

Virtual Library: A phrase for describing libraries that offer access to digital information by using a variety of networks, including the Internet, WWW, and digital content that can be delivered anytime and anywhere to a networked computer.

Virtual University: A name for describing institutions which are using information and communication technologies to deliver educational programs.

WWW (World Wide Web): A graphical hypertext-based Internet tool that provides access to homepages created by individuals, businesses, and other organizations.

Significance of the Study

The results of this study were significant for several reasons. Current research in distance education was broad. An initial review of the literature revealed many previous studies on Internet-based education and Internet learners' preferences and performance. Some of those studies lacked demographic information and supporting data for describing whether gender, and/or age would have affected learners' perceptions towards Internet learning (Atchade, 2002; Rezabek, 1999).

While many educational institutions have been providing Internet-based learning courses and programs, in order to maintain quality of the program and retention of learners, relationships between learners' attitudes and perceptions should be examined (Atchade, 2002; Tello, 2002). Tello (2002) and Webb (2001) further suggested that not only interactions between learners and instructor would be important, but interactions and the collaborative learning among learners might also be one of the factors that would help learners be successful. Armstrong (2002) believed that family commitment and job

responsibility might also be obstacles for learners.

Further, in this College, only standard end-of-course evaluation which was completed for all courses has been done. A research study using an Institutional Review Board (IRB) and consent forms, specifically looking at all Internet-based learning in this College has not been done. Thus, this study focused on finding learners' perceptions in Internet-based learning process. The anticipated impact of this study would contribute to obtain knowledge and understanding of how to best meet Internet learners' need in the areas of educational technology and adult, occupational, and higher education.

Limitations of the Study

This study accepted the following limitations:

1. The subjects in this study were students who enrolled in Internet-based distance learning courses in the College of Education at Oklahoma State University. The findings limited the external validity to generalize to other populations, institutions, and other formats of distance education. In this study, the sample might not represent the population. Due to barriers to data collection and research regulation, the findings were limited to 71 participants who were taught by one instructor from three course offered in the fall semester of 2003.

2. The findings were limited by the opportunity to obtain more sample participants due to institutional barriers, legitimate considerations, instructors' reluctance, and coordination among and between departments.

Organization of the Study

The study was organized into five chapters. Chapter I provides an introduction to the problem, statement of the problem, purpose of the study, various research questions, definition of terms, limitation of the study, and organization of the study. Chapter II provides a review of the related literature. Chapter III presents the population and sample, development of the survey, data collection, and data analysis techniques of each research questions. Chapter IV is devoted to presenting the findings of the study. In Chapter V, a summary of the study, discussion and recommendations for further study are provided.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Today's societies and classrooms are becoming more diverse and complex. Increasingly, many cultural conflicts and contradictions occur in the daily lives of people. Thus, the population of learners in the higher education has changed, learners have culturally and ethnically diverse backgrounds; and multicultural education and global awareness have become important issues in classrooms (Sanchez & Gunawardena, 1998). From the human resource development perspective, today's learners will be tomorrow's human capital in the fiercely competitive workforce. They have to be prepared to join the global labor market in the future. Skills, knowledge, attitudes, competencies, morality, and workplace safety are some of the subjects they ought to know before and after they enter to the workplace.

In the meantime, multicultural education is also an inevitable and important subject for preparing them to enter the future workforce. Currently distance education builds a multicultural teaching and learning community in which teachers and learners may use the technology-supported interface to articulate and communicate with others. Therefore, it is meaningful for educators and researchers to realize the importance of theory and practice regarding Internet-based distance learners' perceptions in dealing with the disparate backgrounds in the learner-centered virtual classroom.

Multicultural Perspectives in Distance Education

Multicultural education needs to be implemented and incorporated into the efforts of education to promote the equity of human rights in education and society. Education is no longer a privilege for certain people; the goal of education is to minimize ethnic, linguistic, religious, social/economic status, and gender biases and gaps among others (Rothenberg, 2000). Distance education can be recognized as a tool of facilitating multicultural education for providing diverse perspectives of instruction and curriculum; and increasing classroom interactions among culturally diverse backgrounds of participants.

The Association for Supervision and Curriculum Development (ASCD) developed a statement that described multicultural education:

Multicultural education is a humanistic concept based on the strength of diversity, human rights, social justice, and alternative life choices for all people. It is mandatory for quality education. It includes curriculum, instructional, administrative, and environment efforts to help students avail themselves of as many models, alternatives, and opportunities as possible from the full spectrum of our culture.... Multicultural education is a continuous, systematic process that will broaden and diversify as it develops. It views a culturally pluralistic society as a positive force that welcomes differences as vehicles for understanding. (Grant, 1977, p. 3)

Kerka (1992) advocated that in the heterogeneous learning environment, learners not only have to learn knowledge, skills, and attitudes, but also have to have awareness of globalization, sexism, racism, poverty, diverse cultures, and individual differences.

Educators have to overcome different cultural barriers between and among learners in order to prepare them to enter the future competitive job market.

Today, multicultural education becomes one of the important topics that shall apply to every level of education. In the distance learning classroom, diverse learners are the center of the learning and the teacher plays the important role to facilitate and create an encouraged learning environment among different cultures. The duty of the teacher is to facilitate accessible information to create a multicultural learning community where diverse learners are socially and culturally respected and privileged without any discrimination and isolation; where learners may learn better and they may learn what they need to know.

Development of Distance Education

According to the study of McIsaac and Blocher (1998), distance education has developed tremendously in global education systems since the 1980s. It is often used in the remote delivery methods and the virtual learning approach to educate people without access to a local school; it has been an alternative for education and training. It both emphasizes teaching and learning perspectives to create a learning environment to meet the goal of learner-centered system of learning. Educational and training providers have been establishing the learning environment in which biases of different cultures, barriers of time and location of learning are removed, and participants with diverse backgrounds and needs are efficiently and effectively served.

Distance education has created the alternative way for learners and attracts more learners' attention to participate in programs. Distance education is not a new idea; it has been utilized for quite some time. Based upon technologies applied to deliver and

distribute instructional materials, distance education has evolved from basic

mail-correspondence study, radio and television broadcasting, satellite broadcasting,

multimedia instruction, teleconferencing, computer-based instruction, Internet-based

(e-learning) learning. National Center for Educational Statistics (1999) defined that

"Distance education refers to education or training courses delivered to remote

(off-campus) location(s) via audio, video (live or prerecorded), or computer technologies,

including both synchronous and asynchronous instruction" (p. 2). Porter (1997) also

described as followed:

> Distance learning programs may involve hardcopy documents, audiotapes,
>
> videotapes, disks, CDs, broadcasts, and e-mail, for example, used alone or in
>
> combination. The history of distance learning is an illustration of the rise in
>
> popularity and common usage of different technologies, but the future of distance
>
> learning depends on the ways newer technologies can be used most effectively to
>
> provide high-quality education and training to more people at a reasonable cost.
>
> (p.23)

Wahlstrom, Williams, and Shea (2003) further contended that "Distance learning (DL) is

any type of instruction in which student and instructor are not in the same room; they are

separated by physical distance" (p. 1). Jones (2002) also wrote;

> Distance education has graduated from its roots in mail-order correspondence
>
> courses, in their own day both innovative and democratizing, to become an
>
> exciting, effective way to learn. It can employ almost every communications
>
> technology application that was developed in the 20th century, be it a TV course,
>
> courseware, on-line instruction, and Internet class, or a virtual campus. (p. 33)

Therefore, distance education can be designed and individualized to fit learner's needs in many different ways.

More and more learners are enrolling in distance education courses; more and more educational institutions are offering this type of learning curriculum (such as Internet-based programs). Many universities are changing the way they conduct programs or offer curriculum to meet learners' needs, to compete with other institutions and possibly even to survive. According to data in the "State of Distance Education in the U.S.", the top two types of technologies which institutions used as the primary mode of instructional delivery for distance education were Internet courses using asynchronous and synchronous computer-based instruction. Moreover, 82 percent of the reported institutions were going to use Internet courses using an asynchronous computer-based instruction method of delivery in the following three years (National Center for Education Statistics, 1999). Educational institutions often think distance education is not only a trend and the niche, but also an effective way for recruiting learners who have been looking to further their education. It has provided access to knowledge and information for those who may not overcome geographical barriers, and time or family constraints. Learners have been offered opportunity for the concept of lifelong learning; they can learn at their own pace, in a convenient location, at a convenient time, about a greater variety of subjects, from a greater variety of institutions or educators and trainers.

However, the educational world is changing rapidly by use of the assistance of advanced communication and educational technologies; Internet-based distance learning becomes one of the popular alternative methods to provide high-quality courses and programs in higher education. Capelli (2003) predicted the number of people enrolled in

distance education programs would have increased three times from 0.7 million

enrollments in 1998 to 2.2 million enrollments in 2002. Many educators and researchers

have been involved with the Internet and distance education for several years; they are

using technologies to build accessible, inexpensive, learner-centered, and resource-based

learning environments for learners who would like to acquire knowledge and skills by

this means (Porter, 1997; Irvine, 2003). In Internet-based courses, learners can gain

knowledge from the posted learning source by course instructors; also, they can explore a

plethora of relevant information through the authorized knowledge databases.

Technology

In general, the traditional way of distance education has been changed by using

the bandwidth networks, the Internet, computer-mediated communications, virtual

classroom, and electronic delivery methods; many terms are currently in use to describe

this electronic means by using of information and computer technology (ICT) to deliver

training and educational instructions (McLellan, 1998; Rich, 2001; Lewis, 2002).

As a part of distance education, Internet-based learning has also benefited from

the innovations of technology. Learners who live in different regions do not need to

spend time traveling to get to the class because the learning curriculum can be reached by

anyone at anytime in anywhere; learners can access learning sources by connecting to the

Internet. With the help of information technology, many universities have started to offer

courses through the Internet. Currently Internet-based learning has been one of the

popular and new trends of reshaping higher education. Weller (2002) said, "Technology

is seen as a means of improving productivity, efficiency and reliability" (p. 8). For using

advanced computer technologies (satellite broadcasting, telecommunication, standalone

personal computers, Internet and web-based, CD-ROM material, etc.), distance education

provides a virtually interactive learning environment for people who have diverse

backgrounds (Porter, 1997). In a distance learning course, participants are from different

cultures, socioeconomic status, ages, academic backgrounds, ethnics, genders.

Harden and Hart (2002) noted that how learners learn is not changed by

technologies, but technologies help people overcome learning barriers that learners may

confront. As part of distance education, Internet-based learning is using the asynchronous

method to deliver instruction to the target population and it has benefited from

innovations of information and computer technology. Cappelli (2003) indicated, "Higher

education sector can take greatest advantage of the increased use of technology,

especially the Internet, in delivering the educational product. Distance learning via the

Internet will drive tremendous growth" (p. 44-45).

O'Sullivan (2000) pointed up, "It represents the latest and most advanced

application of new technologies to the classroom" (p. 58). A well-developed distance

education system can serve as much as learners who are interested in many related

subject fields. The advanced computer technologies have provided many different

options for implementing distance education. Many colleges and universities have

applied computer and information technology to construct a computer-assisted virtual

learning system for learners at a distance. As McLellan (1998) identified, the traditional

way of distance education is changing through the use of the Internet, high-speed

computer networks, computer mediated communications (CMC), virtual reality, and

electronic delivery methods. Some universities and colleges even provide new curriculum,

such as online courses (electronic means) for graduate degrees. Online and Internet-based

education relies on computer-mediated communication for learner interaction and peer-to-peer communication between parties. Accordingly, Internet-based education is associated with the latest computer and communication technologies to carry out educational goals.

Factors Related to Internet-based Learners' Perceptions

In distance education, different teaching methods are required to serve diverse Internet-based distance learners. Learners develop their own learning culture; different learners have different socioeconomic, cultural, academic backgrounds. Together they create different thoughts and communication styles in the classroom. It is a big challenge for educators to teach diverse learners. Distance educators have to accommodate differences among those diverse cultures so that both of educators and learners can benefit from the experiences and knowledge shared within a multicultural learning environment. Communication and interaction, collaboration, utilizing of technology, and equity of accessibility can be seen as some of the important factors in Internet-based learning. McDonald (2000) illustrated web-based pedagogy as followed:

> Within this larger context, Web-based instruction is well positioned to realize the opportunities of emancipatory pedagogies. Feminist pedagogy, community development training, and human rights education are among the many available models of social transformation through educational practice. From popular objectives such as critical thinking and experiential education to more radical pedagogies like consciousness raising and empowerment, a variety of strategies and practices are currently being promoted. (p. 127)

Whenever Internet-based learning provides greater accessibility of information and opportunity for learner, the widespread delivery of educational and training instructions can be reached and attracted by more prospective learners. Internet-based learning has decentralized the structure of traditional on-campus courses; pedagogy has been changing from the teacher-centered to learner-centered.

Different pedagogical approaches to computer-based learning were announced by Berg (2002):

> Not surprisingly, the pedagogical approach to the use of technology in the classroom has swung back and forth between behaviorists and constructivists, both schools in many cases also exaggerating technology's promise. For constructivists, computers may finally provide the means by which the very labor-intensive educational philosophy of John Dewey may be put into practice. On the other side of the fence, behaviorists have long held sway in the field of computer-based training (CBT), with the tireless repetition and utilization of clear behavioral learning objectives being key elements of these training programs. (p. 34-35)

Thompson (1998) found more learners were female (60%) than male of distance learning. Most learners (95%) identified time constraints as the most important barriers, and they thought distance learning made them possible to learn without attending the traditional on-campus courses. Thompson (1998) also stated distance learners tend to be older than traditional learners and a positive relationship exists between learners' age and academic outcomes. Furthermore, Coleman-Ferrell (2001) conducted a predictive study for 399 students in 25 Internet-based distance learning courses at Palm Beach

Community College. The study investigated many factors which influenced students' academic performance such as gender, socioeconomic status, self-pace, flexibility, competency level, computer literacy; but communication, interaction, and time-scheduling had no difference with anticipants' academic performance.

As can be seen nontraditional learners are becoming the major population in higher education. The majority of population in higher education is returning learners who are older, part-time, working, and goal-oriented learners. Almost two-thirds of the enrollments in higher education were over the age of 25. They are culturally and socially diverse with different prior skills, knowledge, experience, and goals (Granger and Benke, 1998; Levine, 2003; Cappelli, 2003). It is significant to investigate what perceptions the learners have when they were taking courses through Internet-based learning. Assumedly, whatever positive or negative perceptions the learners reflected might have effects on their learning process.

Attitudes and Prior Computer Proficiency

Attitudes and prior knowledge of computer technology can be seen as one of the influencing factors for taking Internet-based learning courses from learners' perspectives. Learner's attitude towards using technology and learner's prior computer proficiency will affect motivation to learn in Internet-based learning environment. Learner often feels frustrated when he or she is afraid of using technology to learn. Their attitudes towards learning by using computer technology will relate to their capability and desire to participate in the learning process. Small and Gluck (1994) proposed, even though instructors' inducement to learners and learners' self-direction in learning are the motivational factors within learning; learners' attitudes, experiences, and skills may also

affect the achievement through the learning process. Granger and Benke (1998) provided that learners will be more successful if contents of learning are related to learners' experience and prior knowledge. Learners' academic achievements may relate to their attitudes and prior knowledge of using computer technology to learn in distance learning. However, learners want to learn knowledge and experiences when they are ready to learn (Knowles, Holton, & Swanson, 1998).

Therefore, their attitudes and prior knowledge of technology may help them achieve their learning goals. Some learners have enthusiastic attitudes about Internet-based learning, but many expect their instructors to inspire, challenge, and stimulate them. In the information age, traditional classroom learning is no longer the only way of distributing knowledge and pursuing a degree for students (Carswell, Thomas, & Peter, 2000). Learners benefited from Internet course even though they had little prior knowledge of computer and technology; they became familiar with newer technology and the learning environment while they were taking classes (Perez Cereijo, 1999).

Conversely, Santo (2001) concluded in the findings of the study that business students had better academic performance than humanities students in a traditional classroom, but no difference was found between attitudes and students' academic performance for both groups in virtual learning. Humanities students perceived technological skills might have played an important role for their preference toward virtual learning. They made more effort to use the unfamiliar technology.

Communication and Interaction

"Until the early 1980s, distance education was a one-to-one, paper-based process between learner and teacher; it was often very successful, but lacking the current attractions of real-time and learner-to-learner communications mediated by new technology" (Burge, 1998, p. 34). The quality of Internet-based learning system is improved by the advanced information and computer technology (Rich, 2001; Weller, 2002). Internet-based learning provides a multifunctional interface that learners can interact with instructors, tutors, technicians, and peers instantly. Student-teacher interactions were highly emphasized by learners (Zimmerman, 2002). Internet learning participants' interactions create a learning community within this environment, and this community is subject to the communication styles and preferences of its members. For improving learning outcomes and satisfy learners' needs, faculty and staff have to spend more time to develop an interactive learner-centered learning environment (Ryan, Scott, Freeman, & Patel, 2000).

Anderson & Garrison (1998) revealed the importance of interactions between and among learner, teacher, and content. The learning could be more sufficient and supportive if the learner would interact with the teacher. The learning could be more independent and self-controlled if the learner would interact with the content. The learning could be more proficient and practical if the teacher would interact with the content. The learning could be more significant and meaningful if the learner, the teacher, and the content would interact among each other.

Learners felt teacher support was great through the more frequent and structured interactions and communications between students and teacher (Perez Cereijo, 1999). A

current study by Archamboult (2004) also showed most distance students satisfied with online peer communication and they perceived online peer-to-peer communication to be relevant and important to their learning process. Experienced computer users and older students had better perceptions of peer communication in online courses than novice computer users and younger students did.

Collaboration and communication are two main elements of learning in Internet-based distance learning environment. Collaborations among learners might help them share experiences and knowledge with others. Collaborations among instructors, technicians, program staff and learners might facilitate the program more effectively. Communications and interactions between and among learners and instructors also helped learners gain quick and accurate responses and feedbacks to help them understand learning materials (Dowing, 1997; Van Dusen, 1997). Learners and teachers are separated physically but they are not in isolation from the learning community. The most convenient tools for communication in Internet-based courses are using email, discussion board, and the virtual classroom, which are the ways to motivate learners to interact with and participate in more argumentations, conversations, and discussions for sharing, exploring, constructing, and articulating ideas among others and instructors in depth.

Convenience

In Internet-based learning the physical location and class schedule are not barriers for learning; and learners feel learning is more convenient since the instruction is delivered by the Internet, web sites and networks through electronic and computerized media and documents. More learners consider Internet-based learning is more convenient than the traditional way. It saves time and money to travel to campus. Learners may have

opportunity to both fulfill family and job commitments. Huitt (2001) pointed out learners may learn more if they know what they have to learn, especially in a convenient learning environment. They feel their learning process is comfortable without fears, and then they are willing to learn and share knowledge and experiences with other learners and instructors. One of the reasons they choose to take Internet-based courses to extend their knowledge is convenience.

Studies showed that students felt convenient and comfortable taking online distance courses due to the flexibility of time and place of the learning. They reflected positively regarding the quality of the content of the online courses. They considered taking online courses if they had requisite skills, and access to instructional technologies (Chang, 2000). Gibson (2003) insisted that distance education promotes learners collaboration in the course that is designed to encourage them to actively participate in the learner-centered learning community. Within the learning community, learners construct their knowledge and understandings in the most convenient way.

Course Design

Instructional design might affect learners' perceptions in Internet-based learning approach. Internet-based learning requires more active audio and video instruction materials. To better fit learners' needs and motivation, Internet-based courses need to be developed more user friendly. The links to sources have to be directed to the relevant databases. Moore (1998) mentioned that "A successful distance education program should have strategically placed, well-integrated testing and feedback mechanisms, with efficient individual learner-to-teacher communication channels and a mechanism for giving a student advice on learning-related personal difficulties" (p. 5). The instruction

shall be clear and accessible to encourage and strengthen learning process; materials shall
be easy to link to resources. Learners are fully empowered to utilize instructions
including visual, audio, graphics, and multimedia materials (Shearer, 2003).

According to Wulf (1996), Internet-based distance learning usually uses a
combination of the following forms:

(1) Electronic mail (delivery of course materials, sending in assignments,
getting/giving feedback, using a course listserv, i.e., electronic discussion
group);

(2) Bulletin boards/newsgroups for discussion of special topics;

(3) Downloading of course materials or tutorials;

(4) Interactive tutorials on the Web;

(5) Real-time, interactive conferencing using MOO (Multi-user Object Oriented)
systems or Internet Relay Chat; and

(6) Informatics, the use of online databases, library catalogs, and gopher and
websites to acquire information and pursue research related to study. (p. 53)

Knowledge and Accessibility

With well-designed learning environment and instructions, learners might be
highly motivated to access the most updated knowledge and information through the
Internet instantly. "Information stored on a Web site can include hypermedia (such as
video clips, animation, sound effects, music, voiceovers, photographs, drawings, and
documents), hypertext (documents and static graphics), and unlinked text or graphics"
(Porter, 1997, p.127). In an Internet-based classroom, information facilitators and seekers
create a learning environment for sharing and developing ideas, experiences, skills, and

knowledge. Internet-based learning environment provides a resourceful knowledge database by integrating with interactive media and advanced computer technologies in which stakeholders may exchange and share their information. Margolis (2000) expressed that facilitators and learners are interactively sharing their thoughts, ideas, and information through the electronic delivery of educational products.

In higher education, the combination use of World Wide Web (WWW) and the Internet has provided resourcefully enriched knowledge databases and learning communities for their customers (Kvavik, 2002). For many learners living in outlying regions, this type of delivery has allowed for greater autonomy, which, in turn, promoted an increase in time spent on study. Learners can access to instructional materials in depth through the use of the Internet at anytime so that they should be responsible for their learning process and outcomes. Learners should be provided with access to computers, printers, audio-visual equipments and general learning resources (Lee & Thompson, 1998; Moore, 1998).

Internet learners could use the Internet to link to the myriad of resources as which are available from the virtual library, digital library, or university owned library. The virtual library is a phrase for describing libraries that offer access to digital information by using a variety of networks, including the Internet, WWW, and digital content that can be delivered anytime and anywhere to a networked computer (Saunders, 1995). Libraries have been changing by the improvements of computer technologies. Learners are easily access library resources by setting up the library proxy server in the computer browsing program. Today libraries provide many convenient ways for most of off-campus

Internet-based learners to electronically access to the licensed knowledge resources (McKnight, 2003).

From the teaching perspective, teachers are no longer the information keepers. They are facilitators of resources of knowledge and mentors of learners' process of learning. From the learning perspective, learners are no longer the information receivers. They are exchanging their ideas, thoughts, and experiences to advance their knowledge (Katz, 2002). In El-Tigi's (2001) study, participants reported overall positive perception of the quality and usefulness of the course Web sites, off-campus distant students perceived higher satisfaction of using course Web sites than on-campus students; but participants also perceived difficulty to access to computers and websites addresses (URLs) as the greatest barriers to use of course Web sites. The Web has changed roles of teachers and learners. Through the web portal, a learner can become a course designer, developer, facilitator, and an expert in the subject matter. The Internet is an entrance for learning, communicating, sharing and expressing expertise and experiences. As can be seen, the educational world has been deconstructing and reconstructing by the development of advanced instructional technologies and the use of enriched Internet; expectedly, learners will enjoy the benefit.

Learners' Autonomy

In the humanistic perspective of adult education, learners are self-directed and motivated. Learner decides how to learn, when to learn, and what to learn. They are self-directed and they take responsibilities for their own learning. Knowles, Holton, and Swanson (1998) addressed one of assumptions of the andragogical model: "Adults have a self-concept of being responsible for their own decision, for their own lives. Once they

have arrived at that self-concept they develop a deep psychological need to be seen by others and resist situations in which they feel others are imposing their wills on them" (p. 65). According to the assumptions of andragogical model, adult educators can create a humanistic learner-centered learning environment to facilitate knowledge and experiences and help learners know what they desire to learn. Adult learners have a need to know. They'd like to take the time to learn something they need to know and they need to learn. In the learners' minds, they know the advantages they will gain from learning and any disadvantages for not learning. As French, Hale, Johnson, and Farr (1999) discussed in their study, learners are self-directed through Internet-based learning process. The content of learning is customized by the individual learner at her/his autonomy, pace, and convenience. Internet-based learning environment provides learners a learning place and storage where learners can access course materials and instructional information at their own pace.

Many Internet-based learners are adults who have more life experience and responsibilities. Giczkowski (1998) evaluated the fact that adults have their life experience and self-directed motivation. Generally, learners decide when they will study, where they will study, what they will study, and sometimes, most importantly, how they will study. Meece (1994) suggested that learners' motivation is influenced by their learning experiences, orientation to learning, and self-direction of learning.

Researchers found that increased levels of self-efficacy could also stimulate self-regulated learning; so that learners use their self-efficacy to fuel their motivational strategies. In addition, learning orientation and the role of classroom context may affect motivation as well (Pintrich & Degroot, 1990; Hagen & Weinstein, 1995).

When learners believe they have chosen their behavior, their feelings of

self-direction will be heightened. The context in which the task is achieved is then

perceived as promoting autonomy. Conversely, if people believe that their

behavior is a result of external induction, their feelings of self-direction are

weakened and the context in which the task is accomplished will be perceived as

controlling. (Garcia, 1995, p. 34)

Autonomous learners are responsible for their own learning process because the

learning path is self-directed and personalized to accommodate with the learner-centered

environment (Yu, Chang, Liu, & Chan, 2002; Shearer, 2003). Therefore, a stronger

perception of self-direction will have a positive impact on the development of learners'

academic performance, whereas the opposite will have a negative impact. Internet-based

learning offers learners a non-threatened environment to fulfill personal learning goal and

achievement. It motivates learners to learn in an autonomous environment. Paris and

Winograd (1998) emphasized that learners adapted self-regulated learning to

autonomously control their learning pace within multiple learning contexts. Distance

learners are highly motivated to learn and self-directed to overcome their learning

obstacles. Learners also develop the self-directed learning strategies to participate in the

courses since they are empowered to access learning. Learners who have adapted

self-regulated learning are the most successful completers. Learning pace and preference

are mixed with individual's commitments.

<u>Modes of Assessment</u>

In Internet-based learning, the modes of assessment may differ from the traditional learning. It may be asynchronously or synchronous facilitated through the Internet activities, e-mails, discussions, and so on. There are many ways to assess learners' growths; such as quizzes, examinations, group discussions, team projects, individual papers, individual projects, records of communications and interactions with instructors and peers. Huba and Freed (2000) defined;

> Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences; the process culminates when assessment results are used to improve subsequent learning. (p. 8)

Ryan, Scott, Freeman, and Patel (2000) described a well-designed learning environment will include "resource materials, assessment activities, communication and support systems as well as course management and monitoring tools" (p. 189). Studies pointed out that distance learners want to learn in the environment consisting of useful content related to their needs and concerns, a learning process which is individualized; where directions and pace of learning are self-regulated; and one in which they can actively communicate with peers and instructors to reconstruct knowledge (Holmberg, 1995; Moore, 1998; Shearer, 2003; and Garrison 2003). Therefore, the assessments in Internet-based learning courses must have clear criteria and multiple aspects for assessing learners' understandings of learning activities through the learning process.

<u>Satisfaction</u>

Learners feel comfortable to learn in Internet-based learning environment if they are satisfied with their learning process through this type of learning. Collis (1997) emphasized that ways to improve the quality of a good distance learning experience are facilitating good pedagogy, instructions, interactions, communications, assistance and services. Ryan, Scott, Freeman, and Patel (2000) explored,

> The Internet offers the means to deliver courses to new and different audiences who may be dispersed geographically and who may not have had the opportunity to study in a conventional setting. These audiences may want to study part-time, on full degree or postgraduate programs or to follow short courses, possibly with a vocational orientation. (p. 3)

Learners may have more opportunities to interact with the instructors any time they need through electronic means instantly; learners have different learning styles, preferences, and strategies. Learners will feel satisfied to return to classes if they get more assistance and feel no isolation from the institution and the dominant culture. They will learn better of what they want to know in a comfortable environment. Humanistic educators believe learners are the center of their self-directed learning and that they are motivated to learn what they need to know. Teachers have to utilize their experiences and knowledge to facilitate the process of constructing a safe and comfortable learning environment to make learners feel their learning is worthy (Elias & Merriam, 1995). Based upon the humanistic philosophy in education, learners are responsible for their own learning; the role of educators is to facilitate learners' learning that will satisfy learners' needs.

Therefore, educational providers have to satisfy learners' self-oriented needs and interests, and create a non-threatening learning environment for learners.

<u>Timescales for Learning</u>

Internet-based learning is open to learners at anytime, in anywhere, and to anyone. Internet-based learning is recognized more flexible than traditional learning. Internet learners may better fit into the timescales and schedules for Internet-based courses. The learning process is customized and the course structure is flexible (Rich, 2001). Many learners who participate in Internet courses have job or family commitments. They don't really need to attend on-campus face-to-face class meetings at given schedules. Perez Cereijo (1999) conducted a study and stated that convenience, flexibility, learning enhancement, and psychology were perceived as advantages of three hundred respondents.

> The flexibility of distance learning courses is important because some of the students work rigorous work schedules that would make attending class in person virtually impossible. Some students have external responsibilities that require them to remain home, leaving them with few options to obtain a degree or educational advancement without Internet-based courses. (p. 78)

Moreover, distance education has provided opportunities for learners with flexible delivery methods of courses and programs without place and time barriers. Learners still can accomplish their work schedules and family responsibilities. Thus, more and more learners realize that learning is a continuing process throughout their life. The growing needs of their education and training are as much as the increasing requirements of their career and job. For pursuing their further education, the combination use of the Internet

and computer becomes one of the possible approaches to removing their learning

barriers.

Conclusion

The Internet changes the production function of higher education. Internet-based

distance education is the newest, fastest, and most convenient way for learners to pursue

higher education. Learners can stay with their family, and maintain their jobs while they

are taking Internet-based courses. Internet-based distance education creates the

alternative way for learners and attracts more learners' attention to participate in

programs. Gibson (1998) wrote distance learners perceived pursuing a higher education

degree at a distance would be helpful to succeed in their future career. Their academic

self-concept would be changing with time they spend on learning, and knowledge,

interests, and experience they've already had. By using Internet web-based method to

disseminate educational and training courses, it absolutely enlarges fields of learning and

accessibility, and bridges boundaries for learners with diverse backgrounds. It leads to

improved academic achievements and increased effectiveness of learning and instruction.

The frequently updated resourceful information for learners is limitless through browsing

course websites.

Based on the findings and recommendations from the current body of literature,

many research studies focused on Internet-based education and Internet learners'

preferences and performance, but few of them examined education students' perceptions

from the learners' perspective. Some studies had been conducted to examine research

questions of this study, but lacked demographic information and supporting data for

describing whether gender, age, family and job commitments, would have affected learners' perceptions of Internet learning; and factors (attitude, computer proficiency, convenience, flexibility, accessibility, satisfaction, self-regulation, assessments, and knowledge) learners would perceive positively and negatively. While many educational institutions have been providing Internet-based learning courses and programs, this kind of research should be warranted. Again, this study focused on finding what Internet learners perceived in the learning process. The anticipated findings of this study would be needed for the opportunity to contribute to the body of research by obtaining knowledge and understanding of how to best satisfy Internet learners' needs.

CHAPTER III

RESEARCH METHODOLOGY

Introduction

The purpose of this study was to describe learners' perceptions of Internet-based learning of three courses taught by one instructor in the College of Education Outreach at Oklahoma State University. This study investigated learners' perceptions by gender, age, marital status, educational level, family considerations, job responsibilities, satisfaction, modes of assessment, learners' autonomy, timescales for learning, knowledge and accessibility, attitudes and prior computer proficiency, course design, convenience, and communication and interaction. This study also intended to describe aspects perceived most positively and least positively by learners in Internet-based course. This chapter discusses the design of the study, survey development, targeted population and sample, procedures, data collection, and analysis of the data. The data was collected from October 13, 2004 through December 10, 2004.

Chapter III is organized into the following sections:

1. Research design,

2. Description of the targeted population and sample,

3. Survey development,

4. Data collection procedure, and

5. Analysis of data.

Research Design

A mixed methods descriptive design was used in this study. This type of research simultaneously allowed the researcher to collect and analyze both quantitative and qualitative data. The data collected from the survey (see Appendixes D) made it possible to conduct a quantitative, demographic, categorical, and rating descriptive analysis of Internet learners' perceptions for this study. This descriptive analysis measured the characteristics of the sample and population on prespecified variables. However, the descriptive research also yielded important knowledge and information of one sample at one point in time (Gall, Borg, & Gall, 1996; Wiersma & Jurs, 2005). To deepen and extent the picture of the sample's perceptions of their Internet learning experiences, qualitative analysis was used to summarize and analyze respondents' comments and recommendations in the last section of the survey.

Description of Targeted Population and Sample

The targeted population of this study was the total enrollments in the College of Education Outreach online courses at Oklahoma State University. Instructors in these courses were contacted to request enrolled students' email lists (see Appendix A). The targeted sample for the purpose of this study consisted of students who enrolled in Internet-based course(s) in two regular sixteen-week semesters: the fall semester of 2003 and the spring semester of 2004 in the College of Education at Oklahoma State University. These two semesters were selected because they were the two most recent semesters which had already concluded. It was this researcher's hope that use of these

two semesters would provide more useable email addresses and increase the likelihood of more accurate recollection of their perceptions while enrolled in these courses.

According to the FY '03 enrollment data, the targeted sample was potentially 685 students from 26 courses in two regular sixteen-week semesters. The actual sample obtained for this study included 71 subjects from three different Internet-based courses which were taught by one instructor and offered in the fall semester of 2003.

Survey Development

In this study, the survey was designed and conducted to collect general, demographic, and specific data from specific learners who enrolled in Internet-based course(s) in two regular sixteen-week semesters: the fall semester of 2003 and the spring semester of 2004 in the College of Education at Oklahoma State University. As Gall, Borg, and Gall (1996) defined, "Survey research is the use of questionnaires or interviews to collect data about the characteristics, experiences, knowledge, or opinions of a sample or a population" (p. 771). Further, Wiersma and Jurs (2005) also defined "Research that deals with the incidence, distribution, and relationships of educational, psychological, and sociological variables in nonexperimental settings" (p. 492).

Based on the information and recommendations provided by the review of the literature in the area of Internet-based learning, the initial survey was adapted from 3 existing Internet learning questionnaires including, (1) *Evaluation for Online Social Work Course* (Hick, 1999): This survey was designed by Steven Hick, an associate professor in the School of Social Work at Carleton University, Canada. It was adapted from the Questionnaire of User Interaction Satisfaction 5.0 by University of Maryland, which is

one of the instruments that has demonstrated reliability and validity. (2) *Distance Education End-of-Class Survey* (Creed, 1996): This survey was designed by Tom Creed, a professor of Psychology in Saint John's University. It has been used to collect enrollments' responses since 1996. (3) *Post-course Survey* (Hammon & Albiston, 1998): This survey was designed to conduct the study "Completing graduate school long distance" in 1998. The designed survey items in this study tried to answer research questions. A Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, and 5 = Strongly Agree) with five rating points measured dimensions of learners' perceptions.

Using as a framework the three existing Internet learning questionnaires, a survey entitled, "Internet Learner's Perception Questionnaire" (ILPQ, see Appendix D), was distributed to the targeted sample by email (see Appendix B). The email invited subjects to participate in this study with an attached survey cover letter (see Appendix B), informed consent form (see Appendix C), and IRB approval letter (see Appendix J).

The survey was juried for content validity by a group of five persons whom were randomly selected from the Ph.D. program of the Occupational Education Studies option in the College of Education at Oklahoma State University. These Ph.D. students had all taken online courses and had experiences in these courses based on graduate school. The pilot study did not reveal any validity issues of the survey, but minor suggestions for wording and placement were recommended to be considered. The researcher believed that those were just minor recommendations and decided to not make any changes of the survey.

Data Collection Procedures

After the Institutional Review Board (IRB) at Oklahoma State University granted approval for the research study, the following data collection procedures were initiated. Data collected in the pilot study was excluded from the study. To avoid uncertain identifications of the subjects from the returned surveys, the researcher sent out the surveys and follow-up letters to everyone included in the enrollment lists. The first survey was sent to subjects through email. After two weeks, a second e-mail (see Appendix E) with a survey was sent to all subjects to urge those who had not responded to complete and return the survey. After another two weeks, a third e-mail (see Appendix F) with a survey was sent to all subjects to urge those who still had not responded to complete and return the survey. The survey process was completed after another two weeks, and further returns of the survey were not included in the final data.

Analysis of Data

Upon receipt the data were entered into the Statistical Package for the Social Sciences (SPSS) Version 12.0 for processing and analysis. Based on nine categories of learners' perceptions identified in the literature review, analyses were conducted using descriptive statistics and were reported in the form of tables to develop the findings. The survey assessed what learners perceived when they were participating in Internet-based learning courses addressing the research questions of this study. These research questions were answered by the data collected in the survey.

Measures of central tendency and measures of variability were applied to describe the results. The results of descriptive and cross-tabulation analyses will be described in tables and narratives to address the findings further in Chapter IV.

Research Question 1:

What was the demographic profile of learners who took an Internet-based learning course? And what demographic variables were associated with learners' perceptions of Internet-based learning in the College of Education at Oklahoma State University?

      a. Did gender affect learners' perceptions?

      b. Did age affect learners' perceptions?

      c. Did family considerations affect learners' perceptions?

      d. Did job responsibilities affect learners' perceptions?

Questions in the Survey Part A addressed Research Question 1 through cross-tabulation analyses.

Research Question 2:

What were the perceptions of Internet-based learning of learners in the College of Education at Oklahoma State University in the following nine categories identified in the literature?

      a. Attitudes and prior computer proficiency (Survey items 1, 10, 19, and 26 in the Survey Part B. Keywords: proficiency, technology, motivated),

      b. Communication and interaction (Survey items 8, 17, 24, 31, and 34 in the Survey Part B. Keywords: felt isolated, e-mail, interaction, learning community),

    c. Convenience (Survey items 6, 15, 23, 30, and 33 in the Survey Part B.

        Keywords: convenient, adequately and quickly, easier),

    d. Course design (Survey items 4, 9, 18, 25, 32, and 35 in the Survey Part B.

        Keywords: instruction, course material, resource, course),

    e. Knowledge and accessibility (Survey items 7, 13, 21, 28, and 36 in the

        Survey Part B. Keywords: access, enhanced, stimulated, knowledge,

        challenged),

    f. Learners' autonomy (Survey items 3 and 12 in the Survey Part B.

        Keywords: self-directed, self-disciplined),

    g. Modes of assessment (Survey items 16 and 37 in the Survey Part B.

        Keywords: assessment, homework),

    h. Satisfaction (Survey items 5, 14, 22, 29, and 38 in the Survey Part B.

        Keywords: satisfied, better, taking more, recommend), and

    i. Timescales for learning (Survey items 2, 11, 20 and 27 in the Survey Part

        B. Keywords: flexible, handle pace, handle responsibilities, time),

In order to sort the survey items into the nine categories, the researcher used identification of keywords or phrases. Some of the survey items could have possibly been sorted into more than one category; however, the researcher chose to sort each item into the most obvious category. After calculating the descriptive statistics of each category from the returned surveys, the researcher used the findings to analyze and address Research Question 2.

Research Question 3:

Overall, what did learners perceive most positively in Internet-based learning courses?

Research Question 3 was answered by identifying the categories which had the five highest median scores calculated from the data results of Research Question 2.

Research Question 4:

Overall, what did learners perceive least positively in Internet-based learning courses?

Research Question 4 was answered by identifying the categories which had the four lowest median scores calculated from the data results of Research Question 2.

Qualitative Data:

Qualitative data was coded to generate and organize some statements to interpret the subjects' perceptions of Internet-based learning courses. "Coding is a process of organizing data and obtaining data reduction. In essence, it is the process by which qualitative researchers see what they have in the data" (Wiersma & Jurs, 2005, p. 206). In this study, the survey's structure did not include open-ended questions. Qualitative data was limited to the only one question in the end of the survey named "Comments or Recommendations" and few of the respondents (13/48) gave any comments.

CHAPTER IV

RESULTS AND FINDINGS

Introduction

This chapter examines the research questions of the study and presents the results of the study. The purpose of this study was to describe Internet learners' perceptions of the learning process of three courses taught by one instructor in the College of Education Outreach at Oklahoma State University. This study investigated learners' perceptions by gender, age, marital status, family consideration, job responsibility, satisfaction, modes of assessment, learners' autonomy, timescales for learning, knowledge and accessibility, attitudes and prior computer proficiency, course design, convenience, and communication and interaction. The data were gathered from October 13, 2004 through December 10, 2004.

Subjects participating in this study were requested to respond to the survey by email. There were two parts included in the survey. The survey was designed to answer four research questions. A Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, and 5 = Strongly Agree) with five rating points measured dimensions of learners' perceptions.

This chapter presents the results of the study by using descriptive and cross-tabulation analyses to address narrative descriptions and associations of demographic variables. The Survey Part A answered the research question 1. The Survey

Part B answered the research questions 2, 3, and 4. The last section of the survey revealed the qualitative data of subjects' comments and recommendations. Limited qualitative data was given by 13 subjects' responses and quoted from their thoughts of Internet-based learning.

Data Collection and Response Rate

The targeted population of this study was the total enrollments in the College of Education Outreach online courses at Oklahoma State University. According to the FY '03 enrollment data, the targeted sample was potentially 685 students from 26 courses in two regular sixteen-week semesters: the fall semester of 2003 and the spring semester of 2004 in the College of Education at Oklahoma State University.

After receipt of the IRB approval letter, the researcher sent a request to instructors of those 26 courses to provide email addresses of the targeted sample of subjects who enrolled in the courses. Only one instructor replied to the email request and provided email addresses of previous enrollments.

Further, the researcher's dissertation advisor made numerous phone calls and sent emails to those instructors and the Director of Education Outreach to request assistance and collaboration in this study. The Education Outreach office replied that the only approach to acquiring students' email addresses would be to have them provided by course instructors. Education Outreach emphasized that students' personal information would be released only with the agreement of course instructors. Three course instructors did reply that they would like to provide students' email addresses but would not do so unless they received approval of an institutional legitimate authority from Oklahoma State University.

The researcher realized that the email address registered on Blackboard was either the current activated university email address or commonly used email address of the students when they were enrolled in the course. Without updates of the email address system from previous enrollments, some of the surveys might fail to be distributed to the targeted sample of subjects.

Of the targeted 685 students, contact information for only 71 students was able to be obtained, and these were provided by only one faculty member, which was approximately 10% of the targeted sample. This was due to privacy policies, institutional legitimacy considerations, instructors' reluctance, and the difficulties of retrieving and accuracy of accessing students' rosters and email addresses. The 71 students were taught by the same instructor in the following 3 courses:

(1) 13 subjects from EDUC 5091-501 (Instructional Effectiveness in Training Program) in the fall semester of 2003;

(2) 26 subjects from EPSY 5103-501 (Human Development) in the fall semester of 2003; and

(3) 32 from EPSY 5463-501 (Psychology of Learning) in the fall semester of 2003. These 71 subjects were identified as the available sample. Thus, there were 71 surveys sent out to the available sample participants, and 48 subjects returned the completed surveys that were provided the raw data for this study. Therefore, the response rate was 67.6%.

Due to the difficulties and restrictions the researcher confronted in the data collection process, it might be appropriate to use a simple designed descriptive research to analyze the raw data obtained from the limited available sample subjects. The lack of

representativeness of the small sample made it impossible to conduct inferential analyses and made it impossible to conclude a larger population.

Findings

Research Question 1: Demographic Profile

Descriptive Profile of the Subjects

The targeted sample of subjects (N = 685) who might have participated in this study were students who enrolled in Internet-based course(s) in two regular sixteen-week semesters: the fall semester of 2003 and the spring semester of 2004 in the College of Education at Oklahoma State University. The actual sample surveyed in this study was 71 students, of whom forty-eight subjects (n = 48) responded. The researcher did not have the available data to represent the population from the obtained subjects of the targeted sample, and therefore confined data analyses to a descriptive of the small obtained sample. Tables 1 through 4 depict the general information of the subjects.

Gender, Age, and Ethnicity

Table 1 presents the subjects' gender, age, and ethnicity demographic information addressed in the Survey Part A:

- Survey item 1 - Gender: ☐ Female ☐ Male

- Survey item 3 - What is your age? _____ Years old

- Survey item 10 - Ethnic: ☐ African American ☐ American Indian, Eskimo, Aleut ☐ Asian or Pacific Islander ☐ Hispanic ☐ White/Caucasian ☐ Prefer not to answer ☐ Other

As shown in Table 1, the subjects consisted of 58.3% female (n = 28) and 41.7% male students (n = 20). Thirty-five subjects (72.9%) responded they were White/Caucasian. Eight subjects (16.6%) responded they were American Indian, Eskimo, or Aleut. Two subjects (4.2%) responded they were African American. Also two subjects (4.2%) responded they were Asian or Pacific Islander. Only one subject (2.1%) preferred not to answer. The age of subjects ranged from 19 to 60 years old. They were categorized into four age groups. There were nine (18.8%) subjects in the 19 to 24 age category. Twenty-two (45.8%) subjects were in the 25 to 36 age category. Fourteen (29.2%) subjects were in the 37 to 54 age category. Three (6.2%) subjects were in the 55 to 60 age category.

The results showed that there were more females than males who participated in this study; the major ethnicity was White/Caucasian and the major age group was between 25 to 36 years old. Thirty-nine subjects (81.2%) who were at age 25 and older, which could be categorized as adult (nontraditional) learners according to their ages.

Table 1

Demographic Profile of Subjects (N = 48)

Variable	*f*	*%*
Gender		
Female	28	58.3
Male	20	41.7
Age		
Below 25	9	18.8
25-36	22	45.8
37-54	14	29.2
Over 55	3	6.2
Ethnic		
African American	2	4.2
American Indian, Eskimo, Aleut	8	16.6
Asian or Pacific Islander	2	4.2
White/Caucasian	35	72.9
No response	1	2.1

Family Considerations

Table 2 presents the subjects' information on family consideration variables

addressed in the Survey Part A; including marital status, number of children, and children

living at home:

- Survey item 2 - Marital status: ☐ Single ☐ Married ☐ Widowed, Divorced,

  Separated

- Survey item 4 - Do you have children? ☐ Yes ☐ No

- Survey item 5 - How many children do you have? _____.

- Survey item 6 - If you have children, are you living with them? ☐ Yes ☐ No

As shown in Table 2, twenty-nine of the subjects (60.4%) reported they were married. Sixteen of the subjects (33.3%) reported they were single, and three of the subjects (6.3%) reported they were widowed, divorced, or separated. Forty-seven subjects (97.9%) reported that they had children. Seventeen subjects (35.4%) reported they lived with children. Ten subjects (20.8%) reported they did not live with children. Twenty-one subjects (43.8%) preferred not to answer this item. For the Question item 5 (number of children) in the Survey Part A, twenty-four subjects (50%) chose not to answer. Eight subjects (16.7%) had one child; ten subjects (16.7%) had two children; four subjects (8.3%) had three children; and two subjects (4.2%) had four children.

The results showed that approximately three-fifths of subjects were married. Almost all of subjects responded they had children. One-third of subjects responded they had two or more children. Over one-third of subjects lived with their children. One-half of subjects gave no response to the number of children.

Table 2

Family Consideration Profile of Subjects (N = 48)

Variable		*f*	*%*
Marital Status			
	Single	16	33.3
	Married	29	60.4
	Widowed, divorced, and separated	3	6.3
Have Children			
	Yes	47	97.9
	No	1	2.1
Live with Children			
	Yes	17	35.4
	No	10	20.8
	No response	21	43.8
Number of children			
	1	8	16.7
	2	10	20.8
	3	4	8.3
	4	2	4.2
	No response	24	50

Job Responsibilities

Table 3 presents the subjects' information on job consideration variables addressed in the Survey Part A:

- Survey item 7 - Do you have a job? ☐ Yes ☐ No

- Survey item 8 - If you have a job, what is your occupation? _____.

- Survey item 9 - Job workload: ☐ Part-time job ☐ Full-time job

As shown in Table 3, only 2 of the subjects (4.2%) reported they did not have a job, while forty-six of the subjects (95.8%) reported they had a job. Twenty-nine of the

subjects (60.4%) reported they had a full-time job and seventeen subjects (35.4%) had a

part-time job. Survey item 8 addressed subjects' occupations. Thirty-two subjects (66.7%)

responded that they had an educational related job (graduate assistant, research assistant,

teaching assistant, teacher/instructor, serving in higher education, campus counselor, and

principal). The rest of subjects responded that they had a job in other sectors (public

relations, office administrator, clerk, secretary, sales, engineer, and social service).

The results showed that almost all of subjects were employed, with the majority

of subjects working full-time. Two-thirds of subjects were working in educational area.

Table 3

Job Responsibility Profile of Subjects (N = 48)

Variable		*f*	*%*
Job			
	Yes	46	95.8
	No	2	4.2
Job Workload			
	No job	2	4.2
	Part-time job	17	35.4
	Full-time job	29	60.4
Occupation			
	Educational related area	32	66.7
	Other sectors	14	29.1

Academic Information

Table 4 presents the subjects' information on academic and education background

variables addressed in the Survey Part A; including academic classification, college, and

workload:

- Survey item 11 - Classification: ☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior ☐ Masters ☐ Doctoral ☐ Other

- Survey item 12 - College: ☐ Agricultural Sciences & Natural Resources ☐ Arts & Science ☐ Business Administration ☐ Education ☐ Engineering, Architecture & Technology ☐ Graduate ☐ Human Environmental Sciences ☐ Veterinary Medicine

- Survey item 13 - Academic workload: ☐ Part-time student ☐ Full-time student

As shown in Table 4, the subjects consisted of 52.1% full-time students (n = 25) and 47.9% part-time students (n = 23). Twenty subjects (41.7%) responded they were pursuing the masters degree. Sixteen subjects (33.3%) responded they were pursuing the doctorate degree. Five subjects (4.2%) responded they were senior students. Four subjects (8.3%) responded they were not working on an advanced degree; and the other categories had one respondent each (2.1%). Furthermore, there were twenty-three subjects (47.9%) from College of Education. Sixteen subjects (33.3%) were from the Graduate College. Three subjects (6.2%) were from the College of Business Administration, and the other colleges had less than three respondents each.

The results showed that part-time and full-time learners were almost equal. Nearly one-half of subjects were from the College of Education. One-third of subjects were from the Graduate College. Three-fourths of subjects responded they were graduate students.

Table 4

Academic and Education Background Profile of Subjects (N = 48)

Variable		*f*	*%*
College			
	Agricultural Sciences & Natural Resources	1	2.1
	Arts & Science	1	2.1
	Business Administration	3	6.2
	Education	23	47.9
	Engineering, Architecture, & Technology	2	4.2
	Graduate	16	33.3
	Human Environmental Sciences	2	4.2
Classification			
	Freshman	1	2.1
	Sophomore	1	2.1
	Junior	1	2.1
	Senior	5	10.4
	Master's	20	41.7
	Doctoral	16	33.3
	Other	4	8.3
Academic Workload			
	Part-time student	23	47.9
	Full-time student	25	52.1

Internet-related Experience

Table 5 presents the subjects' information on Internet-related experience and proficiency variables addressed in the Survey Part A:

- Survey item 14 - How do you utilize Internet regularly? ☐ Read and reply E-mails ☐ Browse Internet ☐ Learning related ☐ Work related ☐ Use Internet to do research ☐ Design web page ☐ Other

- Survey item 16 - How did you see your computer proficiency prior to taking an *Internet-based course*? ☐ Beginner ☐ Average ☐ Experienced ☐ Expert ☐ Other

Subjects' self-reported levels of computer proficiency were shown in Table 5; nine subjects (18.8%) responded they were experts in using computer technology. Nineteen subjects (39.6%) responded they were experienced users, and nineteen subjects (39.6%) responded they were average users. Seventeen subjects (35.4%) often used the Internet for e-mail purposes. Nine (18.7%) and eight subjects (16.7%) used the Internet for learning and work related purposes. Six subjects (12.5%) used the Internet for other purposes. Four subjects (8.3%) used the Internet for doing research. Two subjects (4.2%) used the Internet for browsing websites, and two subjects (4.2%) used the Internet for designing web pages.

The results showed that slightly more than one-third of subjects were using the Internet to read and reply emails. Slightly more than one-fourth were using the Internet to do research and learning activities. Almost three-fifths of subjects recognized their computer proficiency as better than the average computer user.

Table 5

Internet-related Experience Profile of Subjects (N = 48)

Variable		*f*	*%*
Internet Utilization			
	Read and reply e-mails	17	35.4
	Browse Internet	2	4.2
	Learning related	9	18.7
	Work related	8	16.7
	Use Internet to do research	4	8.3
	Design web page	2	4.2
	Other	6	12.5
Computer Proficiency			
	Average	19	39.6
	Experienced	19	39.6
	Expert	9	18.8
	Other	1	2.0

Internet-based Learning Experience

Table 6 presents subjects' information related to Internet-based learning experience addressed in the Survey Part A:

• Survey item 15 - Did you know this would be an *Internet-based course*? ☐ Yes
☐ No

• Survey item 17 - What's your purpose for taking *Internet-based learning course(s)*?
☐ Interested in course materials ☐ Curiosity for learning methods ☐ Flexible
time and place for learning ☐ Preferred to take course from the instructor ☐
Someone recommended ☐ Other

• Survey item 18 - Do you have prior involvement in other *Internet-based* course(s)?
☐ Yes ☐ No

- Survey item 19 - If your answer is "Yes" to question 18, how many *Internet-based course(s)* have you had? _____ Course(s)

- Survey item 20 - Where do you access your *Internet-based course(s)* most often?

    ☐ At home   ☐ At office   ☐ At University facility   ☐ Other

As shown in Table 6, forty subjects (83.3%) responded they knew their course(s) would be an Internet-based course(s). Eight subjects (16.7%) did not know their course(s) would be Internet-based courses. Six subjects (12.5%) had not previously taken an Internet-based learning course. Twelve subjects (25%) had taken one Internet-based learning course before. Nine subjects (18.7%) had taken two Internet-based learning courses. Eight subjects (16.6%) had taken three Internet-based learning courses. Five subjects (10.4%) had taken four Internet-based learning courses. Three subjects (6.3%) had taken five Internet-based learning courses. Three subjects (6.3%) had taken six Internet-based learning courses, and two subjects (4.2%) had taken eight Internet-based learning courses. Thirty-three subjects (68.8%) often accessed Internet-based course(s) at home. Eight subjects (16.6%) accessed Internet-based learning course(s) at a university facility, and seven subjects (14.6%) accessed Internet-based learning course(s) at an office. Thirty-five subjects (72.9%) reported that flexible time and place for learning were their purposes for taking Internet-based learning course. Two subjects (4.2%) responded they were interested in the course materials, and one subject (2.1%) preferred the course instructor. Ten subjects (20.8%) indicated there were other reasons for their enrollment.

The results showed that more than four-fifths of subjects knew the course would be Internet-based course. Almost nine-tenths of subjects had previous Internet-based

learning experiences. More than two-thirds of subjects accessed the course at home.

Almost three-fourths of subjects gave the flexibility of time and place for learning as the

reason for taking this type of course.

Table 6

Internet-based Learning Experience Profile of Subjects (N = 48)

Variable		*f*	*%*
Knowing Course Would Be Internet-based			
	Yes	40	83.3
	No	8	16.7
# of Internet Course(s) Taken Previously			
	0	6	12.5
	1	12	25
	2	9	18.7
	3	8	16.6
	4	5	10.4
	5	3	6.3
	6	3	6.3
	8	2	4.2
Purpose for Taking the Internet Course(s)			
	Interested in materials	2	4.2
	Flexible time and place	35	72.9
	Preferred from the instructor	1	2.1
	Other	10	20.8
Place to Access to Internet Course(s)			
	Home	33	68.8
	Office	7	14.6
	University facility	8	16.6

Learners Perceptions Associated with Demographic Variables

Research Question 1 asked if there were associations between Internet-based learners' perceptions and other relevant variables; such as gender, age, family considerations, and job responsibilities. This research question was addressed by descriptive analysis via cross-tabulation.

Gender and Learners' Perceptions

For determining the relationship between gender and overall learners' perceptions, the researcher applied cross-tabulation analysis to describe relationships between gender and learners' overall perceptions.

As shown in Table 7, of the 48 subjects who responded the survey, there were 28 females and 20 males. The majority of the perceptions fell on the rating of "Agree". There were 14 out of 20 males who chose "Agree", and 16 out of 28 females who chose "Agree". The perception ratio of male to female learners was 1.23:1. Therefore, more male learners chose the "Agree" rating of the perceptions of Internet-based learning than female learners. In this study, male learners tended to have slightly higher levels of positive perceptions of Internet-based learning than female learners.

Age and Learners' Perceptions

For determining the relationship between age and overall learners' perceptions, the researcher applied cross-tabulation analysis to describe relationships between different age groups and learners' overall perceptions.

As shown in Table 7, subjects were divided into the following four age groups: nine subjects in the group were below 25, 22 subjects in the group were between 25-36,

14 subjects in the group were between 37-54, and three subjects in the group were over 54. The majority (30) of the perceptions fell on the rating of "Agree". Four out of nine subjects in the group of below 25 chose "Agree". There were 15 out of 22 subjects in the group of 25-36 who chose "Agree". Nine out of 14 subjects in the group of 37-54 chose "Agree". There were two out of three subjects in the group of over 54 who chose "Agree". The perception ratio of the age group 25-36 to below 25 was 1.55:1. The perception ratio of the age group 37-54 to below 25 was 1.45:1. The perception ratio of the age group beyond 54 to below 25 was 1.52:1. Older learners chose the "Agree" rating of the perceptions of Internet-based learning more often than younger learners. In this study, learners who were in the age group of 25-36 tended to have more positive perceptions of Internet-based learning than other age groups.

Family Considerations and Learners' Perceptions

For determining the relationship between family considerations and overall learners' perceptions, the researcher applied cross-tabulation analysis to describe relationships between different marital status, number of children and learners' overall perceptions.

As shown in Table 7, 16 subjects responded that their marital status was single, and 29 subjects responded they were married. The majority (30) of the perceptions fell on the rating of "Agree". There were nine out of 16 single subjects who chose "Agree". There were 20 out of 29 married subjects who chose "Agree". The perception ratio of married to single learners was 1.23:1. Of the subjects who responded they had children, eight subjects responded they had one child. Ten subjects responded they had two children. There were four subjects who responded they had three children. There were

two subjects who responded they had four children. The perception ratio of two-children to one-child learners was 1.2:1. The perception ratio of more than two-children to one-child learners was 2:1. Therefore, more married learners chose the "Agree" rating of the perceptions of Internet-based learning than single learners. More than two-children learners chose the "Agree" rating of the perceptions of Internet-based learning than one-child and two-children learners. In this study, learners who had more family considerations tended to have more positive perceptions of Internet-based learning than learners who had fewer family considerations in terms of numbers of children.

Job Responsibilities and Learners' Perceptions

For determining the relationship between job responsibilities and overall learners' perceptions, the researcher applied cross-tabulation analysis to describe relationships between different job responsibilities and learners' overall perceptions.

As shown in Table 7, there were 17 subjects who responded they had a part-time job and 29 subjects who responded they had a full-time job. The majority (34) of the perceptions fell on the rating of "Agree". Ten of the 17 were part-time workers and 22 of the 29 were full-time workers, who chose the "Agree" rating. The perception ratio of full-time workers to part-time workers was 1.29:1. Therefore, more full-time workers chose the "Agree" rating of the perceptions of Internet-based learning than part-time workers. In this study, learners who had more job responsibilities tended to have more positive perceptions of Internet-based learning than learners who had fewer job responsibilities.

Table 7

Relationships between Demographic variables and Overall Perceptions (N = 48)

		Rating points				
Variables		D	U	A	SA	Total
Gender						
	Female	1	9	16	2	28
	Male	2	3	14	1	20
Age						
	Below 25	1	3	4	1	9
	25-36	1	5	15	1	22
	37-54	1	4	9	0	14
	Beyond 54	0	0	2	1	3
Marital status						
	Single	2	4	9	1	16
	Married	1	6	20	2	29
	Widowed, divorced, separated	0	2	1	0	3
Number of children						
	0 or no response	2	9	11	2	24
	1	1	1	6	0	8
	2	0	1	8	1	10
	More than 2	0	0	4	0	4
	4	0	1	1	0	2
Job workload						
	No job	0	0	2	0	2
	Part-time	3	3	10	1	17
	Full-time	0	5	22	2	29

Note: D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.

Research Question 2: Nine categories of learners' perceptions

The section B of the survey asked subjects to rate their perceptions of

Internet-based course(s) they had taken. A Likert-type scale (1 = Strongly Disagree, 2 =

Disagree, 3 = Uncertain, 4 = Agree, and 5 = Strongly Agree) with five rating points

measured dimensions of learners' perceptions. Research questions were addressed in the following tables and narratives.

Research Question 2 asked for learners' perceptions of Internet-based learning included in nine categories which were (1) attitudes and prior computer proficiency, (2) communication and interaction, (3) convenience, (4) course design, (5) knowledge and accessibility, (6) learners' autonomy, (7) modes of assessment, (8) satisfaction, and (9) timescales for learning. For Research Question 2, the researcher used measures of central tendency and measures of variability to describe the results of the responded data.

Attitudes and Prior Computer Proficiency

Research Question 2(a) was answered by the following survey items in the Survey Part B:

- Survey item 1 - In the beginning of the class, I felt frustrated due to my computer proficiency.

- Survey item 10 - My computer proficiency had a direct influence on my attitude when taking an Internet-based course.

- Survey item 19 - The use of technology had a positive effect on my overall experience in an Internet-based course.

- Survey item 26 - In this class, I was motivated more than traditional classroom learning.

Table 8 presents the subjects' perceptions of Internet-based learning concerning attitudes and prior computer proficiency. For purposes of this study, learners' attitudes were described in terms of their relationships to their prior computer proficiency. For

example, this category discussed the frustration level, learning motivation, positive effect, and direct influence of Internet-based learning in relationship with computer proficiency.

The overall mean perception of attitudes and prior computer proficiency was 3.43, the median was 3.5, and the mode was 3.5. The standard deviation was 0.701, the variance was 0.491, and the range was 3. Regarding the perception of attitudes and prior computer proficiency, the rating of "agree" was perceived by 40.6% of the learners. Twenty-one and four-tenths percent rated attitudes and prior computer proficiency as "disagree". Eighteen and two-tenths percent rated attitudes and prior computer proficiency as "strongly agree". Thirteen and one-half percent rated attitudes and prior computer proficiency as "uncertain", and 6.3% rated attitudes and prior computer proficiency as "strongly disagree". For survey item (B-1) the ratings of responses were recoded for reverse scoring, 10.4% disagreed with the statement, and 85.5% agreed with the statement. For survey item (B-10), 33.3% disagreed with the statement, and 50% agreed with the statement. For survey item (B-19), 12.5% disagreed with the statement, and 75% agreed with the statement. For survey item (B-26), 54.2% disagreed with the statement, and 25.1% agreed with the statement.

The results showed that slightly less than three-fifths (58.8%) of subjects agreed that attitudes were related to prior computer proficiency in perceptions of Internet-based learning. More than half of subjects perceived they were less motivated than in the traditional classroom. One-third of subjects perceived computer proficiency to not have an influence on their attitudes towards learning.

Table 8

Internet-based Learners' Perceptions of Attitudes/Prior Computer Proficiency (N = 48)

Attitudes/Prior PC Proficiency		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.43	3.5	3.5	0.701	0.491	3	
	SD							6.3
	D							21.4
	U							13.5
	A							40.6
	SA							18.2
Survey (B) Item #								
	1							
	SD & D							10.4
	A & SA							85.5
	10							
	SD & D							33.3
	A & SA							50
	19							
	SD & D							12.5
	A & SA							75
	26							
	SD & D							54.2
	A & SA							25.1

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
      Responses of "Uncertain" were not counted in every survey item.
Survey items:
1. In the beginning of the class, I felt frustrated due to my computer proficiency.
10. My computer proficiency had a direct influence on my attitude when taking an Internet-based course.
19. The use of technology had a positive effect on my overall experience in an Internet-based course.
26. In this class, I was motivated more than traditional classroom learning.

Communication and Interaction

Research Question 2(b) was answered by the following survey items in the

Survey Part B:

● Survey item 8 - I felt isolated in Internet-based course(s).

- Survey item 17 - E-mail was a helpful opportunity to communicate with instructor and classmates.

- Survey item 24 - I had good interactions with instructors.

- Survey item 31 - I had good interactions with classmates.

- Survey item 34 - This class developed a "learning community".

Table 9 presents the subjects' perceptions of Internet-based learning concerning communication and interaction. The overall mean perception of communication and interaction was 3.42, the median was 3.6, and the mode was 4. The standard deviation was 0.828, the variance was 0.686, and the range was 4. Regarding the perception of communication and interaction, the rating of "agree" was perceived by 52.1% of the learners while 19.6% rated communication and interaction as "disagree". Slightly more than eleven percent rated communication and interaction as "strongly agree" and 9.5% rated communication and interaction as "uncertain", while 7.1% rated communication and interaction as "strongly disagree". For survey item (B-8), 35.4% disagreed with the statement and 56.2% agreed with the statement. For survey item (B-17), 12.5% disagreed with the statement and 79.2% agreed with the statement. For survey item (B-24), 23% disagreed with the statement and 70.8% agreed with the statement. For survey item (B-31), 25% disagreed with the statement and 64.6% agreed with the statement. For survey item (B-34), 37.6% disagreed with the statement and 47.9% agreed with the statement.

The results showed that more than three-fifths (63.8%) of subjects positively perceived communication and interaction in Internet-based learning. However, slightly over one-half of subjects perceived they felt isolated in Internet-based learning.

Table 9

Internet-based Learners' Perceptions of Communication and Interaction (N = 48)

Communication/ Interaction		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.42	3.6	4	0.828	0.686	4	
	SD							7.1
	D							19.6
	U							9.5
	A							52.1
	SA							11.7
Survey (B) Item #								
	8							
	SD & D							35.4
	A & SA							56.2
	17							
	SD & D							12.5
	A & SA							79.2
	24							
	SD & D							23
	A & SA							70.8
	31							
	SD & D							25
	A & SA							64.6
	34							
	SD & D							37.6
	A & SA							47.9

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
    Responses of "Uncertain" were not counted in every survey item.
Survey items:
8. I felt isolated in Internet-based course(s).
17. E-mail was a helpful opportunity to communicate with instructor and classmates.
24. I had good interactions with instructors.
31. I had good interactions with classmates.
34. This class developed a "learning community".

<u>Convenience</u>

Research Question 2(c) was answered by the following survey items in the Survey Part B:

- Survey item 6 - I felt the learning pace was convenient.

- Survey item 15 - I felt the learning environment was convenient.

- Survey item 23 - I felt the learning schedule was convenient.

- Survey item 30 - My question would be responded adequately and quickly.

- Survey item 33 - I felt Internet-based learning course was easier to learn and instructional materials were easier to access.

Table 10 presents the subjects' perceptions of Internet-based learning concerning convenience. The overall mean perception of convenience was 3.77, the median was 3.8, and the mode was 3.8. The standard deviation was 0.599, the variance was 0.359, and the range was 3.2. Regarding the perception of convenience, the rating of "agree" was perceived by 60.8% of the learners and 16.3% rated convenience as "strongly agree". Slightly more than eleven percent rated convenience as "disagree" while 9.1% rated convenience as "uncertain"; and 2.5% rated convenience as "strongly disagree". For survey item (B-6), 6.3% disagreed with the statement and 87.6% agreed with the statement. For survey item (B-15), 6.3% disagreed with the statement while 93.7% agreed with the statement. For survey item (B-23), 4.2% disagreed with the statement and 95.8% agreed with the statement. For survey item (B-30), 12.5% disagreed with the statement while 70.8% agreed with the statement. For survey item (B-33), 39.6% disagreed with the statement and 37.5% agreed with the statement.

       The results showed that more than three-fourths (77.1%) of subjects positively perceived the convenience of Internet-based learning. In terms of the course being easier to learn and instructional materials easier to access, the results were mixed with almost 40% disagreeing that the materials and course were easier to learn and access, and almost 38% perceiving that they were easier to learn and access.

Table 10

Internet-based Learners' Perceptions of Convenience (N = 48)

Convenience		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.77	3.8	3.8	0.599	0.359	3.2	
	SD							2.5
	D							11.3
	U							9.1
	A							60.8
	SA							16.3
Survey (B) Item #								
	6							
	SD & D							6.3
	A & SA							87.6
	15							
	SD & D							6.3
	A & SA							93.7
	23							
	SD & D							4.2
	A & SA							95.8
	30							
	SD & D							12.5
	A & SA							70.8
	33							
	SD & D							39.6
	A & SA							37.5

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
    Responses of "Uncertain" were not counted in every survey item.
Survey items:
6. I felt the learning pace was convenient.
15. I felt the learning environment was convenient.
23. I felt the learning schedule was convenient.
30. My question would be responded adequately and quickly.
33. I felt Internet-based learning course was easier to learn and instructional materials were easier to access.

Course Design

Research Question 2(d) was answered by the following survey items in the Survey Part B:

- Survey item 4 - The multimedia instructions helped me learn better than traditional learning environment.

- Survey item 9 - The course material was presented appropriately.

- Survey item 18 - Resource links helped me connect with concepts logically.

- Survey item 25 - The course related web sites were clear and helpful.

- Survey item 32 - It was easy to move through the course.

- Survey item 35 - This course was suitable for Internet-based learning.

Table 11 presents the subjects' perceptions of Internet-based learning concerning course design. The overall mean perception of course design was 3.57, the median was 3.67, and the mode was 3.67. The standard deviation was 0.77, the variance was 0.593, and the range was 3.5. Regarding the perception of course design, the rating of "agree" was perceived by 54.9% of the learners while 14.8% rated course design as "uncertain". Almost 14 percent 13.9% rated course design as "disagree" while 12.2% rated course design as "strongly agree", and 4.2% rated course design as "strongly disagree". For survey item (B-4), 45.8% disagreed with the statement while 27.1% agreed with the statement. For survey item (B-9), 10.4% disagreed with the statement while 70.8% agreed with the statement. For survey item (B-18), 12.5% disagreed with the statement while 72.9% agreed with the statement. For survey item (B-25), 16.7% disagreed with the statement while 72.9% agreed with the statement. For survey item (B-32), 12.5%

disagreed with the statement while 85.5% agreed with the statement. For survey item (B-35), 10.5% disagreed with the statement while 72.9% agreed with the statement.

      The results showed that slightly more than two-thirds (67.1%) of subjects positively perceived course design of Internet-based learning. However, almost half of subjects perceived the Internet-based course design of using multimedia instructions did not help them learn better than traditional instructions.

Table 11

Internet-based Learners' Perceptions of Course Design (N = 48)

Course Design		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.57	3.67	3.67	0.77	0.593	3.5	
	SD							4.2
	D							13.9
	U							14.8
	A							54.9
	SA							12.2
Survey (B) Item #								
	4							
	SD & D							45.8
	A & SA							27.1
	9							
	SD & D							10.4
	A & SA							70.8
	18							
	SD & D							12.5
	A & SA							72.9
	25							
	SD & D							16.7
	A & SA							72.9
	32							
	SD & D							12.5
	A & SA							85.5
	35							
	SD & D							10.5
	A & SA							72.9

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
Responses of "Uncertain" were not counted in every survey item.
Survey items:
4. The multimedia instructions helped me learn better than traditional learning environment.
9. The course material was presented appropriately.
18. Resource links helped me connect with concepts logically.
25. The course related web sites were clear and helpful.
32. It was easy to move through the course.
35. This course was suitable for Internet-based learning.

<u>Knowledge and Accessibility</u>

Research Question 2(e) was answered by the following survey items in the Survey Part B:

● Survey item 7 - The knowledge I had learned in this course can be applied to other courses.

● Survey item 13 - I was able to access Internet resources and use the computer technology.

● Survey item 21 - The resources on the Internet enhanced my learning.

● Survey item 28 - Internet-based activities stimulated my learning.

● Survey item 36 - I was challenged by the course.

Table 12 presents the subjects' perceptions of Internet-based learning concerning knowledge and accessibility. The overall mean perception of knowledge and accessibility was 3.77, the median was 3.8, and the mode was 3.6. The standard deviation was 0.578, the variance was 0.334, and the range was 2.6. Regarding the perception of knowledge and accessibility, the rating of "agree" was perceived by 57.9% of the learners. Slightly more than 16 percent rated knowledge and accessibility as "strongly agree" while 14.1% rated knowledge and accessibility as "uncertain". Almost 10 percent rated knowledge and accessibility as "disagree" while 2.1% rated knowledge and accessibility as "strongly disagree". For survey item (B-7), 6.3% disagreed with the statement while 83.4% agreed with the statement. For survey item (B-13), 2.1% disagreed with the statement and 97.9% agreed with the statement. For survey item (B-21), 10.4% disagreed with the statement while 56.2% agreed with the statement. For survey item (B-28), 25% disagreed with the

statement while 50% agreed with the statement. For survey item (B-36), 14.6% disagreed with the statement and 83.4% agreed with the statement.

The results showed that slightly less than three-fourths (74.2%) of subjects positively perceived that knowledge and accessibility of Internet-based learning. However, almost half of subjects perceived Internet-based learning resources and activities did not enhance and stimulate their learning.

Table 12

Internet-based Learners' Perceptions of Knowledge and Accessibility (N = 48)

Knowledge/Accessibility		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.77	3.8	3.6	0.578	0.334	2.6	
	SD							2.1
	D							9.6
	U							14.1
	A							57.9
	SA							16.3
Survey (B) Item #								
	7							
	SD & D							6.3
	A & SA							83.4
	13							
	SD & D							2.1
	A & SA							97.9
	21							
	SD & D							10.4
	A & SA							56.2
	28							
	SD & D							25
	A & SA							50
	36							
	SD & D							14.6
	A & SA							83.4

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
        Responses of "Uncertain" were not counted in every survey item.
Survey items:
7. The knowledge I had learned in this course can be applied to other courses.
13. I was able to access Internet resources and use the computer technology.
21. The resources on the Internet enhanced my learning.
28. Internet-based activities stimulated my learning.
36. I was challenged by the course.

<u>Learners' Autonomy</u>

Research Question 2(f) was answered by the following survey items in the Survey Part B:

- Survey item 3 - I was self-directed to learn in this class.

- Survey item 12 - I was self- disciplined in the learning process.

Table 13 presents the subjects' perceptions of Internet-based learning autonomy. The overall mean perception of learners' autonomy was 3.97, the median was 4, and the mode was 4. The standard deviation was 0.865, the variance was 0.749, and the range was 3.5. Regarding the perception of learners' autonomy, the rating of "agree" was perceived by 58.3% of the learners while 27.1% rated learners' autonomy as "strongly agree". Slightly more than nine percent rated learners' autonomy as "disagree" while 3.1% rated learners' autonomy as "strongly disagree". Two percent rated learners' autonomy as "uncertain". For survey item (B-3), 10.4% disagreed with the statement while 87.5% agreed with the statement. For survey item (B-12), 14.6% disagreed with the statement while 83.3% agreed with the statement.

The results showed that slightly more than five-sixths (85.4%) of subjects positively perceived learners' autonomy in Internet-based learning. They perceived they were self-directed in Internet-based learning courses.

Table 13

Internet-based Learners' Perceptions of Learners' Autonomy (N = 48)

Learners' Autonomy		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.97	4	4	0.865	0.749	3.5	
	SD							3.1
	D							9.4
	U							2
	A							58.3
	SA							27.1
Survey (B) Item #								
	3							
	SD & D							10.4
	A & SA							87.5
	12							
	SD & D							14.6
	A & SA							83.3

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
    Responses of "Uncertain" were not counted in every survey item.
Survey items:
3. I was self-directed to learn in this class.
12. I was self- disciplined in the learning process.

Modes of Assessment

Research Question 2(g) was answered by the following survey items in the

Survey Part B:

● Survey item 16 - The workload of homework of this course was adequate.

● Survey item 37 - The assessment method of this course was fair.

Table 14 presents the subjects' perceptions of Internet-based learning concerning

modes of assessment. The overall mean perception of modes of assessment was 3.74, the

median was 4, and the mode was 4. The standard deviation was 0.737, the variance was

0.542, and the range was 3.5. Regarding the perception of modes of assessment, the

rating of "agree" was perceived by 64.6% of the learners while 13.5% rated modes of assessment as "disagree". Twelve and one-half percent rated modes of assessment as "strongly agree" while 8.4% rated modes of assessment as "uncertain", and 1.0% rated modes of assessment as "strongly disagree". For survey item (B-16), 18.8% disagreed with the statement and 68.7% agreed with the statement. For survey item (B-37), 10.4% disagreed with the statement and 85.5% agreed with the statement.

The results showed that slightly more than three-fourths (77.1%) of subjects positively perceived modes of assessment in Internet-based learning. They perceived the assessment of Internet-based learning was fair and the homework was adequate.

Table 14

Internet-based Learners' Perceptions of Modes of Assessment (N = 48)

Modes of Assessment		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.74	4	4	0.737	0.542	3.5	
	SD							1
	D							13.5
	U							8.4
	A							64.6
	SA							12.5
Survey (B) Item #								
	16							
	SD & D							18.8
	A & SA							68.7
	37							
	SD & D							10.4
	A & SA							85.5

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
      Responses of "Uncertain" were not counted in every survey item.
Survey items:
16. The workload of homework of this course was adequate.
37. The assessment method of this course was fair.

Satisfaction

Research Question 2(h) was answered by the following survey items in the

Survey Part B:

- Survey item 5 - The way of learning was better than the traditional method.

- Survey item 14 - This way of teaching was better than the traditional method.

- Survey item 22 - I'd consider taking more Internet-based course(s) later.

- Survey item 29 - I'd recommend that others take an Internet-based course.

- Survey item 38 - I was satisfied with the experience of this course.

Table 15 presents the subjects' perceptions of Internet-based learning concerning satisfaction. The overall mean perception of satisfaction was 3.23, the median was 3.4, and the mode was 3.4. The standard deviation was 1.034, the variance was 1.07, and the range was 4. Regarding the perception of satisfaction, the rating of "agree" was perceived by 38.3% of the learners while 20.8% rated satisfaction as "disagree". Almost 16 percent rated satisfaction as "uncertain" while 13.8% rated satisfaction as "strongly agree", and 11.3% rated satisfaction as "strongly disagree". For survey item (B-5), 47.9% disagreed with the statement and 23% agreed with the statement. For survey item (B-14), 48% disagreed with the statement and 20.9% agreed with the statement. For survey item (B-22), 22.9% disagreed with the statement and 72.9% agreed with the statement. For survey item (B-29), 23% disagreed with the statement and 66.7% agreed with the statement. For survey item (B-38), 18.8% disagreed with the statement and 77.1% agreed with the statement.

The results showed that slightly more than half (52.1%) of subjects positively perceived satisfaction in Internet-based learning. Some of them might not be satisfied with Internet-based learning because they perceived Internet-based learning (47.9%) and teaching environments (48%) were not better than traditional learning. The majority of the subjects positively perceived that they would take more Internet courses and they would recommend Internet courses to others.

Table 15

Internet-based Learners' Perceptions of Satisfaction (N = 48)

Satisfaction		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.23	3.4	3.4	1.034	1.07	4	
	SD							11.3
	D							20.8
	U							15.8
	A							38.3
	SA							13.8
Survey (B) Item #								
	5							
	SD & D							47.9
	A & SA							23
	14							
	SD & D							48
	A & SA							20.9
	22							
	SD & D							22.9
	A & SA							72.9
	29							
	SD & D							23
	A & SA							66.7
	38							
	SD & D							18.8
	A & SA							77.1

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
      Responses of "Uncertain" were not counted in every survey item.
Survey items:
5. The way of learning was better than the traditional method.
14. This way of teaching was better than the traditional method.
22. I'd consider taking more Internet-based course(s) later.
29. I'd recommend that others take an Internet-based course.
38. I was satisfied with the experience of this course.

Timescales for Learning

Research Question 2(i) was answered by the following survey items in the Survey

Part B:

- Survey item 2 - The learning schedule was flexible in this course.

- Survey item 11 - I could handle my learning pace to catch up with course schedule.

- Survey item 20 - I had enough time to learn the information presented in the class.

- Survey item 27 - I could handle my responsibilities while taking Internet-based

   course.

Table 16 presents the subjects' Internet-based learning perceptions of timescales

for learning. The overall mean perception of timescales for learning was 4.013, the

median was 4, and the mode was 4. The standard deviation was 0.547, the variance was

0.299, and the range was 2.75. Regarding the perception of timescales for learning, the

rating of "agree" was perceived by 69.3% of the learners while 19.3% rated timescales

for learning as "strongly agree" and 6.2% rated timescales for learning as "uncertain".

Slightly more than three percent rated timescales for learning as "disagree", and 2.1%

rated timescales for learning as "strongly disagree". For survey item (B-2), 4.2%

disagreed with the statement and 93.8% agreed with the statement. For survey item

(B-11), 4.2% disagreed with the statement and 81.3% agreed with the statement. For

survey item (B-20), 8.4% disagreed with the statement and 85.4% agreed with the

statement. For survey item (B-27), 4.2% disagreed with the statement and 93.7% agreed

with the statement.

The results showed that more than five-sixths (89.6%) of subjects positively

perceived flexible timescales for learning in Internet-based learning. Flexibility might be

important because they might be simultaneously pursuing knowledge and fulfilling job and/or family commitments.

Table 16

Internet-based Learners' Perceptions of Timescales for Learning (N = 48)

Timescales for Learning		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		4.01	4	4	0.547	0.299	2.75	
	SD							2.1
	D							3.1
	U							6.2
	A							69.3
	SA							19.3
Survey (B) Item #								
	2							
	SD & D							4.2
	A & SA							93.8
	11							
	SD & D							4.2
	A & SA							81.3
	20							
	SD & D							8.4
	A & SA							85.4
	27							
	SD & D							4.2
	A & SA							93.7

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.
        Responses of "Uncertain" were not counted in every survey item.
Survey items:
2. The learning schedule was flexible in this course.
11. I could handle my learning pace to catch up with course schedule.
20. I had enough time to learn the information presented in the class.
27. I could handle my responsibilities while taking Internet-based course.

Internet-based Learners' Overall Perceptions

Research Question 2 dealt with perceptions of Internet-based learning in each category responded to by Internet-based learners. The descriptions of Internet-based learners' perceptions are shown in Table 17. The mean of overall perceptions of Internet-based learners was 3.62, the median was 3.75, and the mode was 3.79. The standard deviation was 0.616, the variance was 0.38, and the range was 2.84. Regarding the overall perceptions of Internet-based learners, the rating of "agree" was perceived by 62.4% of the learners while 25% rated overall perceptions as "uncertain". Slightly more than six percent rated overall perceptions as "strongly agree", and 6.3% rated overall perceptions as "disagree". Thus, these results indicate that Internet-based learners' perceptions were positively and they fell between the ratings of "Agree" and "Uncertain".

Table 17

Internet-based Learners' Overall Perceptions

Overall Perceptions		*M*	*Mdn*	*Mode*	*SD*	*Variance*	*Range*	*%*
Overall		3.62	3.75	3.79	0.616	0.38	2.84	
	SD							0
	D							6.3
	U							25
	A							62.4
	SA							6.3

Note: SD = Strongly Disagree, D = Disagree, U = Uncertain, A = Agree, and SA = Strongly Agree.

As can be seen in Table 18, all perception categories had positive mean scores from 3.23 to 4.01. These results showed that more than two-thirds (68.7%) of subjects agreed and had positive perceptions in nine categories of Internet-based learning with the

mean score of 3.62, which rated between "Uncertain" and "Agree".

<div align="center">Research Question 3: Aspects Perceived Most Positively</div>

Research Question 3 asked which characteristics were perceived most positively

in Internet-based learning courses using the nine categories identified in the literature.

This research question was addressed by using the median-split of perceptions in nine

categories. The median is the middle value in a distribution of scores. If the distribution

has an odd number of scores, the median is the middle score in the distribution. If the

distribution has an even number of scores, the median is equal to the sum of the two

middle scores divided by two. (Wiersma & Jurs, 2005). The researcher divided the top

half of the perception categories and bottom half of the perception categories by

comparing the median scores of the nine categories with the median score ($Mdn = 3.75$)

of the overall perceptions. Then, perceptions can be placed on the basis of a median-split

into a more positively perceived group and a less positively perceived group.

As shown in Table 18, the median-split procedure yielded the more positively

perceived group of the following:

- Timescales for Learning ($Mdn = 4$);

- Learners' autonomy ($Mdn = 4$);

- Modes of assessment ($Mdn = 4$);

- Convenience ($Mdn = 3.8$); and

- Knowledge and accessibility ($Mdn = 3.8$).

The results showed that Internet-based learners more positively perceived they

could control and self-direct their own learning to access and pursue knowledge by taking

advantages of flexibility and convenience provided by Internet-based learning environment.

Research Question 4: Aspects Perceived Least Positively

Research Question 4 asked which characteristics were perceived least positively in Internet-based learning courses using the nine categories identified in the literature. As shown in Table 18, the median-split procedure yielded the less positively perceived group of the following:

- Course design ($Mdn = 3.67$);

- Communication and interaction ($Mdn = 3.6$);

- Attitudes and prior computer proficiency ($Mdn = 3.5$); and

- Satisfaction ($Mdn = 3.4$).

The results showed that Internet-based learners less positively perceived the Internet-based learning instruction and interface, the opportunity of communication and interaction, levels of computer proficiency, attitudes, and satisfaction.

Table 18

Profile of Internet-based Learners' Perceptions

Perception Category	M	Mdn	Mode	SD	Variance	Range
Attitudes/PC Proficiency	3.43	3.5	3.5	0.701	0.491	3
Communication/Interaction	3.42	3.6	4	0.828	0.686	4
Convenience	3.77	3.8	3.8	0.599	0.359	3.2
Course Design	3.57	3.67	3.67	0.77	0.593	3.5
Knowledge/Accessibility	3.77	3.8	3.6	0.578	0.334	2.6
Learners' Autonomy	3.97	4	4	0.865	0.749	3.5
Modes of Assessment	3.74	4	4	0.737	0.542	3.5
Satisfaction	3.23	3.4	3.4	1.034	1.07	4
Timescales for Learning	4.01	4	4	0.547	0.299	2.75
Overall Perceptions	3.62	3.75	3.79	0.616	0.38	2.84

Other Comments

The last section of the survey provided qualitative data in the form of comments or recommendations. Only 13 out of 48 subjects responded with their written thoughts in the comments and recommendations section. In order to show additional perceptions of Internet-based learners, their thoughts were quoted from the returned surveys.

(1) Respondent 2, (29 years old, married male with one child, full-time job in higher education, part-time doctoral student from College of Education, experienced computer user, four Internet-based learning experiences):

Online courses are extremely difficult for me to handle personally due to my inability to prioritize adequately without formal class sessions. Greater structure as far as the timeline would be helpful. With that said, however, I see how the online format could be very beneficial for many students.

(2) Respondent 4, (26 years old, single male with no child, part-time counselor, full-time doctoral student from College of Education, average computer user, one Internet-based learning experience):

> I have not enjoyed my internet classes, and I do not feel that the instructors took them very seriously. I have had instances in which I was informed that some of the assignments I had submitted were not graded due to the schedule of the instructor. I do feel that internet classes can be beneficial, but that the courses I took were not handled properly.

(3) Respondent 7, (27 years old, married female with 2 children, part-time in public relations, part-time masters student from Graduate College, experienced computer user, one Internet-based learning experience):

> Internet courses are very helpful to graduate students, in particular, who are trying to juggle family and work with college. There are many more courses suited for this type of learning yet it seems that so many professors are afraid of using the technology. I personally think they would see an increase in their enrollment if they would enlighten themselves and offer some of their courses online. I know I would have an easier time finding the classes I need at the time I need them.

(4) Respondent 13, (50 years old, married female with 2 children, full-time teacher, full-time masters student from College of Education, average computer user, one Internet-based learning experience):

> The particular course I took was well suited for Internet instruction. If you didn't have enough computer experience, it would have been very difficult to get through it.

(5) Respondent 14, (51 years old, married female with 1 child, part-time teacher, full-time doctoral student from College of Education, average computer user, six Internet-based learning experiences):

> There is less busy work in the form of links and critiques. Overall, I enjoy the classes.

(6) Respondent 19, (21 years old, single female with 1 child, part-time student assistant, full-time senior student from College of Business Administration, experienced computer user, two Internet-based learning experiences):

> There was not an opportunity to interact with other classmates and as far as the instructor went, he was not concerned about helping me understand the material when I went to him for help. He seemed put off and disinterested. I will never take another internet course again because of this experience.

(7) Respondent 21, (45 years old, separated female with 2 children, full-time teacher, part-time doctoral student from College of Education, average computer user, one Internet-based learning experience):

> I missed the lecture and hearing the viewpoints of other students. In internet-based courses, you just read and get what you can from your own perceptions without the benefit of input from others. The responses from other students and/or the instructor were too slow to be of help. It was too time consuming to sit and wait for responses. Interactions in the classroom are instantaneous and promote additional discussion. I would recommend courses of this type only as a last resort because the boredom is so de-motivating.

(8) Respondent 24, (34 years old single female, no response of children, full-time analyst,

part-time masters student from College of Business Administration, expert computer user, one Internet-based learning experience):

>Course had timed quizzes, which seemed stressful at first, but teacher allowed extra time for future quizzes after we requested a couple of extra minutes.

(9) Respondent 32, (44 years old married male, no response of children, full-time Technology Center instructor, part-time senior student from College of Education, average computer user, two Internet-based learning experiences):

>I felt good about taking this class. One of my problems with it was there was a problem at the beginning with getting on to Blackboard. And the right assignment that pushed me about three weeks behind. Besides that the class was interesting.

(10) Respondent 33, (27 years old single male, no response of children, part-time graduate assistant, full-time doctoral student from College of Education, average computer user, three Internet-based learning experiences):

>I had a number of Internet classes before. The most important person is the instructor. The class depends on instructor's design.

(11) Respondent 34, (31 years old single female with 2 children, full-time high school teacher, part-time doctoral student from Graduate College, experienced computer user, two Internet-based learning experiences):

>How can you be expected to do a group project in an on-line class? We were supposed to find times that were convenient for the entire group to "meet" and this was not easy. I only took the class on-line because I had no choice; however, some students in my group took this format because they traveled for work. I got phone calls from airports.

(12) Respondent 35, (54 years old married female with 3 children, full-time teacher, full-time doctoral student from College of Education, expert computer user, six Internet-based learning experiences):

> Each type of delivery has its points. I would hate to do away with either. I wish I had more opportunities to take internet courses at this point however. The rest of my coursework is on site, and that is difficult for me right now.

(13) Respondent 36, (35 years old married female, no response of children, full-time teacher, part-time master's student from Graduate College, expert computer user, two Internet-based learning experiences):

> Although there was immediate feedback in the course that I took, it was directly related to how much was written in an entry, not to how insightful the comment was. This was very frustrating to me because I tried to research the information and put some effort into my responses, but someone else who wrote more than I did would get the same comment or better. Also, many of the performance objectives seemed like busy work to me. I spent so much time searching for and evaluating websites that I didn't learn as much as I wanted to. The posting was so time consuming that I didn't get to absorb the information that I had located. All in all, I would have preferred a face to face course.

Of these 13 subjects who responded their thoughts on the comments and recommendations sector, nine subjects were female, seven subjects were married, and eight subjects had children and were working full-time. All of these 13 subjects had previous Internet-based learning experiences. Seven of them recognized their computer proficiency as better than the average computer user. Almost all of them were

non-traditional graduate students in the College of Education.

Upon analyses of the qualitative data, there were no real patterns and themes which emerged. Comments from these 13 subjects were very different. In summary, comments ranged from "flexibility" to "limited assistance". While learners appreciated the flexibility of Internet-based learning, they also would have preferred more assistance in their learning process. In some cases, opposite perceptions of the decision of whether or not to take more Internet-based courses were commented because some subjects enjoyed the course but some subjects did not. Those subjects who did not prefer to take another Internet-based course felt they would need more in-class interactions, instructors' assistance, more structured course design, less information from the Internet, and improvement of computer proficiency. In other cases, subjects would prefer to take more Internet-based courses if they perceived Internet courses were flexible, interesting, and helpful for graduate students.

Summary

The findings of this study revealed that there were relationships between Internet learners' perceptions and gender, ages, family considerations, and job responsibilities. Most Internet-based learners in this study were adults who had family considerations and/or job responsibilities. When they took Internet-based learning course(s), they preferred to learn in a self-directed learning environment where they were empowered to access resourceful information for gaining more knowledge and experiences. While they were learning at their self-regulated pace with their learning strategy and preference, they perceived the modes of assessment were suitable for them as distance learners. As can be

seen, some barriers had been removed so that they felt Internet-based learning was convenient for them because of the flexibility of time and place of learning. Some learners perceived they enjoyed their learning in Internet-based course(s); whereas, some learners were not satisfied with Internet-based learning course(s). Diverse learners had different levels of computer competency, family and job commitments. Consequently, some learners did not take advantage of technology for communicating and interacting with peers and instructors. Some learners perceived Internet-based learning suffered from the lack of instant communications and interactions but the flexibility was highly appreciated.

The analysis of the data in this study addressed the perceptions of learners who participated in Internet-based course(s) offered by the College of Education at Oklahoma State University. The demographic information and characteristics of Internet learners were described. By comparing with the median-split of overall learners' perceptions, most positively and least positively perceived aspects of Internet-based learning were demonstrated. Relationships of perceptions with several demographic variables were presented in tables, narratives, and cross-tabulations. Conclusions and the significance of results and findings of this study will be discussed further in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The learners' attitudes about participating in the learning process are naturally related to their perceptions. Although learners may be equally encouraged to participate in a course, the perceptions they hold may affect their learning outcomes (Rezabek, 1999). This study examined Internet learners' perceptions of Internet-based learning courses in the College of Education at Oklahoma State University.

Summary of the Study

The Purpose of the Study

The purpose of this study was to describe Internet learners' perceptions of three courses taught by one instructor in the College of Education Outreach at Oklahoma State University.

The following research questions guided this study:

1. What was the demographic profile of learners who took an Internet-based learning course? And what demographic variables were associated with learners' perceptions of Internet-based learning in the College of Education at Oklahoma State University (gender, age, family considerations, and job responsibilities)?

2. What were the perceptions of Internet-based learning of learners in the

College of Education at Oklahoma State University in the following nine

categories identified in the literature (attitudes and prior computer

proficiency; communication and interaction; convenience; course design;

knowledge and accessibility; learners' autonomy; modes of assessment;

satisfaction; and timescales for learning)?

3. Overall, what did learners perceive most positively in Internet-based learning

courses?

4. Overall, what did learners perceive least positively in Internet-based learning

courses?

Targeted Population and Sample

The targeted population of this study was the overall enrollments in College of

Education Outreach online courses at Oklahoma State University. The targeted sample

subjects were potentially 685 students from 26 courses in two regular sixteen-week

semesters. Due to privacy concerns, instructor concerns, and institutional barriers, the

actual surveyed subjects were 71 students from 3 courses in the fall semester of 2003;

and 48 of subjects returned the completed surveys that were used to analyze the data for

this study. The response rate was 67.6%.

Research Procedures

After the Institutional Review Board (IRB) at Oklahoma State University granted

approval for the research study, the following data collection procedures were initiated.

To avoid uncertain identifications of the subjects from the returned surveys, the

researcher sent out the survey and two follow-up letters to everyone included in the

enrollment lists. The first survey was sent to subjects through email. After two weeks, a

second e-mail (see Appendix E) with a survey was sent to all subjects to urge those who

had not responded to complete and return the survey. After two weeks, a third email (see

Appendix F) with a survey was sent to all subjects to urge those who still had not

responded to complete and return the survey. After another two weeks, the survey

process was completed and further returns of the survey were not included in the final

data.

Analysis of Data

The collected data were recoded and entered into the Statistical Package for the

Social Sciences (SPSS) Version 12.0 for processing and analyzing the data. Based on

nine categories of learners' perceptions identified in the literature review, analyses used

descriptive statistics to develop the findings. The survey assessed what learners perceived

when they were participating in Internet-based learning courses to addressed research

questions of this study.

Measures of central tendency and measures of variability were applied to describe

the results. Cross-tabulation analyses were used to describe associations between

demographic variables and learners' perceptions. The results were entered in tables and

narratives to report the findings.

Summary of the Findings

Demographic Profile and variables of the Subjects

For the sample of 48 Internet-based learners surveyed of this study, there were

more females (28/48) than males (20/48). The ages of subjects ranged from 19 to 60

years old. The majority subjects (39/48) were nontraditional graduate students with ages

older than 25 years old. Most of subjects were married, had children, and they were living

with their children. Most of subjects had a full-time job and they were working in the

educational area.

Some of subjects were using the Internet to read and reply emails, while some

were using the Internet to do research and learning activities. Most of subjects reported

their computer proficiency as better than the average computer user. Most of subjects

knew the course would be an Internet-based course and had Internet-based learning

experiences. Many of them accessed the course at home, and they believed the flexibility

of time and place for learning to be the major reason for taking an Internet-based course.

Perceptions Associated with Demographic Variables

The results showed male learners in these courses tended to have more positive

perceptions of Internet-based learning than female learners. Nontraditional learners

tended to have more positive perceptions of Internet-based learning than traditional

learners. Learners who had more family considerations tended to have more positive

perceptions of Internet-based learning than learners who had fewer family considerations.

Learners who had more job responsibilities tended to have more positive perceptions than

learners who had fewer job responsibilities.

Nine Categories of Learners' Perceptions

Research Question 2 asked for learners' perceptions of Internet-based learning

included in nine categories which were (1) attitudes and prior computer proficiency, (2)

communication and interaction, (3) convenience, (4) course design, (5) knowledge and

accessibility, (6) learners' autonomy, (7) modes of assessment, (8) satisfaction, and (9)

timescales for learning.

Attitudes and Prior Computer Proficiency

The mean perception of attitudes and prior computer proficiency was 3.43. The median was 3.5, and the mode was 3.5. The standard deviation was 0.701. The variance was 0.491, and the range was 3. More than half of subjects perceived they were less motivated than in the traditional classroom. One-third of subjects perceived computer proficiency to not have an influence on their attitudes towards learning.

Communication and Interaction

The mean perception of communication and interaction was 3.42. The median was 3.6, and the mode was 4. The standard deviation was 0.828. The variance was 0.686, and the range was 4. Slightly over one-half of subjects perceived they felt isolated in Internet-based learning.

Convenience

The mean perception of convenience was 3.77. The median was 3.8, and the mode was 3.8. The standard deviation was 0.599. The variance was 0.359, and the range was 3.2. Some of subjects (39.6%) perceived Internet-based course instructions were not easier to learn and access.

Course Design

The mean perception of course design was 3.57. The median was 3.67, and the mode was 3.67. The standard deviation was 0.77. The variance was 0.593, and the range was 3.5. Almost half of subjects perceived the course design of an Internet-based course and the use of multimedia instructions did not help them learn better than traditional instructions.

Knowledge and Accessibility

The mean perception of knowledge and accessibility was 3.77. The median was 3.8, and the mode was 3.6. The standard deviation was 0.578. The variance was 0.334, and the range was 2.6. Almost half of subjects perceived Internet-based learning resources and activities did not enhance and stimulate their learning.

Learners' Autonomy

The mean perception of learners' autonomy was 3.97. The median was 4, and the mode was 4. The standard deviation was 0.865. The variance was 0.749, and the range was 3.5. Most of subjects perceived they were self-directed in Internet-based learning courses.

Modes of Assessment

The mean perception of modes of assessment was 3.74. The median was 4, and the mode was 4. The standard deviation was 0.737. The variance was 0.542, and the range was 3.5. The majority of the subjects perceived the assessment of Internet-based learning was fair, and the homework was adequate.

Satisfaction

The mean perception of satisfaction was 3.23. The median was 3.4, and the mode was 3.4. The standard deviation was 1.034. The variance was 1.07, and the range was 4. More than half of subjects positively perceived satisfaction in Internet-based learning. The majority of the subjects positively perceived that they would take more Internet courses and they would recommend Internet courses to others.

Timescales for Learning

The mean perception of timescales for learning was 4.013. The median was 4, and the mode was 4. The standard deviation was 0.547. The variance was 0.299, and the range was 2.75. Subjects perceived flexibility positively in Internet-based courses because they were simultaneously pursuing knowledge and fulfilling job and/or family commitments.

Overall Learners' Perception

Generally, subjects positively perceived in nine categories of Internet-based learning. The mean of overall perceptions of Internet-based learners was 3.62. The median was 3.75, and the mode was 3.79. The standard deviation was 0.616. The variance was 0.38, and the range was 2.84.

Aspects Perceived Most Positively

The median-split procedure yielded the more positively perceived group of aspects as the following:

- Timescales for Learning ($Mdn = 4$);

- Learners' autonomy ($Mdn = 4$);

- Modes of assessment ($Mdn = 4$);

- Convenience ($Mdn = 3.8$); and

- Knowledge and accessibility ($Mdn = 3.8$).

The results showed that Internet-based learners more positively perceived they could control and self-direct their own learning to access and pursue knowledge by taking advantages of flexibility and convenience provided by Internet-based learning environment.

Aspects Perceived Least Positively

       The median-split procedure yielded the less positively group of aspects as the following:

- Course design (*Mdn* = 3.67);

- Communication and interaction (*Mdn* = 3.6);

- Attitudes and prior computer proficiency (*Mdn* = 3.5); and

- Satisfaction (*Mdn* = 3.4).

       The results showed that Internet-based learners less positively perceived the Internet-based learning instruction and interface, the opportunity of communication and interaction, levels of computer proficiency, attitudes, and satisfaction.

Conclusions

       This study was designed to gain more knowledge by understanding learners' perceptions to provide better Internet-based learning courses for the College of Education Outreach at Oklahoma State University. The conclusions drawn from the findings of this study have been related to the research questions and some specific items in the survey. These conclusions are limited only to the subjects in this study in the College of Education Outreach at Oklahoma State University. Therefore, the results cannot be generalized to other populations.

      1.   The overall perceptions of Internet-based learning were positively perceived by the subjects in this study. The mean score of overall perceptions was 3.62 in a 5-point rating scale. Overall Internet-based courses successfully meet the

needs of students to balance educational needs with family and job

responsibilities.

2. Every effort should be made to remove/reduce barriers to research which are

simply the result of poor communication and coordination among individuals,

programs, and the institutions. In this study, only one instructor provided 71

previous enrollment email addresses of 685 targeted sample subjects. This

made the sample impossible to represent the population. Due to student's

non-activated status, outdated communication information, student

unwillingness, and incorrect contact information, only 48 surveys were

returned and analyzed. Barriers, some of which are appropriate and some of

which are not, exist to conducting this type of research. An example of an

appropriate barrier is the *Family Educational Rights and Privacy Act of 1974*

(FERPA). "The Family Educational Rights and Privacy Act (FERPA) is a

Federal law that protects the privacy of student education records. Schools

may disclose, without consent, 'directory' information such as a student's

name, address, telephone number, date and place of birth, honors and awards,

and dates of attendance" (Family Policy Compliance Office, 2005). Others

appear to only institutional and impede research. These barriers include

institutional protocol, instructors' reluctance, and lack of coordination among

and between departments. These were reasons which restricted the

opportunity of the researcher to obtain and access more subjects of the

targeted sample to participate in the study. This situation was significant

given the emphasis being made at this institution to increase research efforts.

In other words, the institution and its administration claim to support a research culture, yet was of little or no assistance to this researcher and his adviser. The literature suggested that institutional faculty and administrators were sometimes afraid of teaching and doing research about Internet learning because they thought this type of learning might replace the traditional learning and students might lose (Margolis, 2000). The results might be different if the constraints mentioned above could be removed.

3. However, comments provided though indicated that Internet-based learning did not fit with every learner. Of the 13 subjects who provided comments in the end of the survey, some of them perceived they would not take any more Internet-based courses in the future. Avoidance of a negative first experience is important because it can affect learners' decision of whether or not to continue taking Internet-based courses.

4. As mentioned in the review of literature, the majority of learners in Internet courses are females, working adults, and learners with multiple responsibilities (Cappelli, 2003; Compton & Schock, 2000; Granger & Benke, 1998; Levin, 2003; & Thompson, 1998). Further, El-Tigi (2001) stated the ages of the learners can have a positive influence on learners' performance. Older students tend to perceive Internet-based learning more positively. Institutions should provide flexible and convenient educational products to meet these adult learners' needs. The findings seemed to agree with previous research. The characteristics of subjects in this study fit with some assumptions of the andragogical model (Knowles, Holton, & Swanson,

1998). This model reflected in the findings includes the need to know, learner's self concept, role of learner's experience, and orientation to learning. One of the more positively perceived aspects of Internet-based learning by the subjects was autonomy as a learner.

5. The issue of computer proficiency of the learner must be addressed. The findings from subjects' comments of this study suggested that the institution and instructors needed to design more structured and easily accessible instruction in order to stimulate and satisfy learners who might have little computer proficiency for taking Internet-based learning courses.

6. The issue of isolation reported in other research was reiterated in this study. The previous research (Archamboult, 2004; Collis, 1997; Perez Cereijo, 1999; & Zimmerman, 2002) suggested that learners felt isolated in the virtual learning environment without having communications and interactions with others. The evidence from this study indicated that participants of this study perceived they would like to have more opportunities to communicate and interact with peers and instructors.

Recommendations for Practice

Today, educational institutions are seeking flexible ways to best serve their customers and attract more prospective students. As the most popular means of distance education, Internet-based learning creates a new virtual learning community to motivate learners to gain advanced knowledge in a subject matter through the use of electric means. Learners may be encouraged to communicate and interact with peers and instructors in a

more timely manner if they are familiar with learning technologies. Interactive

instructions and accessible information strengthen their learning resources. They may feel

their learning is self-directed when they have been empowered to explore information

and knowledge. Some learners may feel it is more convenient to learn through

Internet-based learning, while someone else may not. Learners' performance may be

reflected by their perceptions in the learning process.

Based on the results of the study and the information gathered from the literature,

the following recommendations are made for the College of Education Outreach and

course instructors:

1. The items most positively perceived by Internet learners include timescales
   for learning, learners' autonomy, modes of assessment, convenience, and
   knowledge and accessibility are best practices that should be shared with
   other faculty. The items least positively perceived by Internet learners
   include course design, communication and interaction, attitudes and prior
   computer proficiency, and satisfaction are some topics that should be further
   studied and addressed.

2. The subjects in this study were more females than males, but males
   perceived the Internet-based courses more positively than females. Females
   tend to have more domestic workloads than males. Probably, females and
   males have different approaches to processing information and strategies to
   utilize technology to learn. Also, most of these subjects were nontraditional
   students with multiple responsibilities and commitments. These indicate that
   younger students may be more accustomed to lecture and in-person courses.

Learners in secondary schools such as high school students need more exposure to independent study, discovery learning, and individualized instruction. Older students have life experiences of having to learn new information in the workplace and transfer these skills to Internet-based learning courses. Further, as the number of children and job workloads increase, subjects are willing to accept some limitations of choosing this type of autonomous learning to further their education and fulfill their responsibilities. For these learners, they will continue to take Internet-based learning courses. Their options for further education may be limited because of their work and family schedules. The College of Education Outreach should continue offering Internet-based learning courses and look for ways to strengthen them. It is recommended to identify learners' characteristics and provide the most convenient learning environment for those nontraditional learners with applying the principles of adult learning (autonomous learning, life experience, practical, and goal-oriented). This may involve such services as after-hours advisements, licensed child care, or rental of up-to-date computer technology.

3. The subjects in this study have been involved in the use of the Internet and computer technology with multiple tasks. They have experiences of taking Internet-based learning course(s) and they are used to accessing courses at home. These characteristics indicate they know how to use electronic technology, and they have used it for other tasks. They have previous experiences with technology which may encourage them to pursue

Internet-based learning course. The College of Education Outreach should continue maintaining the flexibility and accessibility of courses to provide the most convenient electronic learning environment for particular learners; such as providing learners with familiar formats of course design, existing technological applications, software, and platforms.

4. Learners and instructors need to be well-prepared. Some simulated Internet learning activities and course orientation should be provided before starting the courses. The first impression of taking this type of course is very important for a novice Internet learner. If they had a good experience of taking the course, they might want to choose it again. The institution should put more efforts in marketing the program and courses to previous students who might not have had a positive experience. The institution should also implement efforts to retain current students by systematic improvement by use of an assessment system which allows continued input into the process not just at the end of the course.

5. Internet-based learning attracts a more motivated learner or the learner has to become more motivated in order to be successful. It is more dependent than traditional learning on students' motivation level and ability to independently work. Usually little or no group type activities are assigned. It is recommended to use materials and resources which incorporate current brain-based research and relevant motivation theories. What learners perceive in themselves in terms of computer proficiency may not be accurate and will not guarantee success in Internet-based learning course. Even

learners who have knowledge of using technology to learn may not to be

motivated to participate in learning applications if they do not have adequate

attitudes, skills, and knowledge to accommodate the Internet-based learning

environment. The College of Education Outreach should continue offering

training for instructors and make it as a requirement before they teach

Internet-based courses. It is recommended to require prerequisite computer

skills and knowledge for enrollments to reduce frustrations of using

technology to learn. Although many institutions have implemented some

types of pre-assessment, this institution has not. It is recommended to do so

and make such pre-assessments mandatory before enrollment in an

Internet-based learning course. It is also recommended an avenue of

remediation be provided to students who might not perform as well as

needed on the pre-assessment.

6. These nontraditional autonomous learners enjoy the advantage of the

    flexibility of time and place for learning using Internet-based learning.

    Internet-based learning class schedules fit their needs. If Internet-based

    learning course instruction and activities could be designed as easier to learn

    and access as the traditional instruction, it might attract more learners to

    enroll in the program. The niche for the institution is to attract nontraditional

    learners to continue taking courses. The College of Education Outreach

    should continue using electronic technology to market programs, advertise

    credentials of instructors, and reach specific segments of nontraditional

    learners to increase enrollments of programs, such as websites, homepages,

and discussion boards. It is recommended to improve the structure of course design to stimulate learning and better satisfy particular nontraditional learners' needs, such as more interactions with other learners.

7. Some subjects felt isolated in Internet-based learning environment due to the lack of an interactive learning community. This indicates that either Internet-based learners are not capable of using educational technology to interact and communicate with others, or course instructors are not willing to pay more attention to learners or create mechanisms for interaction. The College of Education Outreach should have a policy which is enforced regarding the rate of response expected from instructors. Course instructors should encourage peer-to-peer interactions and timely communications/feedback from instructors and learners to improve the quality of learning.

8. The difficulties in obtaining sufficient information to conduct a thorough study of Internet-based learning might be a normal phenomenon in educational research. In order to reach the "win-win" strategy of both learners and the institution and to compete with other educational providers, the College of Education Outreach should develop and implement an assessment system to gather feedback from numerous data sources for facilitating a scholarly research culture. This assessment should be designed to collect specific and unique information about course delivery, rather than just the usual standard end-of-course evaluation. The assessment system should include the specific nine aspects addressed in this study. Course

instructors should be encouraged to participate in this system and collect

information and feedback from learners at the end of course. This system

will aid in program improvement and research. Also, it is recommended to

conduct focus groups of students to suggest improvements in Internet

courses.

9. Most of these subjects agreed that the assessments of Internet-based learning

were fair and workloads were adequate. Course instructors should continue

facilitating effective and efficient assessments to assess learners' academic

growth and provide feedback in a timely manner through electronic

communications. Education Outreach should continue enhancing functions

of instructional tutoring and assistance to help learners solve problems

immediately. Education Outreach should systematically motivate and mentor

the learning process and focus on reduction of learning barriers. Education

Outreach and the College of Education instructors and technicians should

provide a help desk available 24 hours a day/7 days a week.

Recommendations for Research

The following recommendations for future research are suggested:

1. As previous recommendations for practice are implemented, appropriate

scholarly research should be included to measure the effectiveness of such

efforts. This would be far more preferable than continuing to use emerging

technology without using assessment and research.

2. Further research should be conducted about the learning styles of students in relationship to their success using Internet-based learning. One research question which needs to be answered is whether or not a particular learning style is more successful with this type of course delivery. The subsequent question would be what possible implications would have this in terms of course design, delivery, method of assessment, and the instructor teaching style and philosophy.

3. Further research should be conducted including learners' academic performance and learners' completion rate to determine any relationship between Internet learners' academic performance and completion rate.

4. Further research should be conducted applying interviews, observations, focus groups, and other qualitative research methods to add rich descriptive data to the knowledge base.

5. Further research should be conducted comparing the relationships between the perceptions of both the learners and instructors to determine if those perceptions are similar or different and possible impact upon the learning process.

6. Further research should be conducted examining motivating factors of learners and instructors of Internet-based distance education for a better understanding and application of motivational theories.

7. Further research should be conducted investigating longitudinal research over a period of time to allow for a deeper research base.

8. Further research should be conducted replicating of the study with the increasing of the sample to be able to validate this study's findings and generalize to larger population. For example, a comparison of various courses, programs, departments, colleges, and institutions would be helpful.

Although this study may provide important findings, this area will benefit from an ongoing research agenda. As has been mentioned above, it is important to increase collaboration between departments and divisions within educational institutions and reduce or eliminate barriers to research. Internet-based learning will continue to improve to better meet the learners' needs and scholarly research will have the potential to influence and guide these improvements. Together research and practice can combine to produce an educational delivery system appropriate to the society's culture and demands on the learner.

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APPENDIXES

APPENDIX A

LETTER TO INSTRUCTORS

Dear instructor:

I am a graduate student pursuing a Ph.D. degree in the program of Occupational Education Studies in the College of Education at Oklahoma State University. I am conducting a study entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University." The goal of this study is to describe learners' perceptions of Internet-based learning in the College of Education at Oklahoma State University. The data gathered would be helpful to provide Oklahoma State University an insightful view of implementing learning for learners who enroll in Internet-based courses in the College of Education. It will also provide an opportunity to share information with participating instructors at conclusion of the study to improve their practice.

Dr. Self is my dissertation director and suggested that I contact you regarding your participation in this study. To complete my study, I would like to request your assistance to provide me lists of enrollment of Internet-based courses you taught. I would like to send a survey to your students in that course. I would like to send the conclusion of the study to you when the study is completed.

If you agree to provide assistance in this study, please reply this e-mail with attachment of the enrollment list. Your participation is voluntary and will be confidential. Thank you for your consideration of this request.

Sincerely yours,

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu.

Dr. Mary Jo Self
Dissertation director
School of Teaching & Curriculum Leadership – Occupational Education Studies, Oklahoma State University
207 Willard
Stillwater, OK 74078
Tel: 405-744-9191, Email: marycj@okstate.edu

APPENDIX B

LETTER TO PILOT PARTICIPANTS

Dear Sir/Madam:

      I am a graduate student pursuing a Ph.D. degree in the program of Occupational Education Studies in the College of Education at Oklahoma State University. I am conducting a study entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University." The goal of this study is to describe learners' perceptions of Internet-based learning in the College of Education at Oklahoma State University. The data gathered would be helpful to provide Oklahoma State University an insightful view of implementing learning for learners who enroll in Internet-based courses in the College of Education. It will also provide an opportunity to share information with participating instructors at conclusion of the study to improve their practice.

      You were randomly selected from the student list on the OCED doctoral students' Blackboard website. The purpose of this message is to request your assistance to conduct the pilot study for this study. In order to assess validity of the survey, please open and look through the attached file.

      If you agree to provide assistance in this study, please reply this e-mail with attachment of the survey with appropriate corrections. Your participation is voluntary and will be confidential.

Thank you for your consideration of this request.

Sincerely yours,

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu.

Dr. Mary Jo Self
Dissertation director
School of Teaching & Curriculum Leadership – Occupational Education Studies, Oklahoma State University
207 Willard
Stillwater, OK 74078
Tel: 405-744-9191, Email: marycj@okstate.edu

APPENDIX C

COVER SHEET FOR INFORMED CONSENT

Cover Sheet for Informed Consent

DESCRIPTION OF RESEARCH AND ASSOCIATED RISKS/BENEFITS

Dear Sir/Madam:

I am a graduate student pursuing a Ph.D. degree in the program of Occupational Education Studies in the College of Education at Oklahoma State University. I am conducting a study entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University." This form is sent to person who has enrolled in at least one Internet-based course. This study describes students' perceptions of Internet-based courses which will provide insightful information to improve Internet-based courses to meet learners' needs in the future.

The data gathered would be helpful to provide Oklahoma State University an insightful view of implementing learning for learners who enroll in Internet-based courses in the College of Education. It will also provide an opportunity to share information with participating instructors at conclusion of the study to improve their practice.

All of the returned data will be stored in a safety deposit box and will be kept for 5 years. Only researchers (Dr. Mary Jo Self, and Shu-Yi Ho) will have access to the stored data. Pseudonym will be used to code each subject and all data will be reported without any names or other identifiers.

This is a course you have already completed and the final grade is received. You'll be asked to fill out the survey attached with this form in a few minutes and reply it to me by e-mail. The information you provide will be only used in this study.   Your voluntary participation will be highly appreciated.

VOLUNTARY PARTICIPATION & AUTHORIZATION

I understand that participation is voluntary and that I will not be penalized if I choose not to participate. I also understand that I am free to end my participation in this project at any time without penalty.

CONTACT INFORMATION
If you have any questions about the research, you may contact:

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu; or

Dr. Mary Jo Self, Project director, OSU, 207 Willard, Stillwater, OK 74078. Tel: 405-744-9191. Email: marycj@okstate.edu

Additional contact:
Carol Olson, Director of University Research Compliance, OSU, 415 Whitehurst, Stillwater, OK 74078. Tel: 405-744-1676. Email: colson@okstate.edu

APPENDIX D

INTERNET LEARNER''S PERCEPTION QUESTIONNAIRE

Internet Learner's Perception Questionnaire

The purpose of this questionnaire is to assess various learners' perceptions when taking *Internet-based distance education course(s)*. This questionnaire contains two parts which are your general information and your perceptions toward *Internet-based course(s)*. Your responses to this questionnaire will be very important to us. All information will remain confidential. Please answer these questions honestly. Thank you!

Part A. General Information

We would like to ask you some information about your background. Please check or circle in the appropriate responses.

1. Gender: ☐ Female ☐ Male

2. Marital status: ☐ Single ☐ Married ☐ Widowed, Divorced, Separated

3. What is your age? _____ Years old

4. Do you have children? ☐ Yes ☐ No

5. How many children do you have? _____ .

6. If you have children, are you living with them? ☐ Yes ☐ No

7. Do you have a job? ☐ Yes ☐ No

8. If you have a job, what is your occupation? _____ .

9. Job workload: ☐ Part-time job ☐ Full-time job

10. Ethnic: ☐ African American ☐ American Indian, Eskimo, Aleut ☐ Asian or Pacific Islander ☐ Hispanic

    ☐ White/Caucasian ☐ Prefer not to answer ☐ Other

11. Classification: ☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior ☐ Masters ☐ Doctoral ☐ Other

12. College: ☐ Agricultural Sciences & Natural Resources ☐ Arts & Science ☐ Business Administration ☐

    Education ☐ Engineering, Architecture & Technology ☐ Graduate

    ☐ Human Environmental Sciences ☐ Veterinary Medicine

13. Academic workload: ☐ Part-time student ☐ Full-time student

14. How do you utilize Internet regularly? ☐ Read and reply E-mails ☐ Browse Internet ☐ Learning related ☐

    Work related ☐ Use Internet to do research ☐ Design web page ☐ Other

15. Did you know this would be an *Internet-based course*? ☐ Yes ☐ No

16. How did you see your computer proficiency prior to taking an *Internet-based course*? ☐ Beginner

    ☐ Average ☐ Experienced ☐ Expert ☐ Other

17. What's your purpose for taking *Internet-based learning course(s)*?

    ☐ Interested in course materials ☐ Curiosity for learning methods ☐ Flexible time and place for learning ☐

    Preferred to take course from the instructor ☐ Someone recommended ☐ Other

18. Do you have prior involvement in other *Internet-based* course(s)? ☐ Yes ☐ No

19. If your answer is "Yes" to question 18, how many *Internet-based course(s)* have you had? _____ Course(s)

20. Where do you access your *Internet-based course(s)* most often?

☐ At home ☐ At office ☐ At University facility ☐ Other

Part B. Learner Perception of Internet-based Learning Course

The following questions ask about your learning perception toward *Internet learning course(s)*. **There are no right or wrong answers. Answer the questions about how you study in the course as accurately as possible.** Use the scale below to answer the questions. If you think the statement is very true of you, choose 5; if a statement is not at all true of you, choose 1. If the statement is more or less true of you, find the number between 1 and 5 that best describes you.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

1. In the beginning of the class, I felt frustrated due to my computer proficiency. 1 2 3 4 5

2. The learning schedule was flexible in this course. 1 2 3 4 5

3. I was self-directed to learn in this class. 1 2 3 4 5

4. The multimedia instructions helped me learn better than traditional learning environment. 1 2 3 4 5

5. The way of learning was better than the traditional method. 1 2 3 4 5

6. I felt the learning pace was convenient. 1 2 3 4 5

7. The knowledge I had learned in this course can be applied to other courses. 1 2 3 4 5

8. I felt isolated in Internet-based course(s). 1 2 3 4 5

9. The course material was presented appropriately. 1 2 3 4 5

10. My computer proficiency had a direct influence on my attitude when taking an Internet-based course. 1 2 3 4 5

11. I could handle my learning pace to catch up with course schedule. 1 2 3 4 5

12. I was self- disciplined in the learning process. 1 2 3 4 5

13. I was able to access Internet resources and use the computer technology. 1 2 3 4 5

14. This way of teaching was better than the traditional method. 1 2 3 4 5

15. I felt the learning environment was convenient. 1 2 3 4 5

16. The workload of homework of this course was adequate. 1 2 3 4 5

17. E-mail was a helpful opportunity to communicate with instructor and classmates. 1 2 3 4 5

18. Resource links helped me connect with concepts logically. 1 2 3 4 5

19. The use of technology had a positive effect on my overall experience in an Internet-based course. 1 2 3 4 5

20. I had enough time to learn the information presented in the class. 1 2 3 4 5

21. The resources on the Internet enhanced my learning. 1 2 3 4 5

22. I'd consider taking more Internet-based course(s) later. 1 2 3 4 5

23. I felt the learning schedule was convenient. 1 2 3 4 5

24. I had good interactions with instructors. 1 2 3 4 5

25. The course related web sites were clear and helpful.   1   2   3   4   5

26. In this class, I was motivated more than traditional classroom learning.   1   2   3   4   5

27. I could handle my responsibilities while taking Internet-based course.   1   2   3   4   5

28. Internet-based activities stimulated my learning.   1   2   3   4   5

29. I'd recommend that others take an Internet-based course.   1   2   3   4   5

30. My question would be responded adequately and quickly.   1   2   3   4   5

31. I had good interactions with classmates.   1   2   3   4   5

32. It was easy to move through the course.   1   2   3   4   5

33. I felt Internet-based learning course was easier to learn and instructional materials were easier to access.   1   2   3   4   5

34. This class developed a "learning community".   1   2   3   4   5

35. This course was suitable for Internet-based learning.   1   2   3   4   5

36. I was challenged by the course.   1   2   3   4   5

37. The assessment method of this course was fair.   1   2   3   4   5

38. I was satisfied with the experience of this course.   1   2   3   4   5

Comments or Recommendations:

_____

_____

_____

Thank you for taking the Internet Learner's Perception Questionnaire.

APPENDIX E

FIRST FOLLOW-UP LETTER TO NON-RESPONDENTS

Dear Sir/Madam:

About two weeks ago you were sent a survey entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University." The survey has been developed as an important part of research study.

We are sending you the survey again because your response is invaluable. The purpose of this message is to remind you to participate and conduct the survey for this study. The study will not be successfully concluded without your input.

If you agree to provide contributions to this study, please complete the attached consent form and the survey, and reply this e-mail with attachments. Your participation is voluntary and will be confidential.

Thank you for your consideration of this request.

Sincerely yours,

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu.

Dr. Mary Jo Self
Dissertation director
School of Teaching & Curriculum Leadership – Occupational Education Studies, Oklahoma State University
207 Willard
Stillwater, OK 74078
Tel: 405-744-9191, Email: marycj@okstate.edu

APPENDIX F

SECOND FOLLOW-UP LETTER TO NON-RESPONDENTS

Dear Sir/Madam:

About two weeks ago you were sent a follow-up letter with a survey entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University." The survey has been developed as an important part of research study.

We are sending you the survey again because your response is invaluable. The purpose of this message is to remind you to participate and conduct the survey for this study. We realize you are very busy, but the study will not be successfully completed without your help.

If you agree to provide contributions to this study, please complete the attached consent form and the survey, and reply this e-mail with attachments. Your participation is voluntary and will be confidential.

Thank you for your consideration of this request.

Sincerely yours,

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu.

Dr. Mary Jo Self
Dissertation director
School of Teaching & Curriculum Leadership – Occupational Education Studies, Oklahoma State University
207 Willard
Stillwater, OK 74078
Tel: 405-744-9191, Email: marycj@okstate.edu

APPENDIX G

THANK-YOU LETTER TO INSTRUCTORS

Dear instructor:

        We want to thank you very much for providing information in the study entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University."

        Without your assistance, we would not conduct this study successfully. Now we have completed and concluded this study. The attached file is the conclusion of the study. We hope it will provide certain information considering Internet-based learners' perceptions for your future courses.

Again, thank you for your kind assistance to this study.

Sincerely yours,

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu.

Dr. Mary Jo Self
Dissertation director
School of Teaching & Curriculum Leadership – Occupational Education Studies, Oklahoma State University
207 Willard
Stillwater, OK 74078
Tel: 405-744-9191, Email: marycj@okstate.edu

APPENDIX H

THANK-YOU LETTER TO PILOT PARTICIPANTS

Dear Sir/Madam:

We want to thank you very much for your participation in the pilot study for the study entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University."

Without your corrections and considerations of the survey, we would not conduct this study successfully. Now we have completed and concluded this study. If you would like to know the conclusion of the study, please tell us to send a copy of the conclusion to you.

Again, thank you for your kind assistance to this study.

Sincerely yours,

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu.

Dr. Mary Jo Self
Dissertation director
School of Teaching & Curriculum Leadership – Occupational Education Studies, Oklahoma State University
207 Willard
Stillwater, OK 74078
Tel: 405-744-9191, Email: marycj@okstate.edu

APPENDIX I

THANK-YOU LETTER TO PARTICIPANTS

Dear participant:

 We want to thank you very much for completing the survey for the study entitled "Learners' Perceptions of Internet-based Learning in the College of Education at Oklahoma State University."

 Without your inputs to the study, we would not conduct this study successfully. Now we have completed and concluded this study. If you would like to know the conclusion of the study, please tell us to send a copy of the conclusion to you. Again, thank you for your valuable contributions to this study.

Sincerely yours,

Shu-Yi Ho, Principal investigator, OSU, 222 Willard, Stillwater, OK 74078. Tel: 405-880-3077. Email: shuyih@okstate.edu.

Dr. Mary Jo Self
Dissertation director
School of Teaching & Curriculum Leadership – Occupational Education Studies, Oklahoma State University
207 Willard
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APPENDIX J

INSTITUTIONAL REVIEW BOARD APPROVAL FORM

Oklahoma State University Institutional Review Board

Date: Thursday, September 23, 2004

IRB Application No   ED0524

Proposal Title: A Case Study Describing Learner's Perceptions of Internet-Based Learning in the College of Education at Oklahoma State University

Reviewed and
Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved   **Protocol Expires: 9/22/2005**

Principal
Investigator(s):

Shu-Yi Ho   Mary Jo Self
222 Willard   207 Willard
Stillwater, OK 74078   Stillwater, OK 74078

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

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

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

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

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact me in 415 Whitehurst (phone: 405-744-1676, colson@okstate.edu).

Sincerely,

Carol Olson, Chair
Institutional Review Board

APPENDIX K

INSTITUTIONAL REVIEW BOARD MODIFICATION APPROVAL FORM

Oklahoma State University Institutional Review Board

Date	Tuesday, May 03, 2005	**Protocol Expires:**	**9/22/2005**

IRB Application   ED0524

Proposal Title: Learners' Perceptions of Internet-Based Learning in the College of Education at Oklahoma State University

Reviewed and
Processed as: Exempt

Modification

Status Recommended by Reviewer(s)   **Approved**

Principal
Investigator(s) :

Shu-Yi Ho
222 Willard
Stillwater, OK 74078

Mary Jo Self
207 Willard
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB

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

Signature :

Sue C. Jacobs, Chair, OSU Institutional Review Board

Tuesday, May 03, 2005
Date

VITA

Shu-Yi Ho

Candidate for the Degree of

Doctor of Philosophy

Dissertation: LEARNERS' PERCEPTIONS OF INTERNET-BASED LEARNING IN
THE COLLEGE OF EDUCATION AT OKLAHOMA STATE
UNIVERSITY

Major Field: Education

Biographical:

Personal Data: Born in Taichung City, Taiwan, on April 2, 1972, the son of Sheng-
Chi Ho and Yu-Show Chang.

Education: Graduated from Catholic Viator High School, Taichung City, Taiwan, in
June, 1991; received Bachelor of Library and Information Science degree from
Fu Jen Catholic University, Taipei County, Taiwan, in June 1995; received
Master of Business Administration in General Management from Pittsburg
State University, Pittsburg, Kansas, in December 1999. Completed the
requirements for a Doctor of Philosophy in Education with an option of
Occupational Education Studies at Oklahoma State University in July 2005.

Experience: Staff Sergeant, Division 234 of R.O.C. Field Army from 1995-1997;
Lab Assistant in Department of Food Science at University of Arkansas,
Fayetteville, Arkansas, 2001; Graduate/Research Assistant of Occupational
Education Studies Program in School of Teaching & Curriculum Leadership,
2002-present.

Professional Memberships: Omicron Tau Theta – Chapter Phi.

Name: Shu-Yi Ho   Date of Degree: July, 2005

Institution: Oklahoma State University   Location: Stillwater, Oklahoma

Title of Study: LEARNERS' PERCEPTIONS OF INTERNET-BASED LEARNING
                    IN THE COLLEGE OF EDUCATION AT OKLAHOMA STATE
                    UNIVERSITY

Page in Study: 151   Candidate for the Degree of Doctor of Philosophy

Major Field: Education

Scope and Method of Study: The purpose of this study was to describe Internet learners'
    perceptions through the Blackboard learning process in the College of Education at
    Oklahoma State University. This study employed a mix of quantitative and
    qualitative methods to investigate learners' perceptions among gender, age, marital
    status, educational level, family considerations, job responsibilities, satisfaction,
    modes of assessment, learners' autonomy, timescales for learning, knowledge and
    accessibility, attitudes and prior computer proficiency, course design, convenience,
    communication and interaction. A survey entitled, "Internet Learner's Perception
    Questionnaire", was distributed to the targeted subjects by emails for collecting data.
    The survey was sent to 71 subjects from 3 courses; 48 of the subjects returned the
    completed questionnaires that were used to generate the findings and conclusions of
    this study. Measures of central tendency and variability, and cross-tabulations were
    applied to illustrate and describe the results.

Findings and Conclusions: Due to the privacy policy, difficulties of retrieving and
    obtaining enrolled students' email lists, and institutional barriers and regulations;
    the actual available sample was limited; the results could not be generalized to other
    populations. In this study, more than 80% of subjects were adult learners who were
    older than 25 years old. More positively perceived aspects by learners were
    timescales for learning, learners' autonomy, modes of assessment, convenience, and
    knowledge and accessibility; which should be shared with other faculty. Less
    positively perceived aspects by learners were course design, communication and
    interaction, attitudes and prior computer proficiency, and satisfaction; which should
    be further studied and addressed. The results of the study indicate the autonomy of
    the learners was highly appreciated but learners felt instant communications and
    interactions were lacking. Furthermore, learners who had more family
    considerations and job responsibilities tended to have more positive perceptions
    than learners who had fewer family considerations and job responsibilities. Males
    tended to have more positive perceptions of Internet-based learning than females;
    and older learners tended to have more positive perceptions of Internet-based
    learning than younger learners.

ADVISOR'S APPROVAL: Dr. Mary Jo Self