

An Analysis of Instructor Streaming Videos On the Practice Sets in the
Accounting I Online Course at Chippewa Valley Technical College

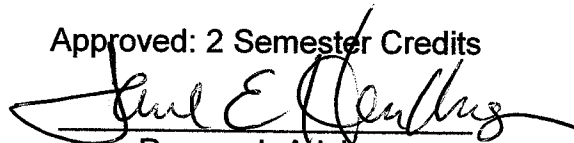
by

Linda Sue Lang

A Research Paper
Submitted in Partial Fulfillment of the
Requirements for the
Master of Science Degree
in

Career and Technical Education

Approved: 2 Semester Credits



Research Advisor

The Graduate School

University of Wisconsin-Stout

August, 2004

The Graduate School
University of Wisconsin Stout
Menomonie, WI 54751

ABSTRACT

<u>Lang</u>	<u>Linda</u>	<u>S</u>
(Writer) (Last Name)	(First Name)	(Middle Initial)

An Analysis of Instructor Streaming Videos On the Practice Sets in the

Accounting I Online Course at Chippewa Valley Technical College
(Title)

<u>Career and Technical Education</u>	<u>Jane Henderson</u>	<u>August/2004</u>	<u>48</u>
(Graduate Program)	(Research Advisor)	(Month/Year)	(# of Pages)

American Psychological Association, 5th edition
(Name of Style Manual Used in this Study)

The sudden increase of Internet availability has revolutionized the way that education reaches learners. Students no longer have to go to a building on a specific day at a specific time to increase or develop the skills that they will need to train or retrain for employment. Learning has become available 24/7.

Technology is continuously making more tools for education available. These tools, like streaming media, can enhance the learning experience by creating an interactive educational environment.

Almost the entire two-year associate degree in accounting from Chippewa Valley Technical College can be taken through Internet courses. Accounting I is one of the first courses that a student would take in the online format to complete this degree.

This study was conducted by analyzing the culminating project, of one section of students. All Accounting I students must complete this project in order to fulfill the requirements of the course. The project is the Chippewa Valley Office Supply practice set. The practice set will require the student to use all of the skills that have been taught through out the course, and will take 20 to 30 hours to complete.

The purpose of this study is to analyze the effects of using streaming media as a tool in online courses. This type of tool has the potential to enhance the learning experience.

ACKNOWLEDGMENTS

In memory of my father, Jon S. Lima. My father was a very influential person in my life. It is because of his continuous support and encouragement that I have been able to accomplish my goals and become the person that I am today. I miss him dearly, but remember him always through all of the wonderful memories. The rest of my family has been very patient and supportive of my goals also. My mother provided me with endless help taking care of the children. She is a strong dedicated person that is admired. I want to especially let my children know that they are the big reason that I did this. I hope that it will have a positive impact on their lives and allow them to realize they can achieve any goal.

The Stout Librarians made me feel comfortable asking questions. This is very important; I had visited a different university Library and the staff was not easily approachable. They not only lacked the willingness to assist me, but they also lacked the knowledge and expertise that the librarians at Stout have shown.

I would like to give a special thanks to the Graduate staff at Stout. There assistance was always fantastic.

TABLE OF CONTENTS

	Page
ABSTRACT	ii
CHAPTER I: INTRODUCTION.....	1
<i>Statement of the Problem</i>	7
<i>Purpose of the Study</i>	8
<i>Questions to be Investigated</i>	9
<i>Significance of the Study</i>	10
<i>Limitation of the Study</i>	12
<i>Definition of Terms</i>	13
<i>Methodology</i>	15
CHAPTER II: LITERATURE REVIEW.....	16
CHAPTER III: METHODOLOGY	26
<i>Subject Selection and Description</i>	26
<i>Instrumentation</i>	27
<i>Data Collection Procedures</i>	27
<i>Data Analysis</i>	27
<i>Limitations</i>	28
CHAPTER IV: RESULTS	29
<i>Item Analysis</i>	29
CHAPTER V: DISSCUSION	33
<i>Limitations</i>	33

<i>Conclusions</i>	34
<i>Recommendations</i>	36
References.....	38

CHAPTER I

INTRODUCTION

Background

Jack Wilson (2002), the CEO of UmassOnline, said,

It's about serving learners and not about using technology. First of all, designing educational experiences around technology is a foolish chase. You cannot possibly keep up with the technology.

The paradox of technology enhanced education is that technology changes very rapidly and human beings change very slowly. It would seem to make sense for proponents of e-learning to begin with the students. At least that is a relatively slow moving target.

Deployment of technology then becomes an exercise in applying a rapidly improving technology to a very consistent set of goals. (n.p.)

The Internet has revolutionized the computer and communications world like nothing previously experienced (Leiner et al., 2003). The invention of the telegraph, telephone, radio, and computer set the stage for this unprecedented integration of capabilities. The Internet is at once a world-wide broadcasting capability, a mechanism for information dissemination and a medium for collaboration and interaction between individuals and their computers without regard for geographic location. The Internet began to take shape in the 1960's with the innovative ideas of Leonard Kleinrock; it represents an important and successful example of the benefits of investments in research and development. According to Peter W. Cookson, Jr. (2004), in the last decade, this type of

technology has transformed the educational landscape. The Internet is a tool that can be used for educational purposes.

Blackboard Incorporated was formed with a vision to transform the Internet into a powerful environment for the education experience (*Blackboard Incorporated Home Page*, 2004). In 1997, two education consultants - Matthew Pittinsky and Michael Chasen - formed Blackboard Limited Liability Corporation with the goal of leading the formation of Educause standards group for online education technology. Educause was a project of Instructional Management Systems Global Learning Consortium, Inc. This nonprofit organization was concerned with developing and promoting the adoption of open technical specifications for interoperable learning technology. During the same time frame that the Educause project was getting underway, a student-faculty team at Cornell University was developing a product that would support online education on a larger scale and be suitable for wide scale application. These two groups merged to form Blackboard Incorporated. By December 1999, Blackboard had 500 clients and by January 2001, more than 1500 clients. Blackboard and its clients have been pioneers in the establishment of the e-education industry around the world. As pioneers, Blackboard Incorporated have opened up Internet education and supported it through research and development. According to the United States Department of Education, there were more than three million people enrolled in online classes in 2001, and six million are projected for the year 2006 (National Center for Educational Statistics, 2004). Online learning is the fastest growing segment in the educational marketplace (Conhaim, 2003).

The Wisconsin Technical College System (WTCS) is concerned with online learning also. WTCS organized a system wide configuration called eTech College to offer online courses in an attempt to meet the needs of students (Wisconsin Technical College System, 2004). The eTech program began in the fall of 2001; the enrollment has increased to 8,075 in the fall of 2003 from 7260 in the spring of 2003; this is a five percent increase (Goldsborough, 2004). Online education is attempting to meet the needs of those students who have to juggle school and other responsibilities like work and family. The Internet is an effective vehicle for a variety of courses and programs. Internet courses allow students to communicate with faculty and fellow students anywhere in the world. Currently the eTech College of Wisconsin provides access to hundreds of courses from all 16 technical colleges in one spot (Wisconsin Technical College System, 2004). According to current online students, the main benefits they experienced by taking online courses from Wisconsin's technical colleges are:

1. The ability to schedule courses around their own schedules (work, family, etc.).
2. Their understanding of course content upon the completion of the course.
3. The quality of the learning experience.

In short, eTech makes life-long learning more obtainable to everyone who has access to the Internet.

Chippewa Valley Technical College (CVTC) is one of sixteen technical colleges in the state of Wisconsin Technical College System. CVTC offers online

courses through the eTech system and directly from the CVTC home page (*Chippewa Valley Technical College home page, 2004*). Is online learning for you? The web page offers a quiz and the following guidelines to help students decide if an online course is for them.

- You prefer to attend class through the Internet rather than commuting to a Chippewa Valley Technical College campus
- You like to study on your own or need to schedule class time around work or family time.
- You know enough about your computer, email, and the web to function independently with minimal assistance.
- You have Internet access at home, work, or other reliable location.
- You plan to do most course work from that location; you have regular and reliable Internet access on a shared computer (or computers).
- You are willing to actively participate in the online course discussions.

CVTC is expanding its flexible delivery options with the use of the Internet as a way for students to take courses; additional courses are under development. CVTC uses a database to maintain and track the details about course offerings during each semester. Data collected using the Banner data collection system at CVTC has confirmed that the commencement of online courses was the summer of 1999. CVTC began using the platform offered by Blackboard in 2001. There were over one hundred courses offered that year. The Accounting Department

was a leader in this move toward Internet instruction with the offering of nine courses in the summer of 1999; by the fall of 1999, almost the entire Accounting Program could be completed over the Internet. This would enable a student to take 21 of their courses for the two-year Associate Degree in Accounting over the Internet.

The Accounting I course that is offered by the Accounting Department at CVTC was one of the original courses put into the online format. This entry-level course requires the completion of an extensive practice set. The cumulating project, the practice set for the Accounting I student at CVTC, is to complete the Chippewa Valley Office Supply Practice Set. This requires every student to perform the bookkeeping duties for this invented company for a period of one month. This practice set incorporates all of the skills and competencies that the student should have acquired throughout the course of the semester. The accounting skills that are measured with this practice set include journalizing, posting, preparing payroll, reconciling the bank account, completing the worksheet, and preparing financial statements. It is important that these tasks be done in accordance to generally accepted accounting principles, which includes the appropriate formatting, order of journal entries, posting, and financial statements. In the traditional classroom setting, this project is started with a presentation that explains the overall task and specifically walks the student through the first few transactions. This is a difficult project, for beginning accounting students, to start and to complete without some guidance.

Streaming media is a technology that enables viewing of multimedia (i.e. graphics, video, audio) content from a remote source without having to first download the content to the viewer's computer system (Balen & Chong, 2003). Streaming media has become an ever-present technology for delivering multimedia content over the Internet. According to Garrison (2001), the real power of streaming media lies not in the delivery of old content in new ways, but rather the creation of new media that incorporate the flexibility, simplicity, and interactivity of the Internet with the visually rich medium of television. Viewing streaming media files is a standard procedure today (Balen & Chong, 2003). Some forms of streaming media required a browser plug-in that is usually available at no additional cost. This type of instruction can be made available in the online courses at CVTC. By placing a link in the course content area on Blackboard, the learner can access the streaming video by clicking on it.

As the Accounting Department at Chippewa Valley Technical College continues to offer online courses, the content and method of the offerings must be examined. The tools for online instruction continue to grow with the availability of streaming videos. CVTC has not established criteria for the instruction of online courses and the tools that will best enhance learning.

Statement of the Problem

Online instruction has continued to grow; the two-year degree Accounting Program at Chippewa Valley Technical College can be taken almost entirely in the online format. There is a need to improve the quality, not just the quantity of online instruction. Technology continues to provide more opportunities to assist the learning process; these new technologies can provide a means to add volume to our already established Internet courses. Volume will give the learner a richer and deeper educational experience and potentially increase their learning. Adding volume means to give the course a three dimensional quality, more than the two dimensional characteristics of a correspondence course. There has not been an evaluation of the effectiveness of adding instructor videos using the streaming process to the instruction of online courses at CVTC.

Purpose of the Study

This study is being conducted in order to measure the potential value of streaming videos used in the Accounting I course at Chippewa Valley Technical College that is taught in the online format. A section of Accounting I students from Chippewa Valley Technical College were selected for the study. This section was from the Fall of 2003. The growth of online courses and students taking online courses makes it important to explore the outcomes of the instruction being offered. Instructor produced media clips are an inexpensive way for instructors to create and incorporate a sense of community and connectedness in their online courses. This type of value added technology can help increase the quality of the online course offerings. The completion and quality of the Chippewa Valley Technical College Practice Set will be analyzed. The results of the study may be applied to future projects of enhancing the online learning experience.

Questions to be Investigated

The following is a list of questions to be analyzed concerning the Chippewa Valley Office Supply Practice Set and the value of adding instructor created streaming media to online courses.

1. To what extent did the student complete the Chippewa Valley Office Supply practice set?
2. To what extent did the students format the Chippewa Valley Office Supply practice set in accordance to generally accepted accounting principles?
3. How many times did the students access the streaming videos?
4. To what extent did the students meet the competencies for Accounting I?
5. To what extent were the students successful with the streaming video project?

Significance of the Study

The following are the six considerations that were reflected upon during the analysis of the project with the instructor streaming videos added.

1. This study may improve the content of online instruction as well as the educational experience for online students. The use of streaming instructor videos into online courses will give the learner the opportunity to see and hear the instructor. This added visual and auditory connection could increase the learning of the student.
2. It is important to continually evaluate and improve the processes used in the education of adult learners. The education process is continuously changing. The tools that are available to use in the education process are continuously changing. To provide the best, most up-to-date material in the best way possible, educators must look for new areas of thought and try to develop new ways of reaching the learners.
3. This study will add to the available knowledge of the effectiveness of videos to online instruction' as well as the value added to online instruction through the use of media enriched technology.
4. The awareness of the quality of online instruction, as well as the continued improvement of online courses will be one of the benefits of this evaluation.

5. This study will provide a basis for encouraging the development of instructor created teaching methods, like streaming media. The benefit of the unique experience of each instructor is important in the education process.

6. The knowledge gained by this study will be useful to other Accounting instructors as well as other programs' instructors at CVTC. The improvement of Internet courses is a college wide concern and any program area would benefit from the improvement of the tools available for instruction.

Limitation of the Study

This study is being conducted by the instructor of the course and therefore has the follow limitations.

1. The method used to collect the data is limited because the researcher developed the research instrument. The reliability and validity were not fully established.
2. The sample group is a limitation because it is limited to one section of an Accounting I online course. This group of learners is not chosen by random, but placed into the section based on the time of registration. The characteristics of the sample group are a limitation because they are not selected to represent all of the population of the college.
3. The environmental conditions are a limitation because the teaching methods used before this project could be different than the ones used by the researcher.
4. Time is a limitation of this study because it is based on only one semester of students. For this to be a valid study and applicable overall, a sample group should be chosen from more than one semester.

Definition of Terms

This is a list of terms used in the study that have a specific meaning with the context of the study.

1. BANNER is a software program used by Chippewa Valley Technical College (CVTC). This software is a database that can track, sort and maintain data. It allows the user to retrieve and evaluate data based on specific criteria.
2. Blackboard as referenced in the text refers to the course management system that provides the needed programming requirements to allow course content to be placed on the Internet. This system also allows the access and interaction of the material by both the instructors and the learners.
3. e-EDUCATION is defined as the educational area that is referring to the knowledge or skill obtained or developed by a learning process using the Internet as a means for providing the knowledge.
4. e-Learning is the process of acquiring or gaining new knowledge using the instruction material provided through an internet based course.
5. eTech is a synonym for eTech College. This is organized as a portal or link to the sixteen technical colleges in the state of Wisconsin that offer online courses.
6. Limited Liability Corporation is one of the ways that businesses can form in order to limit the potential loss for the owners.

7. PRACTICE SET AND PROBLEM SET has the same meaning for this study. This is in reference to an extensive project that will take the student approximately 20-30 hours to complete. The learner will be the bookkeeper for the company for the duration of a month and properly prepare the needed transactions and financial statements. The practice set that is used for the Accounting I course is Chippewa Valley Office Supply and was developed by Geri Wendt, CVTC instructor.
8. Streaming media and streaming videos are synonymous for this paper. Both terms imply the use of the Internet to deliver sound and moving pictures to any location via the Internet.
9. Technology in this paper refers to the development of new ideas and capabilities. Technology is not limited to the new developments involved with the Internet, but include advancements made by applying and expanding previous knowledge.

Methodology

This study was designed to establish if any value was added by streaming instructor videos into online courses. Instructor lectures and videos were created to instruct students on how to start and prepare sections of the Accounting I practice set. These videos were then formatted to enable them to be placed into the online course in the form of streaming videos providing access to students 24 hours/seven days a week. Data was collected to analyze or measure the effect the streaming videos had on the quality and completion of the practice set. The effectiveness of the streaming videos was measured on the multiple factors including the use of descriptive statistical analysis and qualitative measures.

CHAPTER II

LITERATURE REVIEW

Introduction

This chapter will include a discussion of the evolution of online education, which will explore the history of the Internet, as well as the Internet as a tool for education. This will be followed by a discussion of the components needed for a successful online learning experience. This will explore both the learner satisfaction and the quality of learning. This chapter will conclude with a discussion of the effects of streaming videos in education, which will explore the possible value of adding audio and video to online courses.

Evolution of the Internet and Online Education

The Internet was a revolutionary invention that has changed the world of communications in an unprecedented way (Leiner et al., 2003). This has been a group project between the government, industry, and academia since the early research began with packet switching. The idea of having the ability to create a globally interconnected set of computers was envisioned by J.C.R. Licklider in August of 1962. He thought that his “Galactic Network” could be achieved through networking. Leonard Kleinrock published the first paper on his packet switching theory in 1961. This was instrumental in years to follow in keeping the research and advancements moving forward.

In 1969, the Advanced Research Projects Agency (ARPA) went online and connected four major cities (Internet Timeline, 2000). This was intended to

be the means of communication in the event of war. In 1972, the first electronic mail was introduced. This was followed by the introduction of standardized communications called transmission control protocol/Internet protocol (TCP/IP) in 1983 and by 1989, the system that we now call the World Wide Web was created by Tim Berners-Lee. In 1991, the University of Minnesota developed a user-friendly interface that kept education in the picture and used some extraordinary technology. At an astonishing pace, by 1996, 45 million people were using the Internet and by 1999 this number was at 150 million users.

Distance education began long before the Internet started to take shape. There was evidence of distance education courses dating back to the 1700's (Jeffries, 2003). These were in the form of correspondence courses. Technology based education would date back to the 1900's with the introduction of audiovisual devices in classrooms. The first cited course offerings with the computer were accomplished using the "Gopher" system (Internet Timeline, 2000). This was a user-friendly interface that was created at the University of Minnesota. Gopher was the most popular interface for several years.

Each new technology has gradually replaced its predecessor (Bates & Poole, 2003). Education that used the radio was replaced by sixteen-millimeter film; film was replaced with the advent of videocassette technology. The first Internet courses sprang up in the mid-1980s and then the World Wide Web has changed online learning from 1995 to the present.

Blackboard Incorporated was one of the leading software companies for e-education (Blackboard Incorporated home page, 2004). Matthew Pittensky and

Michael Chasen, two education consultants, formed this company in 1997.

Blackboard was founded with the vision to transform the Internet into a powerful environment for the education experience. Within about five years, Blackboard Incorporated has pioneered the e-education industry around the world.

Blackboard has met the needs of education, industry, and the government.

Nearly all of the new educational technologies were created originally to serve other purposes for either the military or government (Bates & Poole, 2003). Even the overhead projector and PowerPoint slides were not created for the classroom. This is partially the reason that it was challenging to incorporate new technology into education; drastically changing or radically improving educational methods to increase quality appeared too costly. The development of the Internet was providing many successes in the change of education utilizing technology.

It should not be assumed that the Internet is now complete (Leiner et al., 2003). The Internet did not remain in an unchanging state; the possibilities of future use and capabilities of the Internet have continued to unfold. This continuous evolution would bring with it new applications like Internet telephone or Internet television. More important than the changes brought about would be the way that we have chosen to handle the changes. Online learning was one of the fastest growing segments in the educational arena. About 81 % of all higher education institutes offered online courses and about 34 % offered at least one entire degree online (National Center for Educational Statistics, 2004).

According to Oblinger and Ruch (1997) there has been a learning revolution taking place around us. The global competition and the power of new

technologies were a couple indicators of this change. Workers have had to learn new skills; workers have had to return to higher education for these new skills. These non-traditional students have required online courses because they are not able to meet the time constraints of the traditional classroom schedule.

Components for Successful Online Learning

According to Hantula & Pawlowicz (2004), affective and accepted distance educational technology did more than simply replicate the classroom.

Technology and multimedia tools must meet the needs of the coursework and the learners.

The real goal of education should have been to assist the learning process and to become independent in your ability to sustain and continue regardless of the medium, the setting, or the need (Aragon, 2003). Learners were able to become responsible for their own learning in the right environment. An autonomous learning environment should have contained the following structure.

- Provide opportunities to learn about something that is of interest and value.
- Provide opportunities for learning that arouse curiosity in the learner.
- Provide learning events that are not prescriptive, but fluid and flexible.
- Scaffold difficult learning so that successes could be used to build further learning.

- Provide support, not answers.
- Provide a stance that the learning journey was the real outcome.
- Provide environments that foster collaboration and collegiality.
- Empower students through opportunities for self-reflection and self-appraisal.
- Provide opportunities for mastery experiences.
- Told students the instructor believed in their capacity to effect change and make a difference – in other words, to enhance their self-efficacy.

Motivation, initiative, and resourcefulness on the part of the learner were major factors in the success of the learner in the online environment. It was not the learning style: visual, auditory, or kinesthetic, that determined the level of accomplishment. This was one of the reasons it was important for the learners in this isolated environment to feel a sense of connectedness or community.

According to Porter (2004), successful instructors online; facilitated the individuals' learning, brought together learners from diverse backgrounds, stated expectations clearly and maintained course standards, were flexible and adapted to new technologies, communicated clearly and effectively, and enjoyed working with the Internet.

Online learning required social interaction, as well as structure (Cookson, 2003). Social intelligences and social awareness were important components in online courses. This awareness opened up the world of learning and avoided leaving the learner feeling isolated at their computer. The computer should be

used as a communication tool, not an escape from the stress of interaction. Online learning did not eliminate disagreement or differences of opinion; it encouraged debate. An exciting part of learning was realizing the new patterns and relationships of the material. Learning was not just factual information, but the development of ideas about the information. Students had direction and felt an association with others in order to support their learning.

Online learners have chosen this medium to take their courses because they want the accessibility, flexibility, and convenience that e-learning had to offer (Bates & Poole, 2003).

Students involved in online education did not need special skills or preparation in order to cope with the autonomous learning environment connected with this method of instruction (Maeroff, 2003). Students needed enough interaction that kept them engaged and involved. The facilitation of online courses depended not so much on the learner's aptitude to handle independence as the tendency of the online instructor to maintain contact and provide immediate feedback. This has put the instructor in a position to make online education thrive by maintaining interaction with the learner. Online education has become a 24/7 activity. The students expected a rapid turnaround to their electronically submitted homework.

According to Porter (2004), an important part of online learning was an educational site that not only promoted learning, but also was attractive and workable. Online learners had to be prepared to work online to be successful.

The online environment created by the instructor should be friendly and supportive to encourage learner participation.

The online setting has promoted the “learn anytime, anywhere, by anyone” mentality that gave the learners increased control and expectations (Bonk, Wisner & Lee, 2004). In the online situation learners have decided when to explore additional resources and at what level of complexity. Online instruction that was learner-centered created a meaningful and engaging environment. Courses were created with a mixture of social, technical, pedagogical, and managerial skills in mind. One of the many benefits of online instruction was to create online learning communities rich in collaborative learning and diverse in the experience and background. Online instructors needed to create situations where students were building knowledge and sharing it.

Streaming Videos in Education

Knock (Cited in Hantula & Pawlowicz, 2004) asserted that individuals might have an evolutionary bias for communication media that are most similar to face-to-face (FTF) interaction. Synchronous FTF communication, which uses auditory sounds and visual cues, has been the primary mode of communication in the evolutionary history of human beings. Subsequently, it is the most “natural” form of communication, and the more “natural” a communication medium is (in terms of its fit with the adapted behavior of the species), the more effective it should be. (p.155)

According to Lorna Uden (2002), studies have shown that multimedia technology can help people learn. Some of the reasons that this was affirmed were first, that multimedia parallels the natural way that people learn. This is referred to as the dual coding process of information processing. Learning increased with the use of multimedia. Second, multimedia was presented in a non-linear format, which allowed the learner to view the information from different perspectives. Third, multimedia is more interactive than even traditional classroom lecture. Interaction appears to have a strong positive effect on learning. Fourth, the flexibility of multimedia allows the learner to choose a time that fits into their schedule. Multimedia information was most effective and helped people learn when, it encouraged dual coding of information, the media supported one another, and the media was presented to learners with low prior knowledge or aptitude in the subject being learned.

Streaming media was a profound revolution of the capabilities that are now available over the Internet (Garrison, 2001). Streaming media allowed moving images to be delivered over the Internet. This was a rich mixture of video and audio that offered simplicity, flexibility, and interaction.

This new technology was simple because the user can follow a link like any other Internet link and receive the streaming video. There were three systems that would deliver the streaming media: Quicktime, Windows Media, and Real Video. All three of these programs could deliver a strong and dependable stream to users across the globe. All new personal computers come pre-installed with these capabilities. These systems, referred to as plug-ins, automatically

started when the link was activated (Balén & Chong, 2003). A plug-in is simply a software application that once installed expanded the form and function of the existing program. If the plug-in had not been installed on a computer, the web-browser would alert the user about the missing plug-in.

The flexibility of streaming videos brought the ability to have videos on demand (Garrison, 2001). Streaming media compared to the quality and rich images of broadcast, satellite, or cable television was similar. The unique part of streaming media was that each viewer started or stopped the video when they had time to watch it. Viewers were not locked into a predetermined or rigid program schedule.

The Internet revealed an interactive nature because the process of choosing to follow one link and then another allowed the user to make their own choices and follow their own path. The Internet has had the capability to deliver text, games and simulations. The visually rich content of streaming media enhanced the interactive potential of the Internet.

The creation of streaming media does not require a great deal of technical expertise; the software to format the streaming media is affordable (Balén & Chong, 2003). PowerPoint presentations can be easily converted into streaming media by attaching a microphone or utilizing one of the software programs that will combine the taped presentation to the existing PowerPoint.

The addition of streaming videos has enhanced online courses (Maeroff, 2003). Technological specialty tools like streaming videos have assisted in maintaining learner interaction and interest. One approach was an instructor

added video at each point that the learner encountered difficult or complex material. The inclusion of videos, and other specialty tools helped the learners grasp the material by providing additional opportunities for the student to revisit the material supporting the redundancy concept in learning.

According to Porter (2004), as technology has increased in sophistication, learners have expected more services and a larger selection of multimedia experiences from their online courses. Multimedia materials were easily available on the Internet; video segments were easily added to the online course. The use of shared multimedia information has enhanced Internet courses because it has given learners tested, usable, engaging material.

CHAPTER III: METHODOLOGY

Introduction

Online instruction has continued to grow; the two-year degree Accounting Program at Chippewa Valley Technical College can be taken almost entirely in the online format. There is a need to improve the quality not just the quantity of online instruction. Technology continues to provide more opportunities to assist the learning process; these new technologies can provide a means to add volume to our already established Internet courses. There has not been an evaluation of the effectiveness of adding instructor videos using the streaming process to the instruction of online courses at CVTC. This chapter will include the process used to select the sample and a description of the sample, the process that was used to collect and evaluate the data, and the limitations of the study.

Subject Selection and Description

A cluster sampling technique was used to select one entire class of online students. This study was conducted by using one section of an online Accounting I course that was offered at Chippewa Valley Technical College (CVTC) during the fall semester of 2003. The students in this section were not randomly selected, but were determined at the time of registration based on the order of application.

Instrumentation

The instrumentation used to evaluate this project will be the grading system that was applicable to the Accounting I course offered at CVTC. Included will be the standard grading scale for this course, as well as the competencies that the learner should acquire. This is a required project for all students in order to complete the requirements for Accounting I and receive a final grade. The financial statements that are prepared will be measured by the Generally Accepted Accounting Principles, which are the standards for the Financial Accounting Standards Board.

Data Collection Procedures

The Chippewa Valley Office Supply Practice set was assigned to each learner. The learners were required to submit portions of their work at different intervals throughout the project for grading and accuracy. The Practice Set covered a period of one month; the journals were graded at the end of each week of transactions. The final project was collected and graded at the end of the semester.

Data Analysis

The data was analyzed using the descriptive statistics of frequencies, percents, measures of central tendency, and measures of dispersion. The data was also evaluated using qualitative measures to determine the compliance of the projects to the Accounting I competencies and the adherence to generally

accepted accounting standards. The instructor evaluated this project to see if the journal entries and financial statements were accurate and properly formatted.

Limitations

The researcher has identified the following limitations:

1. The method used to collect and evaluate the data is limited because the researcher developed the research instrument. The reliability and validity were not fully established.
2. The sample group is a limitation because it is limited to one section of an Accounting I online course. This group of learners is not chosen by random, but placed into the section based on the time of registration. The characteristics of the sample group are a limitation because they are not selected to represent all of the population of the college.
3. The environmental conditions are a limitation because the teaching methods used before this project could be different than the ones used by the researcher.
4. Time is a limitation of this study because it is based on only one semester of students. For this to be a valid study and applicable overall, a sample group should be chosen from more than one semester.
5. The learners are a limitation because there could be varying degrees of computer literacy and comfort.

CHAPTER IV

RESULTS

This study was conducted in an attempt to measure or analyze the potential value of streaming videos used in the Accounting I course at Chippewa Valley Technical College that is taught in the online format. The Internet and online instruction has provided a powerful tool for instructional institutions and learners. Data was collected from the practice set of students that were given access to streaming videos as part of the instructional tools available to them to complete their project.

Item Analysis

Data was interpreted to determine how the analysis of the practice set answered each of the research questions. Each of the research questions will be restated and the evaluative tool, source of measurement, or criteria for examination described.

1. To what extent did the student complete the Chippewa Valley Office Supply practice set?

This question was analyzed by determining if the students turned in a completed practice set. This was accomplished by verifying that the student followed all of the steps in the accounting cycle as outlined in the practice set. This would include the journalizing of business transactions, completing the payroll register, preparing a trial balance, adjusting the accounts, completing the worksheet and preparing the financial statements. The achievement rate of the

project was 100%. All six of the six students evaluated turned in a completed practice set.

2. To what extent did the students format the Chippewa Valley Office Supply practice set in accordance to generally accepted accounting principles?

Generally accepted accounting principles (GAAP) are the guidelines for financial accounting in the United States of America. The two main reasons that GAAP must be followed are for consistency and comparability of business entities. Evaluating three areas assessed adherence to GAAP for the practice set: journal entries, adjusting entries, and the financial statements. Journal entries were determined to be in accordance to GAAP if the appropriate accounts were used, and debits were equal to the credits for all entries. This measure was met by 100% of the students. Adjusting entries are an important part of accrual accounting. An adjusting entry is in accordance to GAAP if the appropriate accounts are accurately updated to reflect the proper amount of revenue and expense for the period. This measure was met by 83% of the students, or five of the six students were able to correctly update the appropriate accounts. Financial statements were determined to be in accordance to GAAP when the accounts were reported on the correct statement, in the proper sequence, and correctly formatted. About 67% of the students met this criterion. Four of the six students prepared financial statements that were in accordance to GAAP. The students that were unable to prepare appropriate financial statements did not follow the formatting that is established for the multi-step income statement and the

classified balance sheet. Overall the results of the student to successful prepare the practice set in accordance to GAAP was four out of six students of 67%.

3. How many times did the students access the streaming videos?

The number of times that students accessed the streaming videos was determined by the tracking function that is available when you are using the Blackboard learning system. Chippewa Valley Technical College uses this learning system for all of its online courses. The tracking function allows you to determine the number of times that each learner accesses a particular area of content. Four of the six students accessed the video content area two times. The other two students accessed the videos three times.

4. To what extent did the students meet the competencies for Accounting I?

The competencies for Accounting I are established by the Accounting department at Chippewa Valley Technical College. The competencies are as follows:

- a) Understand and utilize accounting concepts and principles
- b) Analyze, record, and process accounting transactions
- c) Understand accounting for merchandising and/or service enterprises
- d) Utilize accounting systems and controls to account for receivables, payables, and inventory
- e) Properly account for plant and intangible assets
- f) Properly account for payroll
- g) Prepare adjusting, closing and reversing entries

h) Maintain accurate accounting records

Students are considered to have passed the competencies when they are successful at meeting 70% of them. The learners were 83% successful passing the competencies on this comprehensive project. Five of the six students were successful at passing 70% or more of the competencies. The three competencies that were not passed on these projects were as follows: Properly account for plant and intangible assets, prepare adjusting, closing, and reversing entries, and maintain accurate accounting records.

5. To what extent were the students successful with the streaming video project?

The students were considered successful with the Accounting I practice set when the project was completed on time, the project was in proper format, and the financial statements were accurate. The students were successful 50% of the time. Three of the six students turned in a practice set that was on time and appropriately accurate. One of the students did not meet this criterion because the practice set was not turned in on time.

CHAPTER V

DISCUSSION

Introduction

The trend of many educational institutions is to put courses on the Internet. Internet is an effective vehicle for a variety of courses and programs. Internet courses allow students to communicate with faculty and fellow students anywhere in the world. Online instruction meets the needs of many learners because of the flexibility it offers. This means that education is available to more learners than ever. The first online courses were offered at Chippewa Valley Technical College (CVTC) in 1999. The number of courses offered over the Internet at CVTC is continuing to grow. It is important that as educators we continue to improve the learning experience as new technologies become available to us.

Limitations

This study is being conducted by the instructor of the course and therefore has the following limitations.

1. The method used to collect the data is limited because the researcher developed the research instrument. The reliability and validity were not fully established.

2. The sample group is a limitation because it is limited to one section of an Accounting I online course. This group of learners is not chosen by random, but placed into the section based on the time of registration. The characteristics of the sample group are a limitation because they are not selected to represent all of the population of the college.
3. The environmental conditions are a limitation because the teaching methods used before this project could be different than the ones used by the researcher.
4. Time is a limitation of this study because it is based on only one semester of students. For this to be a valid study and applicable overall, a sample group should be chosen from more than one semester.

Conclusions

Achieving 100% completion of the Accounting I practice set is a great finding. Due to the small numbers in the section it is not reasonable to assume that this would always hold true, but I do feel that the videos not only created a sense of connectedness to the class, but also increased the interaction with the material. The literature review in Chapter II indicated that these were influential in the success and happiness of online education. Four out of six learners, or 67% of the students were able to complete the project in adherence to generally accepted accounting principles (GAAP). This number should have been higher, however the streaming videos did not cover the creation of financial statements. Possible more video clips should be added on this portion of the practice set.

There does not seem to be any relationship between the number of times the streaming videos were accessed and the success of the practice set. Two of the students viewed the video clips three times and the results of their projects were very similar to the results of the two students that only accessed the videos two times. The most significant thing about the accessing of the streaming media is the fact that the students could utilize the material when it best fit into their schedule. The learner could use it more or less depending on their need. Flexibility was a very important part of learner satisfaction in online courses. The practice set is a comprehensive project that puts all of the student's skills to use. Five of the six students successfully met the requirement of the competencies of the Accounting I course. This is reflective of the success in learning that takes place with media rich instruction. This is reflective of the literature review that indicated that students did better work and learned more if they were able to interact and be connected to the material. Only 50% of the students were successful in the completion of the Accounting I practice set. This is not reflective of the literature review. There should have been a higher rate of achievement. Online learners have many demands in their lives and this is one of the reasons that one student did not complete the practice set on time. This reasoning does correspond with the literature review. Research pointed out that online learners take courses in this delivery method because of their busy schedules. It is challenging for them to juggle all of the responsibilities of families, work, and school. It would stand to reason that falling behind on deadlines might happen.

Overall I feel that the analysis of the streaming video project reflects the research of Chapter II. It increases the value and enhances the educational experience to add instructor-streaming videos into online courses.

Recommendations

Recommendations for future studies would include a larger study on the value of streaming videos in online instruction. I would conduct an assessment that would incorporate both the perceived value of the students and instructors. It would be valuable to find out if the students felt that time spent watching the videos was worth while and assisted them in the completion or understanding of the material. It would benefit the study to establish how instructors felt about putting additional time into the development of new instructional materials. This may help establish if any relationship exists between the amount of teaching materials and an increase in student learning.

Another recommendation for future studies would be the evaluation of the soft skills that students need to develop. Soft skills refer to the skills that are developed during instruction, but are not specifically addressed in the curriculum, like social interaction, verbal communication or diversity awareness. The study would include both the students in the classroom as well as online learners. It would also integrate a comparison of whether or not online instruction is meeting this area of instruction. Can autonomous learning develop these skills? My study indicates that further studies and research are needed.

Educators must strive to insure that the quality of education and the success of learners remains the focus.

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