Running Head: The integration of technology in higher education

Thesis

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Chapter 1: Problem Statement and Rationale

Over the last 20 years, technology has seen massive growth that has impacted our homes, businesses, and schools. The use of product technologies (i.e. hardware, software, multimedia, and remote access) and "idea" technologies (i.e. conceptualization and constructivism) has made us rethink how we approach many of our daily activities. University campuses have become one of the most vital areas of integrating technology over the past decade. "The world of education is currently undergoing a second revolution" (Collins & Halverson, 2010). Universities have recognized the importance of technology and to have an up to date campus they need to offer students and faculty modern technologies as a convenient alternative to traditional methods. The integration of technology in higher education has become an important issue for faculty members and their students. This is not a means of replacing how universities and academic faculty approach their courses, but a means to make the learning environment more productive.

I remember going to college in the fall of 1993 and being very excited about all the new experiences I was about to embark upon. Never was there a thought of technology and how it might influence those experiences. Computers were slowly being integrated into the schools that could afford them and that had the recourses necessary to maintain them, but at that time I do not think anyone knew how much technology would change our lives. It wasn't long after I started my freshman year at Bowling Green State University (BGSU) in Ohio that I was given my very first email account, but I wasn't quite sure what I was supposed to do with it. As I made one of my first attempts to connect to the World Wide Web and access my email account, I can recall the frustration I experienced when waiting for the machine to finally make a connection with and navigate on the web. I left not being impressed with this new technology and didn't see the importance of having a BGSU email account. As I attended my freshman classes, the methods

of receiving information did not change from the methods I was accustom to during high school. The traditional instructional communication process (ICP) in which the information was relayed from the source (sender) to the recipient, was still the key method of relaying course content. "In the pre-technology educational context, the teacher is the sender or the source, his or her educational material is the information or message, and the student is the receiver of the information" (Neo & Neo, 2004).

As I morphed from a freshman to a senior my perception of technology was drastically altered. New courses were being implemented in majors across campus that focused on the use of technology to better prepare students for life after graduation. My major changed from Graphic Design to Computer Art and Animation. Over the years I had saved a newspaper article of an interview I did for the Bowling Green State University school paper. I was asked about our school turning down a deal with Apple Macintosh to bring new computers to campus. I responded by saying, "It was stupid to turn the Apple deal down. New computers would have really helped this campus; the world is changing." Collins and Halverson (2010) note that computers provide individuals with a variety of tools to accomplish meaningful tasks because computers are highly interactive. I now understood why I was given an email account during the early stages of my higher education. The new world of technology had quickly landed on campus without warning and it was here to stay.

Instructors need to adapt to the advances in technology and apply those new techniques to how they approach teaching. How can the integration of technology promote learning in higher education? Technology is an important ingredient in how students will receive and retain information beyond the classroom. "New technologies create learning opportunities that challenge the traditional practice of schools and colleges. These new learning niches enable

people of all ages to pursue learning on their own terms" (Collins & Halverson, 2010). With the abundance of professional software that is available and required that students know to compete in the movie and gaming industry can be a daunting and monumental task. Making sure that the information presented in class is readily available for students access can assist in the learning process. Collins and Halverson (2010) describe ways in which digital technologies (i.e. mobile devices, digital media creation and distribution tools, video games and social networking sites) are transforming the way educators think about schooling and learning. Producing digital formats that students can access via internet or website will give students an opportunity to have information at their finger tips outside of the classroom. With the busy schedules that both instructor and students have, making time outside of the classroom becomes difficult.

A directory of online files, audio, video, and interactive media, that student have 24/7 access to based on the key elements of the weekly lectures and activates will allow students the ability advance their knowledge once a class has ended. "Information technologies have pushed us to a radical, learner-oriented understanding of knowledge acquisition. Information technologies foster a more hands-on, activity-based education" (Collins & Halverson, 2010). This is not replacing the importance of the instructor/student relationship and one-on-one interaction, but is a means of extending the learning environment beyond the classroom. These online files (i.e. digital tutorials, video captures, podcasts and interactive media) will not make class time any less valuable and substitute important information presented during an instructors lectures, but used to help clarify and assist possible problems with projects and activities.

Chapter 2: Literature Review

Introduction

It has become very apparent that before you even walk out your front door that technology is going to influence your daily activities in some capacity. Technologies are no longer limited to our offices, and have now invaded our homes, schools, and areas of recreation. Whether it is typing an address into a global positioning system (GPS) to find your way, sending a text message to your spouse to indicate that you are running late, or checking the status of a missed college course via the internet, technology is all around us. The way we communicate and interact with each other has been greatly modified and, as a result, has made us evaluate how to adapt to those changes. Collins and Halverson (2010) explain that ongoing professional learning could guide people to new learning opportunities. Technology has allowed us to compile information more efficiently and disperse that information to a wider audience. Some of our daily tasks have become easier with technology and have made us reevaluate how we spend our leisure time.

The process of sending and receiving information in the classroom and documenting essential information in a notebook was how we conducted ourselves. The instructor used different mediums to deliver information to the class via chalkboard, dry-erase board (whiteboard) or overhead projector, but kept the students disconnected from the information. Students had to constantly concern themselves with making sure they had recorded all the important information before the content was removed or erased. Grabe (2005) recalls how taking and reviewing notes were common student activities associated with university classrooms and courses. The instructor controls the informational process of how the content is delivered to the class and this behaviorist learning perspective was the popular technique for decades before technology exploded in education. Neo and Neo (2004) described the way traditional methods of delivering lecture content would leave the students disengaged. This led

to the learning environment becoming a passive means of receiving lecture content with the students playing a little part in the learning process.

As the early 90s approached, it became very apparent that technology was changing how we would conduct everyday activities. People of all walks of life started talking about technology with the emergence of the World Wide Web and realized that in order to survive in a new technology driven society they would have to adapt or find themselves being left behind. Through active participation in "web communities" Collins and Halverson believe that young people are gaining skills and knowledge that may be very useful to them in later life (2010). The world was seeing a multitude of new media inventions that were influencing people's lives. In the past, the term multimedia was only used to mean adding sound to motion pictures, but as pedagogical researchers examined how people learn, the term multimedia had a whole new meaning (Jackson, 1996). Multiple media started playing a major role in education and the theory of individuals learning through different senses was changing how information was presented. Jackson (1996) states that the more senses that are stimulated when learning, the better chance there was for information to be recalled later.

Multimedia allows information to be related to learning techniques that stimulate the senses by using sights, sounds, touch and smells. The old linear methods of teaching, traditional instructional communication processes, were being challenged by a new multisensory method of learning. "Previously, in the teaching and learning process, a single media (text) is mainly used as the instructional media and the presentation of educational content is in a linear fashion" (Neo & Neo, 2004). As technology advanced so did the way information was presented and we started seeing multisensory environments using multimedia elements. Students were now seeing and hearing sounds, animations, graphics, and videos being combined with text giving the students

more interaction with the information and making learning more effective. "From a teaching perspective, it empowers instructors to take a fresh perspective to the way in which they conduct their learning and teaching methods" (Dale, 2008).

There is obviously no doubt that the topic of technology has generated interest among many individuals which make up our businesses, governments and educational systems. Business, industries and other areas of society, including higher education, are beginning to make use of the rapidly increasing and expanding capabilities of technology (Surry, 2002). With the birth of many technological tools over the past two decades the landscape in the field of education is changing quickly into an IT-oriented one (Neo & Neo, 2004). Universities must accommodate the needs of today's diverse student and technology is one of the driving forces behind assisting with the accommodation process. Individuals considering higher education come from all backgrounds and situations. Therefore, gearing courses to meet the specific needs of each student has become an important factor in the decision-making process when considering different schools. Instructional technology has impacted business and has the potential to provide an impact on teaching, research and how schools will service the mission of any college or university (Surry, 2002). The adoption of new technologies doesn't come without its concerns and barriers. These areas of concerns and barriers can have a significant impact on schools of higher education that have already implemented the use of technology on their campuses. "Growing investments in educational technologies requires a close examination of the way faculty and students use and integrate technology in the classroom" (Blankson, Keengwe, & Blankson, 2009). The administrators, faculty, staff and students that make up our university campuses are major influences on how technology will be integrated into their schools and used as a tool for presenting information. With the world changing and technology leading the way,

higher education is being pushed into adapting to the changes new technologies are offering educators.

Technology and adult learning

The universality of computers, internet, portable devices and wireless networking has made technology convenient and easy to access from almost anywhere in the world. Students presently pursuing degrees at universities across the globe are looking to make the most of current technologies that promote learning outside the classroom while adding an element of convenience. The dynamic of the college classroom has been changed due to the enrollment of the Net Generation student. Blankson, Keengwe, and Blankson (2009) describe the Net Generation as learners born between 1981 and 1994. Technology has influenced this generation of learners to frequently use the internet for education, communication, entertainment, and selfexpression.

Due to the advancements in electronic learning (e-learning) applications the educational systems are changing (Saeed, Yang, & Sinnappan, 2009). The idea of the World Wide Web being a place to connect to information around the world has now transformed into a fully interactive space. The control of content allows individuals to collaborate, publish, subscribe, and share information with massive audiences quickly and easily. The purpose of these digital formats, within an educational setting, is to assist the students when reviewing, revising and preparing for tests and projects. Middleton (2009) describes the capabilities of capturing and sharing learning voices as leading to flexibility, more access to media, and a means of targeted distribution, which all offer new opportunities to educators.

The web has led to the creation of an array of many new technological tools that assist in the educational process. According to Saeed, Yang, and Sinnappan (2009), students' learning styles and technology preferences should be taken into account in order to effectively incorporate emerging web technologies with college course instruction. Emerging web technologies, such as podcasts (audio), vodcasts (video), weblogs (blogs), wikis, desktop capturing, and instant messaging (IM), aide students and teachers in the higher education learning process by creating an ability to interact beyond the classroom. "Vodcasting and podcasting are the subscription to and subsequent automatic downloading of either an audio or video file to be played on a computer or iPod/MP3 player" (Parson, Reddy, Wood, & Senior 2009).

In recent years podcasts have become the most commonly used source of modern technology because of the ease of its use and accessibility of MP3 players and other hand held portable devices. With a subscription to iTunes, a proprietary digital media application that is used for playing and organizing digital music and video files, an individual has access to publishing and downloading files. Copley (2007) refers to Apple launching 'iTunes U' in January of 2006 as a software package that allows US universities to manage and deliver podcast materials that many universities have already implemented (i.e. Berkley, Stanford, Harvard, Penn State and Michigan). As of 2005, Purdue University has made efforts to podcast 90 campus courses and solidify course-casting as common terminology with universities, administrators, faculty, staff and students.

Vodcasts are video files that can be created, published and downloaded much like a podcast. The biggest different between the two is that video formats usually consume larger file sizes and can require more time and money to produce. Podcasts are relatively easy to create, publish and download which is why they make for a more convenient method of media sharing.

One of the primary advantages of vodcast use is the stimulation of multiple senses in the users. This can help users retain the information that exists within the video file. Vodcating is closer to an actual lecture experience; a combination of audio and video information will elicit a greater understanding of course content (Parson, Reddy, Wood, & Senior 2009). With proper instruction for educators on how to create and utilize video formats, these media file types can induce excitement in students so that they are more likely to view the content and increase their knowledge of the information.

The use of audio in conjunction with video has led to the vodcast becoming a useful tool in settings where visual aids are essential to the lecture instruction. "Vodcasts are considered a useful addition for increased understanding of materials, while podcasts are considered to help the understanding during the course and for revision purposes" (Parson, Reddy, Wood, & Senior 2009). The development of desktop capturing software has made the use of video lecture more common. This is directly related to the simplicity of the capturing process. These new tools allow the user to run the software and present material from a computer, while capturing everything from the screen at the same time. The software allows for microphones or headsets to be plugged in to the computer to add audio to the captured lecture. Integrating interactive media, podcasts (audio), and vodcast (video), as an extension of classroom lectures, assignments, and handouts, have become the norm rather than the exception.

As the evolution of technology continues, classrooms will require a more sophisticated instructor who is conscious of the power and implications technology has on students pursuing a higher level of education. Emerging web-based tools, podcast and other product technologies have contributed to the needs of students trying to find a convenient way to acquire a degree in today's hectic, fast-paced lifestyle. Saeed, Yang, and Sinnappan (2009) suggest that a lecturer's

firsthand knowledge of students' learning styles and preferences will help choose the proper methods for instruction suited for their audience. Students of today are seeking convenience and flexibility with their studies which affords them the ability to work while talking classes. This creates a means of financing their education as they go to school. "Currently students have more challenges facing them than has been traditionally the case" (Parson, Reddy, Wood, & Senior 2009). With many students working to cover fees and living expenses the access of information and communication technologies round-the-clock on campus, if not their homes, support their educational needs.

The effectiveness of these tools is changing the relationship of the student and instructor. Saeed, Yang, and Sinnappan (2009) explain that today's learners are capable of accommodating various instructional strategies including the use of emerging web technologies. "Learning styles of today's learners are flexible enough to experience varying technologies and their technology preferences are not limited to a particular tool" (Saeed, Yang, & Sinnappan, 2009). Technology has the potential to improve the way people learn, and multimedia tools are being developed to encourage individuals to learn and explore content to better fit their needs. Jackson (1996) expresses a new level of excitement in learning with the availability of multimedia materials. The integration of technology to promote learning in higher education is an important ingredient to how students will receive and retain information beyond the classroom. Students are very enthusiastic about the adoption of multiple mediums, but consider it to be an additional resource rather than an alternative teaching medium (Parson, Reddy, Wood, and Senior, 2009). Convenience and speed are essential as a shift from literacy to multiple visual and technical literacy's in higher education become more common.

Concerns about Technology in the Classroom

Universities are expected to fulfill the needs of their students as well as the needs of the workforce by increasing the number of individuals who enter higher education, cater to their lifelong learning market and offer flexible learning opportunities. Instructional communication technologies (ICT) have been successfully adopted in a variety of ways by universities and can increase efficiency, flexibility and access to serve more students from a wider social, demographic and geographical bases (Eynon, 2008). The integration of educational technologies does help keep schools competitive and satisfies employers who do not have the money or time to invest in training. " A university must aim to be competitive in the programs it provides and the research it conducts, as a result of increasing rivalry from nation and international higher education institutions and private organizations" (Eynon, 2008). There are many choices when it comes to deciding upon a school of higher education and with the increasing rivalry amongst schools, universities must be competitive with other institutions offering similar courses and programs. The implementation of ICTs can open the door to some new and exciting possibilities for educators and their schools.

Surry and Land (2000) describe university administrators' current views on the necessity of technology for improving problems in higher education. The sporadic implementation of faculty using technology in creative ways can be seen in some colleges, but in most cases faculty members are not capitalizing on the tools available for them and their courses. University campuses have seen massive growth in the creation of new technologies and the convenient access of those technologies, but utilization still remains low. Innovational theories that can be used in higher education include "product" technologies (i.e. hardware, software, multimedia, remote access) and "idea" technologies (i.e. conceptualization and constructivism). The notion that by having technology available, users will automatically make use of the tools and

opportunities that present themselves is sometimes referred to as the fingertip effect (Surry and Land, 2000). The perceptions of opportunities and tools have to be understood in order for faculty to find technology meaningful and then successfully applied. Understanding technological changes that occur over time will help administrators get a better perspective on the views of their faculty and the technology to which they have access. Administrators and academic faculty often have conflicting perspectives regarding instruction and the use of technology continues to be one of the most common areas of contention. Universities have accepted technology at different rates and the rate of change has come slowly based on overall knowledge. Surry and Land (2000) believe that most strategies universities have developed ignore the role faculty play in the change process.

Higher education faculty members are the foundation of our universities and administrators need to understand the implications for their continuing development of new technologies bring to their campuses. In 2009, Blankson, Keengwe, and Blankson's study on faculty usage and integration of technology in higher education reported on a brief from the American Association of Colleges for Teaching Education (AACTE) that stated it is not enough for instructors to use technology in their offices or to even use presentation software in the classroom. The magnitude of technological advancements over the last 20 years has made administrators seriously evaluate how to approach introducing faculty to product and idea technologies. "To advance the goals of technology in education as well as to enhance meaningful learning, faculty must design courses that require our students to use technology themselves" (Blankson, Keengwe, & Blankson, 2009). Educational technologies have challenged the traditional classroom environment, but as tool it present opportunities to support student learning. Collins and Halverson (2010) found that computer learning environments can

allow for creative expression, and can provide students with hints and support at their convenience.

Surry and Land (2000) state that motivation to use technology will not be increased by universities simply purchasing more technology, but rather universities making faculty motivation the core emphasis of their strategic plan. The flexibility of delivering course content to satisfy student needs further motivates faculty use (Eynon, 2008). The ARCS Model, a model developed by John Keller and divided into four specific strategies, evaluates the applications of new technologies and how they are being used in areas of higher education. These strategies include: (1) attention gaining, (2) relevance, (3) confidence building, and (4) satisfaction and were used to help administrators understand the perspective their faculties so that they could help motivate them to more effectively utilize the technology available to them. The results of these strategies suggest that motivational theories can be used as a framework for encouraging faculty to use technology in higher education settings. The four motivational categories of Keller's model support the choices people make as to the experiences or goals they will approach or avoid, and the amount of effort they will exert (Surry and Land, 2000). Both product technologies and idea technologies are essential elements that administrators need to understand in order to assist in motivating faculty members. Monitoring the relationship between administrators and faculty as they become more knowledgeable of technology on campus has contributed to building motivational strategies for technology usage.

The potential that technology brings to universities can radically change how faculties approach their courses. "To successfully teach with technology, instructors need to have a strong comfort level with, and consistently implement, technology tools as part of their own repertoire of tools in courses they are assigned to teach" (Blankson, Keengwe, & Blankson, 2009). The

students are the center of all motivational purpose for teaching, so as new innovations in technology present themselves, schools and faculty need to adapt in order to better prepare students for life after graduation. If the faculty is not motivated to use technology and administrators are not trying to understand the needs of those faculty members, the lack of interest could trickle down to the students. The effective use of product technologies and idea technologies can help boost a universities reputation, address problem areas, and solidify the relationship between administrators, faculty and students.

The integration of technology is promoting the understanding of course materials because of the instant access it grants students. Bongey, Cizadlo, and Kalnbach (2006) also indicated that the majority of students believe that having podcasts available has helped them to improve in a course. Borrowing notes and referring to other student's materials was the only way to gather information when class was missed or if notes were too difficult to make out. The value of having materials readily available in critical situations is the main reason more and more instructors are uploading course content. "Students use the podcasts to improve their understanding of the material, and the podcast represents a valuable and reliable alternative to borrowing the class notes of other students" (Bongey, Cizadlo, & Kalnbach, 2006). With all the interest in digital formats of course materials, students want to see more lectures and material available for download. The effectiveness of digital lectures has lead to positive feedback and inquiries about project and assignment overviews and descriptions. Copley (2007) refers to students engaging in concepts during lectures and participating without over-emphasizing notetaking. Students can easily become consumed with trying to make sure notes are correctly documented, all the while sacrificing enrichment through the learning process. Virtual learning

environments (VLE) used together with traditional lectures is helping instructors get their course materials out to the masses much quicker.

A common issue when discussing the integration of technology in higher education is the effects it will have on student attendance. Educators are concerned that if course content and lecture material are implemented into their classes there will be a decline in student attendance. A study conducted by Bongey, Cizadlo, and Kalnbach (2006) surveyed two college biology classes that included 246 students. The results of the study indicated that only 5% attended class less as a result of having access to content remotely. Students see the new technology as an extension of the class and a way to improve their knowledge of the course materials. This does add some pressure to the instructors to keep their courses current, fun, and challenging, thus bringing students to class. The expectation is that students will then take advantage of technology as a method of reviewing and retaining information on their own time.

The learning styles of modern students differ in characteristics and expectations. Blankson, Keengwe, and Blankson (2009) describe the distinct differences in learning styles that modern students have. These students tend to exhibit more independence and autonomy, which show in their method of learning. The utilization of technology can be the first step for a student to review missed lecture materials due to an uncontrollable circumstance leading to an absence. There are more technologically literate students attending colleges compared to previous generations of students and are these students are more persistent in their quest to obtain transferable skills from their education experience to their jobs (Blankson, Keengwe, & Blankson, 2009). Integrating multimedia solutions into a course can ultimately help students review confusing or difficult materials and lead to greater success.

Implications

There is no single college that reaps the benefits of multimedia and technology integration. The use of technology is seen in a wide array of disciplines, spanning biology to the arts. The result is reflecting positively on the reputations of universities as they attempt to lure prospective students with their innovational courses and advancements in technology. Parson, Reddy, Wood, and Senior (2009) refer to a study at Duke University where iPods were handed out to students in various courses to download and listen to online lectures. The study found that students considered the online lectures beneficial for revisions, understanding and enhanced the course experience. Future students, knowing the importance of technology in the work place, see the learning resources as a building block in preparing them for life after graduation. "Universities are also required to fulfill the needs of the workforce; by increasing the number of students who enter higher education, catering for lifelong learning market and offering flexible learning opportunities" (Eynon, 2008).

Even the future employers of these new graduates know the importance of having the skills needed to excel and adapt as they enter the workforce. Business, industries and various companies expect their new employees to be able to adapt quickly and transition smoothly without allotting time and money for additional training or educating. The more equipped schools of higher education are to prepare students to achieve their goal, the more competitive a school can be. As new technologies present themselves it is imperative that university administrators and faculty be open to these changes and be prepared to integrate technology in order to benefit students and their learning.

The tools that have been developed, upgraded, and improved are helping with the speed and quality with which the information is being exchanged in most of today's top universities. Educators' use of modern educational technologies has been on the incline due to the availability, convenience, and speed they allow. Computers are common fixtures almost everywhere, so the integration of these educational technologies has made the learning process more convenient for students.

According to Student Monitor research study, in its 18th year, iPods are considered the most "in" thing among college students. Over 100 colleges participated in this study. The 73 percent of those sampled responded to the study placed the iPod number one in order of importance, over both beer and social networking websites (Bongey, Cizadlo, & Kalnbach, 2006). Podcast, vodcasts, and an array of other multimedia tools have stimulated the way we teach and learn. The ease that these tools bring to a college level course will allow student to learn at there own pace. "The teacher will make a difference in the integration of the media into students learning process" (Neo & Neo, 2004). All the traditional materials that educators have been successful with in their courses can now be translated into various interactive electronic tools with multimedia authoring software. Collins and Halverson (2010) note that information technologies allow for students and teachers to customize learning environments to their specific needs. Content can be accessed easily and allows the learner the ability to interact and absorb the material the way he or she likes best.

The environment in which students learn has become more stimulating and will allow for information presented in course lectures to be retained and recalled much easier. "New technologies can act as part of the creative production of new and innovative teaching and learning practices" (Dale, 2008). The traditional method used for instructional communication

processes and note taking have given way to a more interactive relationship with the materials presented. The use of these tools also allows for 24-hour access, making them much more convenient. Dale (2008) notes that new devices offer flexibility which enables students to take a more creative approach to facilitating their own learning experience while intrinsically motivating them. For these new methods of teaching and learning to successfully work the content needs to foster critical thinking, problem solving, communication and team building skills. In order to keep students and instructors motivated to use these new technologies, administrators need to make hardware, software and training recourses readily available and promote better integration in course content. Neo and Neo (2004) indicate that educators need to be given proper training to effectively use and develop the electronic content for their courses. Collins and Halverson (2010) describe the way by which technology and computer environments can adapt to the level of the student's ability and can provide individualized learning environments that allow all students to succeed. Once we unite all the different facets of technology the students of these schools will be prepared to join the workforce, pass on their knowledge and raise a new generation of knowledgeable individuals.

Chapter 3: Methodology

Today's college campuses have to be on the "cutting edge" when it comes to the technological resources utilized in the courses they offer. "The growth of web-based applications has made the web an important educational medium" (Saeed, N., Yang, Y., & Sinnappan, S., 2009). Technology is an area of education that has progressed rapidly over the last two decades, with innovative tools readily available for faculty members to use. This study of the integration of technology in higher education will be conducted at The Art Institute of

Pittsburgh and include five faculty members in various departments. The faculty members are instructors in the Media Arts and Animation, Visual Effects and Motion Graphics and Game Art and Design departments. All the instructors included in this research will be interviewed about their backgrounds, experiences with technology and the effects this technology has had on their students.

1. How do you utilize educational technologies in your courses, if at all?
2. What motivated you to integrate technological tools as a part of your courses?
3. How does technology support student learning and performance, in your view?

To better insure that the future workforce is prepared to be successful and competitive, higher education has adapted to changes in the world of technology. The purpose of this study is to identify faculty members use of educational tools that support student learning. Merriam (2009) expresses how the respondents should be selected based on what they can contribute to the study. The integration of technology in higher education cannot be done in an effective and sustainable manner without the support and knowledge of the faculty.

The five instructors that will be sampled in this study will be from a variety of disciplines in the arts. The experienced faculty brings an abundance of knowledge to their respective departments, as well as continuous professional growth. The Art Institute of Pittsburgh provides their students with a distinctive, creative, and collegiate education. The faculty is the backbone of that educational process, and to ensure that the school continues to be competitive, the school and its faculty must stay current with current trends in technology.

Data Collection

The faculty and department directors will be informed of this research and consent will be obtained from those participating. All teachers asked to participate will be given the

opportunity to decline the interview. An interview time will be set, based on availability of the participant, to explore and discuss technology in higher education and the impact of its use on student learning. The teacher interview protocol, using themes from the literature review, was developed from personal and professional experience with technology as a current faculty member of the Art Institute of Pittsburgh. The interview will be conducted on the campus grounds of AIP, in a conference room. After each interview an analytic memo will be created, summarizing the key points. The recordings, with permission, of the complete interviews will be transcribed for further analysis. The transcribed interviews may be used as a guide for other schools and faculty interested in integrating technology.

Data Analysis

The data collected from the participants will be reviewed following the interviews to extract common themes and patterns. The hope is to gain effective and efficient data from each interview to help support the research. The coding of participant responses will be used to identify and highlight any repeating themes. "Coding is nothing more than assigning some sort of shorthand designation to various aspects of your data so that you can easily retrieve specific pieces of data" (Merriam, 2009, p.173). The data collected will provide insights on the degree to which advancements in technology have motivated and influenced faculty members in higher education.

Timeline

I plan on taking ED715 summer 2010 to continue my research and conduct the interviews. The first step in continuing my study is to acquire a thesis advisor and a second reader that will guide my research on the integration of technology in higher education. With permission from The Art Institute of Pittsburgh (AIP) I will conduct all interviews on campus.

AIP instructors continue teaching classes during the summer making it convenient to conduct the interviews. The transcribed interviews will be analyzed to find connections and similarities between the participants. These similarities will be coded in order to maintain organization when collecting the data for research. Potential revisions will be addressed if/when unforeseen factors influencing the integrity of the study arise. Interview questions will also be modified, if necessary. The literature review will also be modified as new supportive data is complied and integrated into the study. I plan on attending the thesis seminar at the end of the summer with a draft version of my thesis. The draft paper will also be review by my advisor and second reader. Once the thesis has been completed and bound I expect to graduate December of 2010.

References

Blankson, L., Keengwe, J., & Blankson, J. (2009). Faculty use and integration of technology in higher education. *Association for the Advancement of Computing in Education, 17*(3), 199-213.

Bongey, S., Cizadlo, G. & Kalnbach, L. (2006). Exploration in course-casting: Podcasts in higher education. *Campus-Wide Information Systems, 23*(5), 350-367. doi:10.1108/10650740610714107

Collins, A. & Halverson, R. (2010). The second educational revolution: Rethinking education in the age of technology. *Journal of Computer Assisted learning, 26*(1), 18-27.

Copley, J. (2007). Audio and video podcasts of lectures for campus-based students: Production and evaluation of student use. *Innovation in education and teaching international*, *44*(4). 387-399. doi:10.1080/14703290701602805

Crook, C. & Cluley, R. (2009). The teaching voice on the learning platform: Seeking classroom climates within a virtual learning environment. *Learning, Media and Technology, 34*(3), 199-213.

Dale, C. (2008). iPods and creativity in learning and teaching: An instructional perspective. *International Journal of Teaching and Learning in Higher Education, 20*(1), 1-9.

D'Arcy, C., Eastburn, D., Bruce, B. (2009). How media Ecologies can address diverse student needs. *College Teachings*, *57*(1), 56-63.

Eynon, R. (2008). The use of the world wide web in learning and teaching in higher education:

Reality and rhetoric. *Innovations in Education and Teaching International, 45*(1), 15-23.

Gabe, M. (2005). Voluntary use of online lecture notes: Correlates of note use and note use as an alternative to class attendance. *Computer and Education, 44*(4), 409-421.

Jackson, J. (1996). Multimedia, it's soup. *Innovative Instructional Practice,* 1-11.

Kim, S., Mims, C., & Holmes, K. (2006). An introduction to current trends and benefits of mobile wireless technology use in higher education. *Association for the Advancement of Computing in Education Journal, 14*(1), 77-100.

Laurillard, D. (2004). Technology enhanced learning as a tool for pedagogical innovation. *History Teacher, 37*(3), 385-399.

Laurillard, D. (2008). The teacher as action researcher: Using technology to capture pedagogic form. *Studies in Higher Education*, *33*(2), 139-154.

Middleton, A. (2009). Beyond Podcasting: Creative approaches to designing educational audio. *ALT-J; Research in Learning Technology*, *17*(2), 143-155.

Merriam, S. B. (2009). Qualitative research: A guide to design and implementation. San Francisco, California: Jossey-Bass.

Neo, T. & Neo, M. (2004). Classroom innovations: Engaging students in interactive multimedia learning. *Campus-Wide Information Systems, 21*(3), 118-124.

Nguyen, F. & Frazee, P. (2009). Strategic technology planning in higher education. *Performance Improvement, 48*(7) 31-40.

Parson, V., Reddy, P., Wood, J. & Senior, C. (2009). Educating an iPod generation:

Undergraduate attitudes, experience and understanding of vodcast and podcast use. *Learning, Media and Technology, 36*(3), 215-228. doi:10.1080/17439880903141497

Saeed, N., Yang, Y., & Sinnappan, S. (2009). Emerging web technologies in higher education: A case of incorporating blogs, podcasts and social bookmarks in a web programming Course based on Students' Learning Styles and Technology Preferences. *Educational Technology & Society*, *12* (4), 98–109.

Surry, D. (2002). A model for integrating instructional technology into high education. *Innovations in Education & Training International*, 37(2), 145-153.

Surry, D. & Land, S. (2000). Strategies for motivating higher education faculty to use technology. *Innovations in Education & Training International, 37*(2), 145-153.

Vess, D. (2004). History in the digital age: A study of the impact of interactive resources on student learning. *History Teacher, 37*(3), 385-399.

Voithofer, R. & Foley, A. (2007). Digital dissonances: Structuring absences in national discourses on equity and educational technologies. *Equity & Excellence in Education, 40*(1), 14-25.

Appendix

Introduction: Information about the instructors and courses

1. Background
    - How long have you been an instructor at the Art Institute of Pittsburgh?
    - What department do you teach in?
    - What courses do you teach?
    - Describe your professional background and if that influences the courses you teach?
2. Courses
    - What are the levels of those courses?
3. Technology
    - How has technology impacted your classes, if at all?
    - What are the software programs that support your courses?
    - How important is technology to your courses?
4. Educational Technologies
    - How do you utilize educational technologies in your courses, if at all?
    - If yes, what are those technologies?
    - What are issues with time and creation of those technologies?
    - What motivated you to integrate technological tools as a part of your courses?
    - How has your instruction changed thru its use?
5. Impact on students
    - How does tech support student learning and performance, in your view?
    - How do the students take advantage of the educational technologies you offer?
    - Describe any effect on student attendance, if relevant?

6. Training

    - Have you received any training on educational technologies that exist?