A STUDENT'S CHARACTERISTICS AND ATTITUDES TOWARDS AN

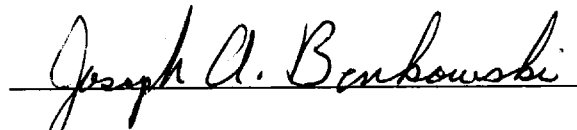ASYNCHRONOUS WEB-BASED COURSE

by

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A thesis

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by

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ABSTRACT

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Since the computer has become a powerful educational tool, the Web has become a challenge for teaching and learning. This paper provides the information from students at the University of Wisconsin-Stout regarding the advantages and disadvantages of asynchronous learning versus a traditional face-to-face classroom experience. This research also identifies the characteristics of the successful asynchronous learner.

Data was collected from a mail survey from 100 students who had previously taken an asynchronous web-based course at the University of Wisconsin-Stout. The questionnaire obtained students' attitudes and characteristics towards an asynchronous web-based course. There were 46 respondents that completed the questionnaire. The descriptive statistics used to analyze the data included frequency counts, percentages, mean and standard deviation.

From the statistical results, the most important reason that students took an online course was the time flexibility. Most students were satisfied and would like to see more online courses. The strengths of an asynchronous web-based course are the time

flexibility and convenience. However, there were some weaknesses, which should be considered. Most people felt that an online course created additional stress due to the technical difficulties and varying degrees of computer proficiency. The major drawback was the lack of student-to-student / student-to-instructor interaction. From the background information, it can be concluded that the outstanding characteristics of an asynchronous learner are 1) female, 2) 35-44 years old, 3) married and, 4) a graduate student.

According to the results of this research, there were some suggestions for further study. In order to reduce the technical difficulties and compensate for the lack of interaction, an orientation session and visual interactive technology should be considered.

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Chapter 1

INTRODUCTION

Background of the Problem

The term distance education first appeared in 1892 at the University of Wisconsin (Rumble, 1986) and was reportedly used by the director of the University of Wisconsin-Extension, William Lightly, in 1906 (Moore, 1987). Moreover, Rumble stated that at the root of distance education theory, learners are physically separated from the institution that sponsors the instruction. Written correspondence is limited and slow. The learner is often unable to obtain help or advice promptly when needed. Early distance learners printed and wrote the correspondence by mail (Knox, 1991).

Today's distance learner is different from the past since computer technology has developed extensively. Educators may mail, answer, interact and present with their professors or other students by computer. Information technology offers a variety of possibilities for presentation and interaction. Learning can take place by having all courses on line. It is becoming popular in the United State although effective concepts in some countries are still unknown (Knox, 1991).

Multimedia technology has now become a powerful tool for our educational experience (Ambron, 1990). The web has become a world phenomenon. It has permeated many aspects of the modern world, particularly in business and education (Thao Le & Quynh Le, 1998). The web has become a challenge for teaching. With advances in technology and new philosophies of distance learning have resulted in a new paradigm of distance learning that attempts to create a traditional, face-to-face experience of instruction as much as possible (Schlosser & Anderson, 1994). Such technologies are not

a threat, but rather, they present a good opportunity for education (Falk & Carlson, 1992). In 1995 Staley stated that, "It is expected that this technology will not only improve educational productivity but also the way of learning itself. Implementing this technology will give the educators the chance to motivate the students, stimulate their interest, and encourage different and various ways of learning" (Messer, 1999).

The increased utilization of web-based courses in many universities makes the researcher feel enthusiastic about figuring out how learners value the web educationally. The University of Wisconsin-Stout has on-line courses. Students who are taking these courses also have various ethnic backgrounds, ages and education. Knowing the learners' characteristics and opinions will be a benefit for further studies. Daniel Granger and Meg Benke said, "Be ready and able to provide information when and as they need it. Marketing databases are only as good as your ability to respond to the learners" (Gibson, 1998, p. 32). "What Web specialists value may not be necessarily accepted by learners. Therefore, it is important to examine learners' views in relation to the Web impact"(Thao Le & Quynh Le, 1998).

<u>Statement of Problem</u>

The main purpose of this research is to obtain information from students at the University of Wisconsin-Stout regarding the advantages and disadvantages of asynchronous learning versus to traditional face-to-face classroom experience. The researcher will also identify the characteristics of the successful asynchronous learner.

Research Objective

1. To identify characteristics of students who benefit from an asynchronous web-based course

2. To determine the primary factor that led respondents to enroll in and on-line class, and to determine if there is a correlation between these factors and student characteristics

3. To find out what respondents' suggestions for improvement of delivery systems would be

4. To determine the strengths and weaknesses of asynchronous learning

Significance of Study

This research study is beneficial for teachers and administrators of asynchronous web-based courses because the study will make recommendations for improvement.

Definition of Terms

1. Distance learning = a method of education in which the learner is physically separate from the teacher. It may be used on its own, or in conjunction with other forms of education, including face-to-face (Rumble, 1986, p. 1).

2. Asynchronous = "this term used to designate the property of a device or action whose timing is not a direct function of the clock cycles in the system. In an asynchronous situation, the time of occurrence or duration of an event or operation is unpredictable due to factors such as variable signal propagation delay or a stimulus which is not under control of the computer" (Douglas, eight edition, p. 266).

3. Distance learner = learners are physically separated from the institution that sponsors the instruction (Rumble, 1986, p. 1).

4. Asynchronous learner = distance learner (see distance learner)

5. Multimedia = disseminating information in more than one form. It includes the use of text, audio, graphics, animated graphics and full-motion video. Multimedia programs are typically games, encyclopedias and training courses on CD-ROM. However, any application with sound and/or video can be called a multimedia program (Alan Freedman, 1996, p. 561).

6. Technology = the science of the application of knowledge to practical purposes (Gove, 1961, p. 2348).

7. Web or World Wide Web = An Internet service that links documents by providing hypertext links from server to server. It allows a user to jump from document to related document no matter where it is stored on the Internet. World Wide Web client programs, or Web browsers, such as Mosaic and Netscape, allow users to browse "the Web". Developed at the European Center for Nuclear Research (CERN) in Geneva, it was created to link research information between different locations. WWW documents are structured with format codes and hypertext links using the hypertext Markup Language, or HTML. A home page is created for each server with links to other documents locally and throughout the Internet. The Web has become a centerpiece of Internet activity, because its documents can contain both text and graphics, and it is quickly turning the Internet into an online shopping mall. In 1994, Web traffic increased more than 18 times that of the previous year. (Alan Freedman, 1996, p. 970)

8. Traditional face-to-face classroom = students and professors interact with each other in the classroom including lecture, presentation and answering questions (Opposite to distance learning, see Rumble, p. 1).

Chapter 2

REVIEW OF LITERATURE

The Difference Between Classroom Instruction versus Computer-Based Learning

The rapid development of multimedia has provided the universities with information technology which has transformed the traditional off-campus teaching into virtual teaching in which interaction is not only much quicker but there is great improvement of the quantity and quality of course delivery (Thao Le, 1999). From the study of University of Trollhattan Uddevalla, Sweden, distance learning is different from traditional classroom learning since a student neither attends the class nor interacts with others directly (Svensson, 1999). Thao and Quynh at the University of Tasmania, Australia also said, " the key difference is that virtual universities do not require students to commute to campus and to physically attend classes" (1999).

Moreover, Richard C. Ryan, at the University of Oklahoma Norman, noted " the online teaching model required students to check the site regularly in the same fashion as the traditional teaching model required traditional class students to attend lectures." The site was formatted like a book of organized information to be used as a class information resource. Class participants were required to use Window 95 and Office 97 for assignments. They used e-mail, the telephone, the chat feature and limited desktop video conferencing for communication between each other and the instructor" (Ryan, 2000, p. 79).

Thao Le and Quynh Le noted in 1999 that " the web is claimed to be one of the most powerful tools for providing teachers and learners with necessary conditions for independent and interactive learning. It provides educational discourses in which learners

can interact widely with other members of a learning community at the same time learners are in control of their own learning. Their interaction for learning can be immediate, prompt, widely shared and resources-supportive and this may not be possible in a traditional mode of teaching in which teachers and students are heavily constrained by the physical condition of a classroom." Thao Le and Quynh Le also said that " since the world has become a global village in which villagers communicate quite conveniently via the Internet, universities have offered courses for students of diversified geographical and cultural backgrounds" (Thao Le & Quynh Le, 1999).

Characteristics of Asynchronous Learner

Did they have anything in common? Michael G.Moore said " first, they all are remarkably motivated" (Gibson, 1998, p. 3). Although there is no evidence to show that asynchronous learner has to be regarded as a homogeneous group however many asynchronous learner share broad demographic and situational similarities that have often provided the basis for profiles of the "typical" asynchronous learners (Gibson, 1998, p. 10). Melody M.Thompson said " characteristics are varied but generally have reflected some combination of demographic and situational variables such as age, gender, ethnic background, disability, location and life roles" (Gibson, 1998, p. 10).

Age: On average, asynchronous learners are older than typical undergraduate students (Gibson, 1998, p. 10). The age of traditional undergraduate student has been availed to 18-23 years old, whereas the nontraditional program is designed for students who already had jobs, families and community responsibilities. More than 45% of nontraditional students are over 25 years old and this percentage will continue to increase.

Gender: Most studies report that more women than men are enrolled in courses delivered at a distance. Hezel and Dirr 's research in 1991, Gibson and Graff's research in 1992 and Franks' report in 1996 found the same results that women outnumbered men. This finding is also the same as in other parts of the world (Gibson, 1998, p. 11). However it is remarkable that " many women have to confront gender-based stereotypes about their attitude toward and skills in computer technology and negative experiences once they use the technology" referred from Taylor, Kramarae, and Ebben in 1993 (Gibson, 1998, p. 34).

On the other hand, data from Athabasca University in Canada indicated that a greater percentage of women passed distance education courses. Among the reasons for the greater success of women in distance education courses, the authors speculated, were: women more telephone calls to their tutor, they had someone other than a spouse or partner to rely on for support. In addition many of the female students were working while taking course and come from field such as health care in which career advances can be readily achieved through academic upgrading in a distance environment (Schlosser and Anderson, 1994, p. 21).

Ethnic background: Although research studies occasionally report the percentage of participants from various ethnic backgrounds (e.g ., Dille and Mezack, 1991; Pugliese, 1994), they do not compare these with the percentages of the same groups within the population of traditional students (Gibson, 1998, p. 11). The results show that it is difficult to compare the relative participation of ethnic minorities, however, there is some evidence showed that many distance learners have more opportunity than other does. For many of these students, courses and programs delivered at a distance is an accessible

avenue for upward mobility. Eastmond reported in 1995, that all of the students in his study of a computer conferencing distance education program at a college for adult students represented the first generation in their families to obtain a higher education degree (Gibson, 1998, p. 12).

Location: Most asynchronous students have a sizable geographic distance away from a campus, which discourages or prevents enrollment in on-campus classes. Gibson and Graff's study (1992) found that 77% lived over fifty-one miles from campus, with the majority living between 101 and 200 miles from campus.

Life roles: Most asynchronous learners are workers and spouses. St.Pierre and Olsen (1991), for example, found that 57% of students in their study worked 40 or more hours a week outside the home. Robinson (1992) reported that among distance education students at the Open College, 83.7%were employed outside the home (62.2%full time) and 58.5% were married. On the other hand, the model, which is developed by David Kember, shows that individual, family and work backgrounds have weak direct correlations with drop out. It is remarkable that an asynchronous learner also has high-level of self-management or self-discipline (Gibson, 1998, p. 118).

The survey conducted by Primary Research Group, Inc., the majority of students are usually older, women, with a high percentage of Native Americans. Therefore, the characteristics that can be concluded for an asynchronous learner are 1) older than a typical undergraduate student 2) female, and 3) full-time worker and married.

A successful asynchronous learner is an older student. A number of studies report a positive relationship between success and student age (Dille and Mezack, 1991; Sounder, 1994). They have explained the higher levels of success for older students are

based on the increased maturity, self-discipline, life experience, and financial responsibility for their educations that are likely to to characterize older students. Moreover, the researcher found that there is a positive relationship between self-directness and achievement.

Biner et al. (1995, p. 56) found that the personality of a nontraditional student differed from a traditional student. Specially, students in the distance education programs tended to be " more intelligent, emotionally stable, trusting, compulsive, passive and conforming than traditional students. Several personality factors were found to predict success in the distance context: self-sufficiency and/or introversion, laxness (i.e., carelessness of social rules), and expediency were all associated with successful students' performances (Gibson, 1998, p. 16)."

Since most asynchronous learners are time-bound adults with multiple roles and responsibilities, it is not surprising that most have educational goals that are instrumental rather than developmental (Gibson, 1998, p. 18). The survey by Von Prummer (1998) found that the most mentioned goals were work-related. In 1992, Robinson also found that there were no gender-based differences in goals among distance education students at the Open College (Gibson, 1998, p. 19).

The following profile of learning style preferences for the study population emerged. Motivation maintenance findings show that study groups displayed a high preference for feedback, participation, collaboration and concrete learning (Gibson, p. 57). On the task engagement level, learners exhibited that following strong preferences for fact retention, elaborative processing, attitude and interest in learning, an academic environment, motivation, concentration, information processing, selecting main idea, test

strategies and reflectivity (Gibson, p. 58). Most of them rely on self-directed learning and informal knowledge. According to Knowles (1980), adults are motivated to learn, pragmatic learners, self-directed learners and they struggle to balance learning projects against the constraints of time, space, economic resources, and personal relationships. In fact, self-direction is the important characteristics of a successful adult learner who uses and participates in Internet-based distance learning (Cambino, Harvey and Martinez, 1999).

<div align="center">Positive Perspectives</div>

Winie Oki, who teaches instructional and performance technology at Boise (ID) State University College of Engineering, points to studies of in-person classrooms for comparison that in traditional classrooms, students sit in assigned seats, the instructor has control over who contributes, and interaction is formalized. In contrast, learning on-line, learners talk more openly, spontaneously, and circulate freely around their workspace (Service of Bill Communications Inc, February 08, 2000). In comparing the nature of the interactions that took place in the two environments, most students felt that more detailed contributions were made within the Web-based environment. One student noted that " I think it makes you express what you think more because you are not talking. When we would meet to talk... one person would say what they think then the others would just say,'Yeah, I agree'. Another student felt this detailed contribution in the Web-based tutorials was due to the fact that the Web takes away the pressure of the face-to-face environment," some people would be sort of afraid to come out and say things. On the Web, people are not directly looking at you and you are not the focus of attention. On the Web, in great detail, you can tell someone about something, but in the classroom you do

not tend to go into a lot of detail. I think for people who are reluctant to let everything out in the classroom, the Web is a really good opportunity, you do not have any pressure on you" (Locker, Harper and Patterson, 1999). One student noted that she contributed a lot more on the Web than she does in the classroom. Some students recognize that they feel more relaxed using the technology (Lockyer, Harper and Patterson, 1999). Traditional face-to-face classroom learning can be time-consuming or even impossible if the target group for the lecture is distributed over a larger area. From the study of the University of Tasmania in Australia, there is the same idea that everybody who wants to attend the traditional class has to be in the lecture room at the lecture time. If the target group for the lecture is distributed over a larger area, attending lecture can often be time-consuming or even impossible (Anderl & Vogel, 1998). In a narrow traditional approach to teaching, students are normally treated as passive learners (Thao Le and Quynh Le, 1999). John E. Cantelon said," it is remarkable that nontraditional education is more centered around students'schdules; asynchronous telenetworking accommodates individual faculty schedule demands as well. A competency-based curriculum is essentially time-oriented rather then space-oriented" (Rossman, 1995, p. 9). In addition, an asynchronous class is convenient, especially a night class. The night class, especially in summer, due to the frequency of class meetings, is too burdensome for students to attend in person (College of Technology of Engineering and Management, 1997, p. 43). Therefore, if each student could send and receive assignments by e-mail, it would considerably more convenient. Internet resources are flexible and readily available so that on-line learners can access their classes by computer anywhere, at work or home, at anytime, as well as to access content at their own pace (Schlough and Bhuripanyo, 1998). Flexibility can be a

disadvantage if all students have to complete the course at the same time (Schlough and Bhuripanyo, 1998). The result of a survey by Bhuripanyo at University of Wisconsin Stout found that the delivery by computer provided convenience to the learners in a freedom of time and a freedom of space. It promoted individual learning, yet allowed for group learning activities. The clarity of the on-line content provided exactly what the student needed to know. In classroom experiences the professor often provides more information than what is needed and the student is left wondering what is important and what is not. Using the telephone to discuss projects with the instructor allowed for a sense of connection. The course could also be marketed to potential students who are more computer proficient. Generally, students with limited Web-based learning experience have a positive opinion of the on-line materials due to the novelty (Lockyer, Harper and Patterson, 1999). From the study of University of Wollongong, Australia found that most students felt that Web-based tutorials are more effective in terms of facilitating their own learning than the classroom-based tutorials because they have time to research the information. Moreover they do not have to answer the questions to their professors immediately. They get time for thinking about the question so the answer will be better. One student's explanation of the experience is indicative of that expressed by many of her peers," when you are all rushed, you will not concentrate. But, when you have got time for it, you can sit down, think about it. A couple of times I had go off and read some books that I had at home to help me a bit and make me think more about the answer. Then I could come back to it whereas, when you are in the class you have got know straight away, right there. I mean I had go onto the Internet and try to find some

information to give me some ideas and then I had go back on and write my answers so I thought that was good" (Lockyre, Harper and Patterson, 1999, p. 4).

The University of Tasmania study found that students believed that learners were encouraged to express themselves more freely on the Web than in traditional classroom (Thao Le and Quynh Le, 1999). Learners viewed the Web as an innovative device, which encourages responsibility and independence in the learner and a tool of inspiration for the teacher. The Web provides a dynamic discourse, which could not be replaced by the traditional face-to-face teaching. Learners can travel virtually in a world of knowledge and interaction. The positive evaluation could be demonstrated in the following select responses from different learners:

" The Web is a friendly forum. It is real to me, not artificial at all, no way!"

" I am more relaxed to discuss via the Web. You don't feel as if someone would laugh at you"

" You have more time for thinking properly"

" On the Internet have the choice of selecting which issues to discuss and whom to discuss with. This is very important to me. I could not easily do this in a face-to-face situation. If you do not think this is real interaction, what else then!"

" We can exchange our views on various issues and aspects of life. We can chat on many things, which are of interest to us. You do not have to 'talk'if you do not feel like it"(Thao Le and Quynh Le, 1999).

<div align="center">Negative Perspectives</div>

Genders, senior learning analyst with Cerner Corp.'s Virtual University of Kansas city said," Fear of technology is one demotivator,"(Service of Bill Communications Inc, Feb8,

2000). An article written by Ralph Keyes (1975) illustrates that students new to this medium will experience some degree of difficulty getting on-line since they do not know directions clearly. There also is an impact of technology on community. An asynchronous learner fears the loss of community, of feeling and of belonging, but according to Keyes " we did not lose community. We bought it off"(Rossman, 1995, p. 34). Dale L.Cook noted that "we can find community in different places and through different means"(Rossman, 1995, p. 34). Asynchronous learners can get on-line and connect with people whom they share common values and interests. This issue is still discussed. Although computer-generated learning environments can not currently duplicate the community of the classroom, we can not guarantee that community exists among students in traditional classrooms. Dale L. Cook notes that " we do not know how often community actually develops in classrooms" (Rossman, 1995, p. 36). However, we found that there is no significant difference of interaction between classroom and on-line learning because sometimes in large classes where individuals never have access to the teacher, also consider shy or less-aggressive students who seldom get interaction even in small classes (Laws, 1999, p. 3).

A study from The University of Tasmania found that some learners were not quite enthusiastic or optimistic about the role of the Web in education, while others accepted the contribution of the Web in education, but also pointed out some potential problems. These reflections can be demonstrated in the following selected responses from different learners. One learner feels that face-to-face discussion; he can interact with each other. He enjoys real group discussion.

" Everything we do, think, act reflect our culture, our attitudes, and cultural and social backgrounds. How could we leave all these behind when we travel on the Internet. Thus, teaching and learning on the Web can not be immune from cultural and social interference. We may think that we are neutral. I do not think so"

" When students come from different countries, different cultures, there must be some misunderstanding, misinterpretation, and all these can create mistrust, confusion and perhaps conflict."

" The Internet is a product of a commercial world. It is commercially motivated. The main aim of commerce is to make money. It is interesting to see how education with the use of the Internet can be free from commercial influences and controls? We need to look beyond the surface level to see how imperialism, in a new form, enters other human cultures. I think the Internet reflects the ideology of its masters. Just look at hardware and software! Where do they come from?" (Thao Le & Quynh Le, 1999).

Unlike a traditional classroom learner, a nontraditional student does not receive body-language feedback so the instructor should let students receive feedback regularly and frequently by computer. Maybe the instructor can send information on a weekly basis, and if possible, on the same day each week. Ranee Cambians, The University of Arkansas said, " Frustration and isolation can be found by the lack of familiar cues when working in on-line environment".

Bhuripanyo at University of Wisconsin Stout found that on-line learning has some weaknesses:

1. Required the learner to be self-disciplined

2. The delivery was not appropriate for all learning styles.

3. Despite on-line discussion groups and contact from the instructor some students who did not work in pairs or groups felt isolated and the delivery has the potential to be impersonal. Although the WWW content portion of the course that was evaluated in the study was considered relatively easy to use, the Lotus Notes Learning Space section was considered to be confusing to some users.

The research from Karen Rosa, Computing services, Athabasca University, Canada, found that over 95%of the students across the board felt flexibility as the single most important thing in online learning. Approximately 80% of the graduated students and 50% of the undergraduates say that academic interaction is important for their success in learning. Students with the least experience with technology in their courses (e.g. The HD students) seem to be most in favor of its use (i.e., for Internet delivery and a variety of media).

Discussion

There are many debated issues related to advantages and disadvantages between traditional classroom learning and nontraditional classroom learning. Terry D.Anderson and D.Randay Garrison noted that while it may seem obvious that "education depends upon acts of communication"(Salomon, 1981), communication for educational purposes should have an interactive component (Gibson, 1998, p. 98). Gibson said"learner-teacher communication goes to the heart of education-both face-to-face and at a distance". The important thing is understanding and supporting communication (Gibson, 1998, p. 102). Damon (1984) noted that intellectual

accomplishment comes from the highly motivated discovery that people feel free to exchange their ideas. After using computer-mediated communications systems, these characteristics are the capacity for active learning, interaction (both quantity and intensity), access to group knowledge and support, democratic learning environment, convenience, and motivation to complete tasks. Terry D.Anderson and D.Randy Garrison noted "The capacity to support interaction in an asynchronous format provides an opportunity for reflection and deliberation not found in any synchronous learning environment-including face-to-face classrooms." They also noted that on computer networks, learners also support and develop many kinds of "virtual"communities such as religious, sports, professional and hobby (Gibson, 1998, p. 103-104).

Clark referred in 1983," the best current evidence is that media are mere vehicles that deliver instruction but do not influence student achievements any more than the truck that delivers our groceries causes changes in nutrition"(Schlosser and Anderson, 1994, p. 23). According to Clark's study there is no significant difference in the educational effectiveness of media however some researches found that there are significant differences due to factors such as different teaching styles and different learning styles. Bhuripanyo said in 1997 " the potential for the Internet delivery of courses should continue to grow as more people have Internet connections and become more proficient in the use of the Internet. It should provide an excellent avenue to provide courses to educators in the field, but probably has less potential for these aspiring to become teachers." From the University of Tasmania in Australia, the Web won the hearts of many university students who are trained to be teachers. It is

clear from their messages that they have made use of the Web in the course of their learning at the university. The word 'however' was constantly in their consciousness when they discussed about the role of the Web in teaching and learning. In other words, there was some reservation about the idea that the Web can take over face-to-face teaching as seen in the following two responses from students. The first response emphasizes the significance of social interaction, which the Web could not adequately provide. One student states,

> The availability of the Web as a classroom tool is exciting! It is not only a way for students to be able to access up-to-date information, but for teachers as well. The Web is loaded with teaching ideas and lesson plans on almost any topic you can think of and there are of course the 'wonderous' mailing lists we all learned about last year which provide that opportunity for contact with fellow professionals. However, while an undeniably useful tool, the Web for me is not really and absolute 'alternative for traditional face-to-face teaching. Today's society demands that the mastering of all types of personal interaction be included as part of a school's curriculum. But with the way technology is heading, the scary thing is that tomorrow's society may not?

The second response emphasizes the access problem facing students and teachers,

> I don't think the Internet will be used to replace teachers, but they will become more important, especially when trying to get up-to-date information. I also think that eventhough the web has a lot of things to offer teachers and students alike, it also requires a fair bit of time to access and find the relevant

information you need. Some teachers do not have that time with all the other requirements they have and this might be another reason why they hesitate to use the Internet in their classrooms.

The University of Trollhattan Uddevalla, Sweden created a Course-Barometer in order to compensate for the loss of informal feedback in distance education. The Course-Barometer is a web-application that is presently tested in a distance education project in Sweden. It tries to address the loss of informal feedback both verbal and non-verbal. The application has a simple interface, where it is possible for the user to signal his or her present mood or attitude and also to view cumulative statistics of the mood-indications made during the course. Mood-interaction is done with a click on the mouse. This paper focuses on evaluation of this design (Svensson, 1999).

It has been found that the learning of the online students is equal to the learning of in class students, comparing pre and post-tests of knowledge for both groups of participants (Schulman and Sims, 1999). This quantitative comparison is a direct indicator that the online learning environment can be as effective as the traditional lecture environment (Ryan, 2000, p. 78). Ryan also noted,

It should be noted that not all content might be suitable for teaching online. One of the determinants of this suitability is the degree and method of testing that is necessary to assesses participants'understanding. "Open book" testing requires the least amount of faculty intervention. Greater effort must be made to find proctors for exams at the participants'locations if more controlled examination is necessary. The major disadvantage to "open book"testing is the reliance on the participant to work independently. The assessment method and rigor of examinations must match

the level of desired demonstrated learning. The anonymity of the distance-learning format also places a large responsibility and reliance on the participant to follow specified guidelines and to work independently when required. "Developing effective and reliable assessment methods for online class participants perhaps will demand the greatest effort for innovation and departure from traditional practices"(Ryan, http://www.ou.edu/architecture/dcns/ryan/bestpractices.htm, 1999).

Conclusion

The quality of online class offerings will influence this perception. Class administrators and participants must ask themselves, "should there be a trade-off for class quality and the convenience of the delivery method?" Class quality should not be compromised for the sake of posting the class online for business reasons, because others are doing it, or for the convenience that the Internet brings. There is great potential for exceptional classes to be industry-sponsored productions, combining all emerging capabilities of the Internet. A necessary step toward online class quality assurance is determining how classes are to be evaluated by participants. Regardless of the delivery method, issues of quality are the same. Recognizing that online classes should be evaluated in the same way as lecture classes is a necessary step to establish standards for quality (Ryan, 2000, p. 83).

Chapter 3

RESEARCH METHOD

Introduction

The term distance education first appeared in 1892 at the University of Wisconsin (Rumble, 1986) and was repeatedly used by the director of the University of Wisconsin-Extension, William Lightly, in 1906(Moore, 1987). Students taking distance education courses have various ethnic backgrounds, ages, and education. Knowing the learners' characteristics and attitudes will be a benefit for further study in order to anticipate their concerns and provide support in the program design.

The Purpose of Study

Since the University of Wisconsin-Stout has on-line courses the researcher used a survey to find out the strengths and weaknesses of asynchronous learning. The study also identified characteristics of students who benefit from an asynchronous web-based course. Moreover, the research determined the primary factor that led respondents to enroll in an on-line class and received suggestions for improvement of delivery systems respondents offered.

Population and Sample

The initial step in the data collection process is to ensure that the data is representative of the population. The only way to be certain that the data is representative is to utilize the correct sampling technique. The population of this research is University of Wisconsin-Stout students; however, we cannot interview all of them. Therefore the sample will consist of students who had previously taken an asynchronous course. Since there are more than one course on-line the researcher will survey just the course in Media

Technology department called "Performance Analysis". Surveys will be mailed to 100

students who took this course during 1997 through 2000.

<u>About the Course</u>

The course is delivered in a self-directed computer- based format. This course was

first offered by this delivery method during the summer of 1997. According to

Bhuripanyo's thesis (1997), the vast majority of the students found this delivery system

straightforward and did not encounter any technical problems. A few students

encountered either technical difficulties or had problems maneuvering through the

course. In all situations, their problems were easily resolved after they contacted the

professor. Students have eight weeks to complete this course. Course assignments and

projects are laid out on an eight-week time line to help students meet the final due date.

The professor has a checklist for students to evaluate their computer competency before

taking the class by on-line. If students are lacking certain competency they will be

advised to take a pre-required course. The following checklist is intended to help students

decide if this course is right for them. If they cannot check yes to all the points, they

should contact the professor before proceeding. From the Performance Analysis Internet

Based Syllabus, the checklist is as follows:

- Self-motivated

- Can stay on task without supervision

- Can deal with ambiguous situations

- Agree that learning is a student-centered activity

- Willingness to ask questions

- Have access to a workplace that will allow you to observe workers performing their jobs in a normal work setting.

- Have access to e-mail and capable of sending e-mail messages.

- Have access to a computer with an Internet browser such as Netscape Navigator (Ver. 3.0 or higher) or Microsoft Internet Explorer (Ver. 3.0 or higher).

As this course is delivered via the Internet, there is no required attendance policy. It is expected that a student will meet all expected due dates. If students are not able to meet expected due dates or would like to change the timeline, they must contact the professor. According to the course outline, there are also some helpful hints and computer related items that a student needs to do prior to finishing a project or an assignment step by step (Schlough, Performance Analysis Internet Based Syllabus).

Instrumentation

After the sample size was determined, the next step is designing a questionnaire. The survey was developed specifically for this project. The questionnaire has two parts. In the first part, the respondents are given questions to answer using a 5-point Likert scale. Descriptive statistics are used to report the findings. The second part of a questionnaire is about background information including sex, age, marital status, educational status, home location and income for the last year. More specifically, the questionnaire addresses the advantages, disadvantages, characteristics, and recommendations about an asynchronous web-based course.

The Methodology and Procedures

One hundred questionnaires were distributed. Before doing a survey, the cover letter will tell interviewees how important the survey is and all surveys will be

confidential. There are many advantages of sending a survey by mail. Incentives may be used to increase response rate. In addition, it requires minimal staff and allows respondents time to think about questions (SchlosserA.C,1994)

<div align="center">Methodical Assumptions</div>

The research assumes:

1. that people answered the survey honestly.

2. that the respondents were able to read and understand the statements on the survey.

3. that the statistical tests were conducted accurately.

4. the collected data was a reflection of the respondent's attitudes and not biased by other respondents of the sample population.

<div align="center">Limitations of Methodology and Procedures</div>

The limitation of study is due to interviewing only students who took a web-based course called Performance Analysis at University of Wisconsin-Stout.

Chapter 4

RESULTS AND ANALYSIS

Methodology

This study was conducted during the month of April 2000 by distributing a questionnaire to students who had previously taken an online class at UW-Stout since year 1996. The purpose of this descriptive study was to find out the outstanding characteristics of online learners. In addition, it determines the strengths and weaknesses of asynchronous learning. One hundred questionnaires were distributed by mail. To inform participants about this research study, the researcher sent out cover letters along with the questionnaires on March 26, 2000. Each participant was asked to fill out the questionnaire and return it with the provided envelope by April 12, 2000. A total number of 50 questionnaires were sent back to the researcher. However, one questionnaire was incomplete and three of students changed their addresses. Finally, there were 46 respondents (46%) who completed the questionnaire.

Demographic Information

From the background information, approximately 67.39 percent of respondents surveyed were female. Most of them were between 35-44 years old (39.13%), and they are all U.S citizens (100%). Most respondents were married (69.57%) and graduated (73.91%) students. Respondents represented a wide variety of different majors. 50% of respondents were major in Training and Human Development. The rest of them majored in Business Administration, General Education, Vocational Education, Liberal Arts, Media Technology and Telecommunication. The largest proportion of respondents

(78.26%) lived more than 50 miles from Menomonie, but within Wisconsin. 19.57 % of

respondents had earned incomes of $70,000 or more in the last year.

The descriptive statistics used to analyze the data included frequency counts,

percentages, mean and standard deviation.

Statistical Result

According to the first question, when the respondents were asked what the most

important reason for taking an online course (instead of a traditional face-to-face

classroom), time flexibility (34.78%) was the most important reason. The second major

reason was distance (32.61%), and the following responses were required course only

offered on-line (21.74%), convenience (8.7%), novelty (6.52%) and some personal

preference (6.52%). (See more details in an appendix D, an open-end question, what is

the most important reason that they take this course).

Table 1:

Question # 2	yes	no
After taking an asynchronous web-based course, were your expectations satisfied?	30	16

Note: From the second question, most people (65.22%) answered yes. On the other hand, 34.78 % of respondents answered no.

Table 2:

Question # 3	like	dislike	okay
After taking an online course	30	14	2

Note: After taking the online course, respondents were asked their opinions about the delivery system of course, 65.22 % of students responded that they liked the delivery system of this course. 30.43% of students disliked it and 4.35% of students answered okay.

Table 3:

I think an asynchronous web-based course:	mean	standard deviation
1. is convenient.	4.6000	0.8634
2. is flexible.	4.2222	1.1055
3. is a new method of instruction.	4.0000	1.1282
4. is a team effort.	3.0889	1.2027*
5. is effective.	3.5111	1.0792
6. is self-paced.	3.8889	1.3007*
7.gives freedom to do work anywhere.	4.1333	1.0574
8. has no pressure.	2.4444	1.0125
9. has frequent interaction with tutor/instructor.	2.6667	1.2613*
10. gives the ability to contact tutor/instructor at		
of my choice.	3.5111	1.2902*
11. gives me ability to study anyplace.	3.8444	1.1862*
12. provides presentation through a variety of		
media (e.g. print, sound, video).	3.1778	1.1734*
13. provides social interaction with other students.	2.5111	1.2545*
14. provides academic interaction with other		
students.	3.5333	2.8889*
15. provides speed of feedback from instructor.	3.1556	1.3135*
16. provides real-time interaction with other		
students and instructor (live, same time).	2.2667	1.1560

I think an asynchronous web-based course:	mean	standard deviation
17. provides a non-threatening environment.	3.7778	1.0420
18. provides choice and independence.	3.9778	1.0551
19. is easy to use.	3.7391	1.0745
20. communication with professors by e-mail is generally gratifying.	3.5333	1.2358*
21. enables me to interact more with professors by computer.	3.4222	1.2521*
22. has a high cost for computer equipment.	2.8889	1.0274
23. enables me to take courses off campus.	4.6889	0.7014
24. enables me to complete my degree off campus while working full time/part time.	4.4783	1.1604

Note: the * above the number inside the table which means the standard error of the mean is large and there is considerable variation in the population from which we are sampling, we can expect a proportionally large variation in the sampling distribution of the mean (Freund & Perles, p. 202). If the standard deviation is less than one, that means most students agree with the question, therefore we can expect the mean of a sample to be to the mean of the population. In contrast, if the standard deviation is large, most people disagree with each other, or have a large number of differing responses. Table 3 shows the responses of question number four.

According to Table 3, most asynchronous learners agree that an asynchronous web-based course was convenient, flexible, gave freedom to do work anywhere, enabled them to take courses off campus and to complete their degrees off campus while working full time/part time. Nevertheless some respondents felt that an asynchronous web-based course had additional complications (e.g. software/hardware difficulties) and had less personal interaction (See a frequency counts in an appendix E).

From the last question (please feel free to give some comments and suggestions for the improvement of the course), students responded as follows:

Some positive comments about an asynchronous web-based course

1. flexibility of time

2. convenience

3. very knowledgeable and have something that can not get from face-to-face classroom environment such as using a webboard.

Some negative comments about an asynchronous web-based course

1. had some pressure because of the material (a computer system) and it is hard to learn this way.

2. unrapid communication if the question is sent to the instructor inside the normal academic schedule (i.e., at night, weekend, school holidays).

3. Learning by online is easy to get lost than face-to-face due to unclear content.

4. If the class were large, online learning would be overwhelming.

5. Frustrated on a home computer, which is related to speed and load time.

6. Doubtful and difficult to evaluate the student fairly.

7. Uncomfortable

8. Technical difficulty

9. Only useful to people with above average computer skills.

Some student suggestions to improve an online course

1. should give additional opportunities for student interaction (i.e., chat room, bulletin board vs. just e-mail).

2. should have more instructor feedback and more frequently.

3. should have a variety of classes would be nice in any semester.

4. should open more online class.

5. should have combination of textbook reaching and online reaction.

6. should be more organized

7. due to a frustration on a home computer which is related to speed and load time, it was recommended to have a modem with that speed to low frustration

8. recommend to have more visuals.

9. Be sure that online materials are grammatically correct, easy to read and understand so should have other professors to read it.

10. The faculty and course develops must have training and experience in all facets of web-based course delivery.

(See an appendix F for more information)

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

The Purpose of Study

This study will neither evaluate the course, nor evaluate a professor's teaching style since the purpose of this study was to identify the strengths and weaknesses of an asynchronous web-based course. It is also to identify the outstanding characteristics of an asynchronous learner. Moreover, it finds out what the respondents' suggestions for online learning would be.

Data Collection

From this study, data was gathered from 46 students who had previously taken an online course at UW-Stout. Based on the results, the majority of the students who took an asynchronous web-based course (65.22%) were satisfied after taking it. There are a variety of reasons why they took this course. The most important factor being the convenience of time flexibility offered by the on-line course.

The Results of Study

From the data results, the strengths of online learning can be concluded as follows:

1. convenience

2. time flexibility

3. novelty

4. freedom to do work anyplace

5. provides a non-threatening environment

6. provides choice and independence

7. easy to use

8. enables students to take courses off campus

9. enables students to complete their degree off campus while working full time/part
time.

According to positive perspectives, most students would like to take more online
courses and expect on-line course offerings to expand in the future.
The following statements were chosen from some respondents' suggestions:

" This is a suggestion to offer a larger amount of courses online. I have found that
as I get closer to my degree, some of the courses are not available or do not fit my
schedule. If they were offered online, it would give me a *better opportunity* to
complete my requirements. Thank you."

" Please offer more. This was great to be able to work at home yet have contact
(Via e-mail) with other students. Having specific deadlines was helpful and better
than self- paced courses."

(See more recommendations in an appendix F).

Nevertheless, some respondents voiced the weaknesses of online learning (see more
in appendix E).

The major weaknesses of online learning can be concluded as follows:

1. Pressure due to technical difficulties and lack of computer skill.

2. Less interaction with an instructor and other students.

Although there is some truth that " in the Industrial Age we go to school. In the
Communication Age, school comes to us" (Rossman, 1995, p.9), some asynchronous

learners still prefer a traditional face-to-face classroom than an online class. The most important influence is an interaction. In students' opinions, an interaction with an instructor and other classmates is the major factor. An interaction, especially non-verbal language, is absent in an online class. 8.7 % of respondents felt that an online course is doubtful, uncomfortable, and makes it difficult to evaluate the student fairly.

The following statement was chosen from 46 students who gave responses (See more in appendix F).

The first response emphasizes the significance of social interaction, which the Web could not adequately provide:

" Lack of personal interaction with other students and professor is a big drawback."

The second response emphasizes the access problem facing students and teachers:

" It is not possible to meet with the instructor and students face-to-face in order to know who you are working with. I really enjoy the freedom of being able to go to class when it is convenient for me."

The third response emphasizes the problem of technical difficulties:

" The classes I took were plagued with technical difficulties. There was an excessive amount of down time. The instructors were totally unprepared to work with this new medium. I feel I was part of a failed experiment. Face-to-face contact is always better."

The fourth response emphasizes the problem of the different learning styles:

" Not my learning style. I am much more comfortable in a traditional classroom setting."

However, this study had some constraints because the comments were based upon one course, which the researcher surveyed so their opinions may be biased.

From the background information, it can be concluded that the outstanding characteristics of most asynchronous learner are as follows:

1. female

2. 35-44 years old

3. married

4. graduate student

5. live more than 50 miles from school

6. full time worker and high salary

The results support the survey conducted by Primary Research Group, Inc. According to the Primary Research Group, Inc. survey, (which is referred in chapter two), the majority of students were usually older than a typical undergraduate student, female, and married full-time workers. Also the survey found that most of students who took this kind of class have a high salary per year. In the other words, an online learning course is appropriate for a student who has limited time, lives far from a university, and has responsibility for a family.

Conclusions

- There is some significance that online learning can not be substituted for a traditional face-to-face classroom in the all facets such as face-to-face environment.

- The majority of students like an online course because of convenience and time flexibility.

- Some people felt that the trend leading away from traditional course delivery is taking education and training in the wrong direction. A few people dislike an online class due to the technical difficulty and the lack of interaction.

- An asynchronous learner's outstanding characteristics are female, middle age and married.

- A different learner has a different learning style so the design of delivery system should be matched to everyone. By understanding the particular characteristics and attitudes of an asynchronous learner educators may provide better programs and support to enable an asynchronous learner to be more successful.

Recommendations to the University

- An orientation session should be offered prior to taking an on-line course.

- The orientation would deal with the computer and Internet skills.

- The students would be provided with hands-on training in using the existing on-line instructional packages.

- Using more visuals can compensate an interaction and frequent feedback.

- Students with computer skill deficiencies can be provided with computer training and time for experimentation with a more open-entry open-exit delivery system.

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Appendix A

CONSENT FORM

This research examines the feelings, reaction, and behaviors common to asynchronous learning use a questionnaire to evaluate and measure the study. The goal of this study is to evaluate a questionnaire that measures these as part of this study. Before completing the questionnaire, we would like you to read and then sign the consent form, indicating that you understand the potential risks and benefits of participation, and that you understand your rights as a participant. If you have any questions, please contact Dr.Joseph Benkowski, the primary researcher, at University-Stout.

RISKS

There is little or no risk to you in filling out this questionnaire. Your responses are completely confidential.

BENEFITS

Although the results of this study may be of benefit to others in the future, there is no direct benefit to you by participating in this study.

CONFIDENTIALITY OR RESPONSES

Your answers are strictly confidential. Only the primary researcher or his or her designee will have access to the confidential raw data.

RIGHT TO WITHDRAW OR DECLINE TO PARTICIPATE

Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. Should you choose to participate and later wish to withdraw from the study, you may discontinue your participation at this time without incurring adverse consequences.

Note: Questions or concerns about participation in the research or subsequent complaints should be addressed first to the researcher or research advisor and second to Dr. Ted Knous, Chair, UW-Stout Institutional Review Board for the Protection of Human Subjects in Research, 11 HH, UW-Stout, Menomonie, WI, 54751,phone (715) 232-1126

I attest that I have read and understood the above description, including potential risks, benefits, and my rights as a participant, and that all of my questions about the study have been answered to my satisfaction. I hereby give my informed consent to participate in this research study.

Signature_____Date_____

Appendix B

THE COVER LETTER

University of Wisconsin-Stout
Menomonie, Wisconsin 54751-0790

March 27 2000

Dear : (name of a student)

This survey is requesting your opinions in an asynchronous web-based course. Since you have taken a web-based learning course at the University of Wisconsin-Stout your input is important. This research will identify the advantages and disadvantages of on-line learning. The attitudes that students have toward this type of learning will increase the awareness of the educational delivery system for the university. Moreover, it will determine a successful asynchronous learner's characteristics. The questionnaire is being sent to 100 students who are presently enrolled or have completed a course using web-based as the delivery system at the University of Wisconsin-Stout.

Enclosed is a survey form and a stamped envelope for its return. Please return the completed survey to me by April 12, 2000.

I would greatly appreciate your cooperation in completing the enclosed survey, which should take 10-15 minutes to complete. Completing the survey is voluntary, and your responses are strictly confidential. Completion and return of survey is considered applied consent.

If you have any questions about this research, please call me at (715) 233-1021 or call Dr. Joseph A. Benkowski at (715) 232-5266. We would be most happy to answer any questions you might have. Please call Dr. Benkowski (or e-mail benkowskij@uwstout.edu) to receive a summary report. Thank you for your assistance.

Sincerely,

(a researcher's signature)

Rosawan Pipitmethanont
420 Main Street East, Apt # 203
Menomonie, WI 54751

Enclosures: Survey
               Pre-paid return envelope

Appendix C

QUESTIONNIARE DESIGN

The Questionnaire

1. The most important reason that you take this course by computer online instead of traditional face-to-face classroom.
   (**An online course or asynchronous course** is a course that a student does not need to attend in the classroom. An asynchronous student learns totally by on-line access without direct interaction with his or her professor and classmates. A student can study anywhere and anytime by computer).

   _____

   _____

2. After taking the asynchronous web-based course, were your expectations satisfied? (Please check only one answer.)

   ☐ Yes   ☐ No

3. After taking an on-line class, I_____it.(please check only one answer)

   ☐ Like   ☐ Dislike

   The following group of statements are rated on a 5-point Likert scale. Please circle one answer to each question. The rating is as follows:

   5 = strongly agree   4 = agree   3 = neutral   2 = disagree   1 = strongly disagree

4. I think an asynchronous web-based course:

1.	is convenient.	5	4	3	2	1
2.	is flexible.	5	4	3	2	1
3.	is a new method of instruction.	5	4	3	2	1
4.	is a team effort.	5	4	3	2	1
5.	is effective.	5	4	3	2	1
6.	is self-paced.	5	4	3	2	1
7.	gives freedom to do work anywhere.	5	4	3	2	1
8.	has no pressure.	5	4	3	2	1
9.	has frequent interaction with tutor/instructor.	5	4	3	2	1
10.	gives the ability to contact tutor/instructor at time of my choice.	5	4	3	2	1
11.	gives me ability to study anyplace.	5	4	3	2	1
12.	provides presentation through a variety of media (e.g. print, sound, video).	5	4	3	2	1

13. provides social interaction with other students.	5	4	3	2	1
14. provides academic interaction with other students.	5	4	3	2	1
15. provides speed of feedback from instructor.	5	4	3	2	1
16. provides real-time interaction with other students and instructor (live, same time).	5	4	3	2	1
17. provides a non-threatening environment.	5	4	3	2	1
18. provides choice and independence.	5	4	3	2	1
19. is easy to use.	5	4	3	2	1
20. communication with professors by e-mail is generally gratifying.	5	4	3	2	1
21. enables me to interact more with professors by computer.	5	4	3	2	1
22. has a high cost for computer equipment.	5	4	3	2	1
23. enables me to take courses off campus.	5	4	3	2	1
24. enables me to complete my degree off campus while working full time/part time.	5	4	3	2	1

5. Please feel free to give some suggestions and comments for improvement about an asynchronous web-based course.

Background Information

Please check the appropriate area:

1. Gender ☐ Male ☐ Female

1. Age ☐ 18-24 ☐ 25-29 ☐ 30-34 ☐ 35-44
☐ 45-54 ☐ 55-64 ☐ 65 or over

2. Marital Status ☐ Single ☐ Married ☐ Divorced/Separated

3. Educational Status ☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior
☐ Graduate

4. Degree Major _____

5. Residency: ☐ U.S. Citizen ☐ International Student

6. Home Location: ☐ Within 50 ☐ More than 50 miles ☐ Out of State
miles of of Menomonie but
Menomonie within Wisconsin

7. Income(personal, not ☐ Less than $10,000 ☐ $10,000-$19,999
family) in last ☐ $20,000-$29,999 ☐ $30,000-$39,999
calendar year: ☐ $40,000-$49,999 ☐ $50,000-$59,999
☐ $60,000-$69,999 ☐ $70,000 or more

Appendix D

THE IMPORTANT REASONS TAKING AN ONLINE COURSE FROM STUDENT COMMENTS

According to the first question, there are 42 students from 46 students who answer this question. The most important reason those students take this course by computer online instead of traditional face-to-face classroom as follow as:

1. It reduces and eliminates the need to travel 3-4 hours from home to campus at Stout.

2. Class was only offered on-line.

3. It provides the freedom of attending during her available hours during a heavy work schedule.

4. It is convenient including time and travel. Moreover it give her the ability to use new technology.

5. It was available where a traditional class was not.

6. There is something new, which was not offered in the classroom.

7. She lives in Lacrescent, Minnesota, which is far from campus. It is convenient for her to attend class this way.

8. Because it was cancelled for fall semester in the classroom and she needed it to graduate!

9. As an extended student, most important reason was to save time and expense traveling to other sites.

10. No comment

11. This was the only way he could take these courses.

12. I could not get to Stout to take a regular class. On-line learning was perfect for him.

13. Only way course was offered to distance education students.

14. No comment.

15. She lives too far from campus.

16. On line courses are convenient and fit a real world work schedule.

17. It was the way the class was offered and she needs the class.

18. It was a course that she wants and it fits into her time schedule.

19. The main purpose was the flexibility of the schedule. He could work when he wants.

20. It is flexible so that she could do the course work at anytime day or night.

21. To improve her effectiveness as an instructor (by anticipating student problems) as a begin to transition from a traditional lecture or face to face instruction to online instruction.

22. No comment

23. More flexible to his schedule.

24. She does not have to travel for class. She lives half way across the state from UW-Stout.

25. Flexibility

26. That is the way it was offered. No face to face opportunity was available, to the best of her knowledge.

27. He lives too far to take traditional classes.

28. Location - she lives in Green Bay and she needs this class to fulfill a requirement.

29. Do not have to arrive to class and can do on her own time. In addition, it is the only way this class was offered.

30. She did not want to drive to campus- could take class and work on assignments on her time frame.

31. Availability of course and students' time

32. Since he lives in Milwaukee and earned a bachelor's degree in VTAE. He wants to continue his graduate work at Stout.

33. It is convenient.

34. Only one way was offered.

35. Credit.

36. Required.

37. No comment

38. She lives 45 minutes away from Stout and had a family. Moreover she had a full-time job and wanted take 12 credits. This was one way to earn credits on her own time.

39. Cost effectiveness in relation to the travel involved in taking a traditional course.

40. Convenient due to work and travel distance I she would not have otherwise been able to take the required class.

41. Not offered in another format to fit program.

42. Time flexibility. Maintain current job.

43. The course was only offered on-line.

44. To fit it around work and other responsibilities.

45. He had the flexibility to do it on his time.

46. She lives 3 hours from Stout. She works full time and has 2 children. It worked out well on the Internet.

* An online course or an asynchronous course is a course that a student does not need to attend in the classroom. An asynchronous student learns totally by on-line access without direct interaction with his or her professor and classmates. A student can study anywhere and anytime by computer.

Appendix E

STUDENT'S RATING USING LIKERT SCALE

The following group of statements are rated on a 5-point Likert scale, 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree. The following table shows the frequency counts of 46 respondents.

I think an asynchronous web-based course	5	4	3	2	1
1. is convenient.	35	7	2	1	1
2. is flexible.	26	9	8	1	2
3. is a new method of instruction.	17	20	4	2	3
4. is a team effort.	5	15	11	10	5
5. is effective.	7	20	12	4	3
6. is self-paced.	20	10	8	5	3
7. gives freedom to work anywhere.	21	16	4	4	1
8. has no pressure.	2	5	11	23	6
9. has frequent interaction with tutor/instructor.	3	11	8	16	8
10. gives the ability to contact tutor/instructor at time of my choice	11	18	4	8	4
11. give me ability to study anyplace.	18	11	11	4	2
12. provides presentation through a variety of media (e.g., print, sound and video).	6	14	11	12	3
13. provides social interaction with other students.	3	10	4	18	11
14. provides academic interaction with other students.	4	15	12	11	4
15. provides speed of feedback from instructor.	7	15	8	10	6

I think an asynchronous web-based course	5	4	3	2	1
16. provides real-time interaction with other students and instructor (live, same time).	2	4	10	14	16
17. provides a non-threatening environment.	10	24	6	4	2
18. provides choice and independence.	17	18	7	3	1
19. is easy to use.	13	16	10	6	1
20. communication with professors by e-mail is generally gratifying.	10	16	10	5	5
21. enables me to interact more with with professors by computer.	11	13	12	6	4
22. has a high cost for computer equipment.	2	9	17	15	3
23. enables me to take courses off campus.	35	10	0	0	1
24. enables me to complete my degree off campus while working full time/part time.	28	14	3	0	1

Appendix F

THE SUGGESTIONS FOR IMPROVEMENT FROM EACH STUDENT

According to the last question, there are some suggestions and comments for improvement about an online web-based course. 31 students who responded this question while there are 15 students who did not. The response as follows:

1. The course I took could have been better if there were additional opportunities for student interaction. (i.e., chat room / bulletin board vs. just e-mail) and more instructor feedback. Overall, the convenience and flexibility of this option far outweighed any negatives.

2. How and when assignments get done is important. Had to respond to what other students said but if they did not do every week than it was hard for you to respond. Bugs in program- world automatically take you out of one screen and would have to repeat process all over to get back in.

3. No suggestion

4. Overall was very satisfying. Thanks for the opportunity.

5. No suggestion

6. In my performance analysis Internet class, I would have preferred more feedback on my assignments from my professor. I think it is more a reflection of the professor than the Internet class.

7. No suggestion

8. It was hard to learn this way. It was basically learning on my own and that was hard because I did not really enjoy the material that much. Face-to-face instruction and interaction with others is more effective.

9. In the two years, I spent getting my masters; the only one class was available to me to participate. Most were available but not within the 2 years time schedule to complete.

So, variety of classes would be nice in any one semester. Time, flexibility and expenses are important considerations to extended students.

10. The instructor must make an effort to participate in on-line discussions and contact students regularly about problems and progress. I was dismayed at the absence of the instructor. There was no feedback except the final grade. Poor response time after attempts to contact both e-mail and telephone.

11. No suggestion

12. No suggestion

13. No suggestion

14. My comments are based upon one course, so my opinions may be biased. I feel that I learned more in this course because I had the opportunity to learn myself, write a paper on my own feelings, read the opinions of others, write a response on those opinions, the complete a project related to that particular area of study.

15. No suggestion

16. On line courses must have software that is functional and instructors who are able to explain and show the students how to use the system. On line courses that are designed to work with all PCs and all means of access. (i.e., through the Internet for non-voice / tech instructors) should be only one means of taking the class. Remote face to face classes with the use of US postal service as communication medium or Internet / e-mail work very well for me. My experience with an online class was very unsatisfying much of the software did not work. The instructor could not demonstrate the software on-site. Email communication does not provide rapid communication. It the question is sent to the instructor outside the normal academic schedule such as

night, weekend or school holidays. I use computers in my work. I am not of the generation that grew up with them. Given a choice, face to face classes in a weekend setting with computer and Internet usage, as part of the program is my choice. In summary, I use computers for presentations, but I always have overheads and handouts for the times when the computer fails.

17. The combination of textbook reaching, on line reaction and individual projects e-mailed to the instructor was good. The instructor needs to give clear and through instructions via a syllabus or on-line, otherwise it is too easy for the student to get lost with out face to face interaction. My class involved responding to textbook reading online and then reading other students responses. Since we had a small group (14 students), this was manageable. If the class were large (as I understand some are) this would be overwhelming.

18. The course I took was well organized. The professor was manageable to altering a due date for a good reason. In the end I enjoyed to complete all the work on time.

19. This is a suggestion to offer a larger amount of courses online. I have found that as I get closer to my degree, some of the courses are not available or do not fit my schedule. If they were offered online, it would give me a better opportunity to complete my requirements. Thank you.

20. Please offer more. This was great to be able to work at home yet have contact (via e-mail) with other students. Having specific deadlines was helpful better than self-paced.

21. Establishment of a web board (it would allow a permanent ongoing record or questions that could be relevant to other). I have seen web board used by other faculty

that facilitates questions about assignments that seemed much more user friendly. Using list server is good for discussion and response requirement but maintenance of my mail even for one week with list server was a challenge. I was frustrated on my home computer (related to speed and load time) because of the material online. I ended up using my employer computer to reduce my frustration with the web portion (because we have fiber optic connections). I would strongly recommend having a modem with that speed to reduce frustration. This may be an issue for some students who do not have this type of Internet access.

22. No suggestion

23. More of them

24. I would like more visuals- the textbook was okay, but I had more illustration on the Internet site.

25. Think, is it a good tool? Was not real organized when I took the class. Not sure I learned much. I would be willing to try it again of another instructor.

26. It is very important to be sure the online materials are grammatically correct, easy to read and understand. Also, with the course I took, more information could have been provided in online format, rather than printed materials sent via mail. I believe online courses can be highly effective and can make available a variety of informations via a variety of instructional modes. Hoever, the course that I took was not consistent with those ideals. Despite what I thought was lacking in my first online learning experience, I would not be opposed to trying another one.

27. No suggestion

28. No suggestion

29. Possibly have me meeting face to face with instructor and students, so you can know whom you are working with. Really do enjoy the freedom of being able to go to class when it is convenient for me.

30. Should provide a presentation through a variety of media (e.g., print, sound and video).

31. Although the course I elected to take via this delivery method were extremely gratifying, the application of this delivery method and students being permitted to use it. Must be at the School Administrator's discretion. I do not think a first year college student should be permitted to take an accounting or biology course while not being scrutinized by qualified teaching professional.

32. The value of web-based training is doubtful. It is extremely difficult to evaluate the student fairly. The fact that courses can be offered at anytime and any place is the only benefit of web-based training and classes. Faculty and course develops must have training and experience in all facets of web-based course delivery. Few course subjects can be delivered effectively on the web. By the way, I reach 2 web-based classes at MATC, have taken web-based courses, and I feel that the trend away from traditional course delivery is taking education or training in the wrong direction.

33. The classes I took were plagued with technical difficulties. We spent way too much time in "down time". The instructors were totally unprepared to work with this new medium. I feel I was part of a failed experiment. Face to face contact is always better.

34. Not my learning style. I ma much more comfortable in a traditional classroom setting.

35. Increase organization, only useful to people with average computer skills (required charts) and less frequent feedback is given. I prefer face to face interaction.

36. Have someone check the course material for spelling and grammar. Has anyone from the department read through all of the material presented on the web?

37. No suggestion

38. No suggestion

39. Lack of personal interaction with other students. Professor is a big drawback.

40. Create a weekly chat session online or maybe a couple week to give students a chance to actually converse.

41. The course title is Performance Analysis- the only portion of the course dealing with Performance Analysis was reading the book and some discussions. The rest of the course (assignments) dealt with Task Analysis. No textbook with the assignment so the only information was the instructors PowerPoint. Minimal explanation, teaching, examples to say the least. What is the course Performance Analysis or Task Analysis? I can not recommend this course to other students. It was a rip off!

42. Encourage " study groups" peer interaction.

43. The teacher was not user-friendly, the site did not work and I got my password late.

44. No suggestion

45. No suggestion

46. No suggestion