

Integrating Video in Electronic Portfolios

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Abstract

Finding the right candidates for positions is a difficult task for employers. For job applicants obtaining the best positions available can also be challenging. One problem is the inherent weakness of one page cover letters, two page resumes, or short portfolios to present an applicant's talents thoroughly.

One successful method of displaying a job hunter's talents to potential employers is the use of electronic career portfolios (Electronic portfolios). Electronic portfolios allow job hunters to showcase their talents for employers. However, the increased use of Electronic portfolios by students, job hunters, and employees in various occupations from teaching to graphic design, has resulted in similar content being included in portfolios. This similar content creates a dilemma for employers when attempting to distinguish one potential employee from another. A method that assists in distinguishing portfolios is the use of video clips to introduce the applicant and their work.

The primary purpose of this project was to evaluate the effectiveness of an instructional design module created to teach students how to add video to their Electronic portfolios. Graduate level students in an Educational Technology (ETEC) class, their instructor, and persons in the position of hiring or working with students in obtaining positions participated in this project. The student's attitudes and opinions about the project were measured through surveys. The surveys asked questions about the skills used in the project, with regard to each component of Keller's ARCS Model of Motivational Design: 1) attention, 2) relevance, 3) confidence, and 4) satisfaction. The students also had a checklist to use in order to gain measurable data for the creation of their videos for their portfolios. Participants commented that the module was helpful and some noted that they were excited to create additional videos to add to their portfolio in the

future. The instructor's perceptions of using the module and the addition of videos to a student's portfolio were also measured. This resulted in very positive feedback and a request suggestion that to use the module for future classes. The evaluation of the portfolios by hiring personnel was added to the plan after the project had been designed and implemented. These evaluations were also positive about the use of videos in portfolios. The results revealed that the Web-based Video and Electronic Career Portfolios instructional module was effective in teaching students how to add video to their Electronic portfolios. The primary purpose of this project was achieved.

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CHAPTER I

STATEMENT OF THE PROBLEM

Traditionally, resumes and interviews are the most common tools used in the job search and hiring process. Resumes are collected and reviewed by recruiters and headhunters and interviews are scheduled for candidates who appear to have the skills required for a position. However, resumes can be poor representations of candidate skills and interviews can be inaccurate measures of candidate fit.

In today's business market the goal for employers is to find the best person for the job and the goal for job hunters is to obtain the best positions available. The competition to find the best candidates for vacant positions and to acquire the best positions is fierce. In order to meet these goals, the selection of candidates must include providing opportunities for candidates to present their skills. However this is not possible with traditional methods for candidate selection.

Applicants are expected to produce a cover letter and resume that will accurately display their skills in detail for employers to review and explain their work experience and skills in short interviews. Employers are expected to choose the best candidate from the resumes received and interviews held. Patrick Hauenstein (2000), President of Advantage Hiring, wrote that initial candidate screening is often based on a full review of the candidate's resume and the requirements of the vacant position to determine whether the candidate should be advanced to the interview. Hauenstein (2000) wrote, "According to a recent survey of 162 benchmark organizations, 80% of organizations still rely on this approach". Yet resumes are not accurate evidence of candidate skills. This type of assessment of a candidate's skills and abilities does not reveal what a candidate knows and many resumes may include false information. Bill Campbell, from the Dallas Morning News writes "More than 30 percent of all resumes contain false or

misleading information, according to HireRight pre-employment screening services. Ten percent of all resumes contain what the service categorized as ‘blatant falsehoods’” (2001).

The interview is also an inaccurate method of determining the best candidate. Many interviews focus on whether a candidate will “fit” into an organization or the personal biases of the interviewer rather than the skills and motivation of the candidate. According to Saterfiel and Associates, an Internet based pre-employment testing and personality assessment company, the hiring decision is made subconsciously by the interviewer within the first 4 to 20 seconds of meeting the candidate (“Problems”).

The question that is put forth is “How can an applicant present his or her skills effectively to employers, thus increasing their chances of obtaining an interview with an employer or valued positions with respected companies?” Job hunters have pondered this question for many years. Some applicants argue that without a lengthy interview they will not have an opportunity to display skills and achievements to potential employers. Others argue that only through a method that will allow them to display a collection of their work that accurately shows their experience over a period of time, with examples of their work to document achievement, can there be a more authentic assessment made of their abilities.

Portfolios are an alternative tool in use by some job hunters and organizations. Portfolios provide a method for job hunters to present a more thorough representation of their skills and talents before and during the interview selection process distinguishing themselves from other candidates.

Traditional portfolios are usually paper based and include examples of student work kept in manila folders, three-ring notebooks, and perhaps tapes and videocassettes, and other containers of student work. However, this type of portfolio format can create various problems

for the consistent needed revision of materials included in the portfolio and storage of the portfolio materials. A better option to the traditional portfolio is the use of electronic media to create an electronic version that has many benefits. Electronic portfolios differ from traditional portfolios in that information is collected, saved, and stored in an electronic format (Barrett, 1998). Electronic portfolios may have advantages over traditional paper portfolios. Their compact size and ease of accessibility make them a better choice. With electronic portfolios, job hunters are able to use multimedia technology to revise, edit and refine portfolio items. Job hunters can also store artifacts in various media types including, audio, videos, digitized pictures, graphics and text, to expand the delivery of their portfolios.

The use of electronic portfolios in the current electronic format is not very different from the traditional paper and binder portfolios of the 1970s, 80s and early 90s. Unfortunately, there is little in the way of strategy to capture the attention of employers other than a few flashing buttons and hyperlinks. The utilization of pictures and text is still the predominate format of many electronic portfolios today. With advancing technologies, additional methods are available but have not been widely used. One such method is the use of video clips in electronic pages in the electronic portfolios to introduce the job hunter and their work.

Digital video equipment, video editing programs, and various methods of creating professional video clips now provide new and unique ways to document skills. Video can be a great vehicle for illustrating a point or creating a visually dramatic presentation in order to capture the attention of an employer. For example, instead of a text based message, a video could be used to introduce an applicant in their electronic portfolio or the candidate could perform a demonstration with actual exhibitions of their products at work.

Electronic portfolios with video have the potential to help both the applicant and employer. Electronic portfolios with video provide job hunters an opportunity to present their skills and employers the chance to review tangible examples of applicant's expertise. With the inclusion of video, employers can examine and reexamine a candidate and their work at their leisure.

There have been few studies completed about the benefits of using video in electronic portfolios. The studies that have been completed confirm that video is one of many items students should include in their electronic portfolios as examples of their work for educational assessment purposes rather than use in electronic portfolios for the career search process. Therefore it's the author's stance that an online module instructing job hunters on the effective use of video in electronic portfolios is needed. This study presents a formative evaluation of the investigator's instructional module instructing users on the creation and addition of videos to electronic portfolios.

With the instructional module provided, there were three goals for this project. First was that the participant would create at least one video clip to add to their electronic portfolio. Participants were expected to receive at least 70% accuracy on a checklist they received. Accuracy is defined in the completeness and correctness of the checklist items. Second, the participant would have a positive attitude toward using the module for creating video clips and adding them to their electronic portfolio. Third, the instructor would have a positive attitude towards using the module as an instructional tool and the impact the addition of adding video clips to electronic portfolios would have on a graduate course.

To complete the research, students in a graduate level educational technology class were asked to create one or more video clips and add them to their electronic portfolios using an

instructional module that was created by the investigator. While completing the instruction in the module, participants created one or more small videos, added the video(s) to their electronic portfolio pages, and answered questions about their experiences before and after the module was completed. Student surveys assessed their experiences and feelings about the project. The survey questions were based on Keller's ARCS Module of Motivational Design (Keller, 1987).

The educational technology professor also received a survey. The professor's survey focused on three things. First, the process students went through to complete the video instructional module. Second, the educational and personal gains students made. Last, how the addition of video to portfolios using the instructional module would affect the professor's planning and evaluation process if used regularly in the future.

Three experts with extensive backgrounds in video and design also participated acting as expert evaluators. The survey for the experts focused on their professional opinions on the module and its ability to clearly instruct users to create and use video in portfolios. Their advice was solicited for methods of increasing the module's effectiveness and improving any design issues.

In addition to the students, the professor, and the two experts, three employers and persons in the position of assisting students with acquiring positions participated. The survey for the employers focused on their professional opinions on the efficacy of using video in electronic portfolios submitted as part of the job application process.

While integrating video in student portfolios may not be the ultimate solution for job hunters and employers, it provides an additional opportunity to review candidate skills and abilities. Well made videos in electronic portfolios can be engaging and extremely informative, assisting in the candidate selection process. Creating videos to include in electronic portfolios is

an effective way to record a student's work for employment selection purposes. In addition the creation of electronic portfolios with videos encompasses the learning of many important and practical multimedia skills—Web design, working with graphics, recording and editing video and a reflection of one's own work.

CHAPTER II

LITERATURE REVIEW

Electronic Portfolios

The purpose of an electronically formatted portfolio depends on the creator and the need for the portfolio. Helen Barrett (2001), a well-known expert on electronic portfolios writes that “there are three general purposes for developing portfolios although there are many other types of electronic portfolios available.” The three general purposes for portfolios include: Learning (Formative) Portfolios, which usually occurs on an ongoing basis supporting professional development; Assessment (Summative) Portfolios, which usually occurs within the context of the formative evaluation process; and Employment (Marketing) Portfolios, which are used for seeking employment (Hartnell-Young & Morriss, 1999; Wolf, 1989, p35). Other types of portfolios include Working Portfolios and Showcase or Best works Portfolios (Barrett, 2001).

The definition of a portfolio also varies slightly depending upon the source referenced and the purpose for the portfolio. Educators in the Pacific Northwest, through the Northwest Evaluation Association (1990), developed the following definition of a portfolio:

A portfolio is a purposeful collection of student work that exhibits the student’s efforts, progress and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection; the criteria for judging merit, and evidence of student self-reflection (Barrett, 2001).

Authors of What makes a portfolio a portfolio write:

purposeful collection of student work that exhibits the student's efforts, progress, and achievements. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection (Paulson, Paulson, & Meyer, 1991).

T.L. Weidmer defines an electronic portfolio as “a purposeful collection of work, captured by electronic means, that serves as an exhibit of individual efforts, progress, and achievements in one or more areas” (Weidmer, 1998).

Although the definitions vary slightly, the overall concept is similar. Portfolios are meant to be collections that have been completed, created, or designed to show the work produced by an individual. All future references to portfolios in this paper refer to portfolios used in career or education advancement, although electronic portfolios maybe developed in other fields for a variety of purposes.

Over the last decade, portfolios have come to be used by persons beyond art, photography, and graphic design fields. People are using portfolios for various reasons, including career planning, employment, and assessing skill development (“Electronic portfolios,” 2002). A general consensus is that job hunters need to develop methods that promote and distinguish themselves from other potential competitors in the job market. Resumes and short interviews do not provide adequate opportunity for applicants to provide evidence of their expertise in tangible methods. This is reflected by the variety of professional literature and career center and university sites promoting various methods of job seeking and alternative means to promote oneself. On the other hand, a measurement of knowledge and skills acquired by the applicant is a

prime concern for the employer. Employers must determine who the best candidates for positions are with only brief amounts of information provided in cover letters and resumes and short interviews.

With portfolios activities that students and employees complete are recorded for later use in a portfolio. Traditionally these are presented in a printed format containing descriptive text and pixilated pictures bound in bulky binders. However, many of the activities that take place in an educational and job setting require skills that are difficult to document. A better option to the traditional portfolio is the use of electronic media to create an electronic version. Portfolios created in an electronic format allow for the inclusion of documents, images, videos and other multimedia.

Career Portfolios

Using an Electronic portfolio during the job search process is an excellent way to stand out from other applicants. It is much more exciting to give a potential employer a CD-ROM or an address to your dynamic portfolio than a plain résumé or curriculum vita. An Electronic portfolio can provide an interactive and exciting presentation for an employer. “A career portfolio represents an attempt to communicate ideas using words AND pictures, as well as an array of multi-media possibilities (sound, animation, net surfing, etc.) (Kimeldorf & Hagy).

Developing Electronic portfolios allows students the opportunity to have a competitive edge over other job hunters by displaying their skills and education in an easily transportable compact disc or on a site stored on a server. Students and career professionals can collect examples of their work that can be easily displayed for potential employers. Ultimately, a portfolio “is a dynamic tool to assist the new economy learner and worker to achieve success.

It's a portable means of storing, tracking and presenting samples which demonstrate skills and abilities" ("Electronic portfolios," 2002).

For finding employment in difficult times, "the career portfolio is a marketing and self-promotional tool to use in job interviews," since it "supports and demonstrates the skills outlined in a résumé" ("Electronic portfolios," 2002). For demonstrating one's abilities, "Electronic portfolios, they say, show assessors – whether grading professors or prospective employers – what a transcript or test simply cannot: knowledge and achievement, growth and evolution, and reflection over time" (PT3 Abstract).

With all the benefits available to students and job searchers, it is no surprise that many universities began to research the use of electronic portfolios. In the mid-1990s, Gail Dunham from Michigan State University began initial experiments inviting students to create portfolios to help them prepare for future job interviews. Thom Rakes, Assistant Director in the Career Center at the University of Missouri, began promoting online portfolios and advising to take them along to their interviews (Kimeldorf).

In 1995, in a how-to document for creating portfolios, Dr. Steve Iseman and Nancy S. Sheely taught Ohio Northern University graduate students about the importance of a strong professional employment portfolio:

The material will show that what makes you different from other applicants for a particular position. A well-prepared portfolio provides "evidence" to the reviewer of your accomplishments, skills and abilities; it documents the scope and quality of your experience and training...A portfolio is designed to do one thing—to support you as you market yourself! It is limited only by your imagination. It is

possible for someone in any major to successfully develop and utilize this tool!

(Kimeldorf)

Furthermore, Dr. Jerry P. Galloway, of Indiana University North West, writes on his Educational Computing site page, “It is a mistake to ignore the value and usefulness of an electronic portfolio (EP). As the Coordinator of Computer Education for IUN, I take the position that virtually every student should have an electronic portfolio (EP)” (Galloway).

Despite the fact that many students and job searchers have realized the benefits of producing an Electronic portfolio and although portfolios are beginning to find a place in the job market, the various technological advances allowing for additional methods to promote or distinguish one worker from another are not being utilized. Current Electronic portfolios often include a résumé, a few images of the creator, art pieces they have designed or places they have visited, with flashing buttons and hyperlinks bringing it all together. The use of video clips in the various electronic pages in the Electronic portfolio to introduce the candidate and demonstrate their talents is a unique and exciting possibility.

Electronic portfolios with Video

In the past, many technical issues such as bandwidth, compression schemes, and complicated capture and editing software made Web-based audio and video impractical (Bradley, 2000). However, there have been many improvements. Computers have become faster, and Internet user’s connections to it have increased. In addition, new audio and video compression options and digital cameras have become readily available at reasonable prices. The practicality of delivering video over the Internet is now much more feasible.

Video can be a great vehicle for illustrating a point or creating a visually dramatic presentation. With digital video, students can find unique ways to document their skills. A video clip can be used as an introduction to an Electronic portfolio or to a new page in the portfolio. Other example videos include a teacher showing examples of their teaching skills, a Web designer demonstrating their design skills when building a Web page, or perhaps video testimonials a student's work from professors and employers.

According to Sue Talley, professor at the Graduate School of Education and Psychology at Pepperdine University, "electronic portfolios are a tremendous resource to use with potential employers." "They can pop in the CD-ROM and watch streaming video of the applicant in an actual teaching environment" (Chapin, 2003).

Video adds another dimension to an Electronic portfolio. Video clips of various lengths and with specific goals can allow "the potential employer an opportunity to see beyond the black and white content" of a student's portfolio ("Electronic portfolios," 2002). Another great addition to a portfolio would be to use video clip to explain details often not explained in a résumé.

Video résumés are one example of using a short video clip to present yourself, taking the form of an interview or personal statement. It is an opportunity to introduce yourself, discuss your accomplishments and present why you would be an asset. Video résumés are especially useful for anyone wanting to make a more direct impression on a potential employer, especially at a distance ("Electronic portfolios," 2002).

Equipment Needed

To create video and add video to a portfolio, students will need access to a digital video camera, miniDV or a Digital8 tape, and a FireWire or USB 2.0 port for fast connection to their computer to transfer the video stream. Their computer will need to have speakers and a sound card so that they can replay the video and hear it. They will also need access to software to transfer the digital video to the computer.

Benefits

The addition of video to Electronic portfolios has many advantages. An Electronic portfolio with video aids a student's career development by allowing them to keep track of their education and career in concrete and detailed ways. This is beneficial in a rocky job market where few jobs are secure and an up-to-date portfolio can save hundreds of hours of work when unemployment could be lurking around the next corner. Electronic portfolios with video provide job hunters with an opportunity to present their skills and employers the chance to review tangible examples of a candidate's work. With video in their electronic portfolios, applicants can present examples of their work before the selection of candidates for interviews. Applicants who live far away and are unable to attend interviews in person can present themselves, examples of their work, and professional references from a distance. With the inclusion of video, employers can review many examples a candidate's work. In addition, employers can examine and reexamine a candidate and their work at their leisure.

The technical expertise students will gain by learning how to produce videos and add them to their Electronic portfolios is an important advantage when seeking employment. Many employers today are looking for specific technical skills. By adding dynamic video of a student drawing using graphic design software creating a Web page, or even teaching a class, producing

an Electronic portfolio in itself is an excellent method to show those skills. Demonstrating these technical skills to the employer is a way to say, “I know how to do this. I didn’t just put it on my résumé.” Many employers want to see a potential employee’s skills before they hire them.

Watching an employee at work on video clips is a great way to meet this need. A newscaster could show an example of announcing the evening news or a counselor could role play therapy skills with a fellow student.

Learning how to design and produce videos for Electronic portfolios will help to develop presentation skills. The layout and design of a portfolio is an important factor in deciding what videos should be made or where videos will best fit. For example, students will find that a video introducing a portfolio or its creator would best fit on the home page of a portfolio or a personal page instead of a page dedicated to examples of their work. The use of story boards to design the sequence of video clips and the creation of narratives for the videos will help students learn to communicate key points and ideas in a few sentences. In addition, developing narratives for videos will improve student’s ability to talk about themselves professionally. Finally, capturing and editing videos allows students to view themselves on video to see how employers will view them. This is an excellent way to improve speaking skills and learn to control mannerisms.

An Electronic portfolio can be easily modified and maintained by adding new videos as needed. Accessibility to the portfolio is a huge benefit. This is especially important for job applicants who may be applying from a distance and are unable to come to an interview.

Disadvantages

Technical Issues

Despite all of the advantages, there are some disadvantages of adding video to an Electronic portfolio. Students will need to have access to the hardware and software needed to

produce, edit, compress, and add their videos to their portfolios. It is expensive to purchase needed software and hardware, and many students or jobseekers may not have the funds to purchase these items.

Producing and editing video to add to a portfolio can be very time consuming. Although it may seem easy on television, many takes are often needed to produce the right shot for a final production. Editing can also be very time consuming. Clipping or cutting must be decided, music and voiceovers may be added, and compression must be accomplished to ensure a small file size with a good quality picture and sound.

File size issues are also a concern. Students will need to find out if there is sufficient storage space on their Web server for the large files which are necessary for video capture and editing and for storing the portfolios. Large file sizes can also interfere with the use of the videos. Progressive downloading of videos requires that the videos be downloaded before they can be played. Large files that take too long to load may never be viewed at all. The majority of Internet users today still use a 56K modem (Johnson, 2003). This is a fairly slow connection speed compared to broadband. Students may need to decide if they are going to compress their files to the smallest file size to ensure quick downloading or settle somewhere in the middle to ensure picture quality, especially if they are going to send a large number of audio and video signals over the Internet.

Students who decide to stream a video to avoid the download time issues with progressive downloading of videos will find that the alternative method of streaming also has concerns. One problem, a poor video signal, could lead to a loss of the video stream during heavy Internet traffic periods. (Bradley, 2000) In addition, streamed videos can not be stopped

and replayed until the video has completed playing. Finally, streamed video may also be blocked by some firewalls preventing prospective employers and recruiters from viewing them.

Persons who would like to view videos on their computer must download player software such as Real Video, Windows Media, or QuickTime. Some employers may choose not to view a video if they must go through the effort of downloading a player. In order to hear videos as well as view them, viewers will also need a sound card and speakers. Although most computers today have players already installed, some employers may not have newer equipment or features such as speakers.

The final issue may be most controversial, and this is the safety and security that is associated with images placed on the Web. There has been a great deal of questions about this issue and whether it is safe to place personal images on public Web sites.

Employers and Portfolios

One problem may be that employers never take the time to view the portfolio or the videos. This is difficult to think about after all of the work, but the reality is that employers are busy people and many employers view hundreds of résumés a week. This may mean that the process of reviewing an Electronic portfolio for one position is too much effort. Smaller companies or specific persons within those companies are more likely to review a portfolio.

Another problem may be the acceptance of viewing Electronic portfolios and the videos included in them. Reviewing video résumés by employers is not yet widespread in some areas. Human Resource personnel in Canada for instance, have noted that they are nervous “about having access to anything that could demonstrate a person’s age, gender, ethnicity, or any other physical characteristic that might be visible in such a record” (Dikel)

CHAPTER III

OBJECTIVES

There were three objectives for this project. The primary objective was that the graduate student would create at least one video clip and add the video(s) to their Electronic portfolio with at least 70% accuracy as reflected by their score on a checklist they were provided (refer to Appendix B). The second objective is that after completing the Video and Electronic Career Portfolio module, the graduate student would have a positive attitude about creating videos and adding them to their Electronic portfolios. The third objective of the project was to have the course instructor evaluate the students' work and contribution the video made to their portfolio. This evaluation would result in using video as part of the electronic portfolio assignment for future curriculum and planning.

Student attitudes about adding video to their Electronic portfolios were measured through questionnaires in which each student reported their opinions before and upon completion of the project. Keller's (1987) model of motivational design, referred to as the ARCS model, was used as a guide to the questions asked about the project. The ARCS model consists of four areas of motivational design: (1) attention, (2) relevance, (3) confidence, and (4) satisfaction. An instructional module was produced by the investigator to explain in detail the exact procedure for guiding students to create their videos and add them to their Electronic portfolios. The module was geared toward students with some computer experience.

The effective objective of the instruction sought to encourage a positive attitude towards the module. It was anticipated the result would be motivation and interest to create a video for an Electronic portfolio, which may lead to students improving their chances of acquiring employment positions they want. Student attitudes about creating and adding video to their

Electronic portfolios were measured through pretest and posttest surveys, in which the students reported their opinions about the project and their skills with regards to each component of the ARCS model. Pretest and posttest surveys can be found in Appendices A and B, respectively. Attention survey questions asked students if and how the project gained their attention and if the project made them want to create videos that would enhance their Electronic portfolios. Relevance questions asked students if they felt the skills they learned while creating their videos and adding them to their Electronic portfolio were relevant to their careers and would they use these skills in future employment. In addition, students were asked if the skills they learned could help them in other aspects of their life. Confidence questions asked students to rate their attitude toward using video in their Electronic portfolio as a means to document their work. In addition, students were asked what multimedia skills they had before and after the project and whether they were more confident in using the technology after completing the module. Satisfaction questions asked students if they felt content and satisfied with the video clips they added to their Electronic portfolios, if they intend to improve and update them, share them in the future with others, and create additional videos for their portfolios.

The behavioral objective was for participating graduate students to be able to create video clips utilizing personal style and creativity following the instructional module. Several outcomes, as measured by student's self-assessment of learned technology in the attitudinal survey, resulted from the behavior objective. In addition to developing multimedia-authoring skills, students were able to provide examples of their work as evidence of their skills.

CHAPTER IV

METHODOLOGY

When changing a system that already is in use, examination of each of the components that make up the current status of the system is needed. The *systems theory* with its beginnings developed by Ludwig von Bertalanffy, a theoretical biologist who lived in the first half of the twentieth century, is one method of examining a system's components for change. Von Bertalanffy writes that systems theory is not so much a theory as it is a way of looking at organizations (von Bertalanffy, 1968). The systems theory looks at systems as a whole with the idea that changes in one part of the system affect the other parts. The systems theory "focuses on the arrangement of and relations between the parts which connect them into a whole" (Heylighen & Joslyn, 1992). System analysis takes the systems theory a step further. Francis Heylighen and Cliff Joslyn write:

Systems analysis, developed independently of systems theory, applies systems principles to aid a decision-maker with problems of identifying, reconstructing, optimizing, and controlling a system (usually a socio-technical organization), while taking into account multiple objectives, constraints and resources. It aims to specify possible courses of action, together with their risks, costs and benefits (1992).

To analyze a system it must be broken down into its integral parts. This allows an analysis of the system as whole through each of its parts.

Systems Analysis

Computing technology has become very a popular tool for job searching and creating ways to gain the attention of perspective employers. The use of technology to create a portfolio with video is one of many ways to highlight your skills in a tight job market. The competition to gain the job of choice is becoming more intense. In addition, the need for workers who can demonstrate a solid record of their achievements, abilities, and proficiency in a variety of technical skills is rising. Employers would like to see what their applicants are able to do before they hire them. There are many things that need to be taken into account in order for this change to take place. Offering students and job hunters another way to promote their skills and improve their chances of gaining employment requires various tasks be completed. An analysis of the entire system is required to see what is already in place and what is needed. This system analysis includes the supra system, system, and sub system.

The Supra System

The supra system (refer to Figure 1) is made up of areas that indirectly affected the system, which in turn affected the sub system. The system in which the project took place was the Department of Technology of the College of Education at the University of Hawaii. The system was affected by the supra system which included employer needs, College of Education administration, and other universities.

The first component of this supra system was employer needs. As technology changes and becomes a part of our everyday lives, students are no longer expected to only learn to complete math problems, read and write proficiently, and recite parts of history. Students now need to learn technology skills that meet the demands of employers. Employers are often unable to ascertain whether applicants have the required skills, and applicants often have a difficult time

providing meaningful examples of their skills. This becomes increasingly difficult when an applicant is applying for a position at a distance.

The second component was the College of Education administration. Change usually begins with a school administration making decisions to include technological requirements or skills for graduation. Currently, the use of electronic portfolios as a graduation requirement is already in use; however, the requirement to include video or to design portfolios for career advancement is not.

The final component of this supra system is other universities. Because the College of Education is one of many colleges in Hawaii and across the United States, it must compete with other schools to fill student seats and create workers with skills that enable them to obtain employment.

The System

The system is the College of Education, which included factors that directly affected the sub system (refer to Figure 1). These factors included the ETEC 602 professor, the ETEC 602 Fall 2003 course requirements, time constraints, equipment and facilities, and knowledgeable staff.

The ETEC 602 professor had an important role of instructing and dealing directly with the student, the sub system. The professor's attitude concerning integration of video as a possible requirement for student portfolios was positive. She was eager to review the possible benefits for students both through technical expertise and employment possibilities. The professor welcomed the opportunity to have students test the module for effectiveness and add the option of adding video as one of their special effects choices for portfolios.

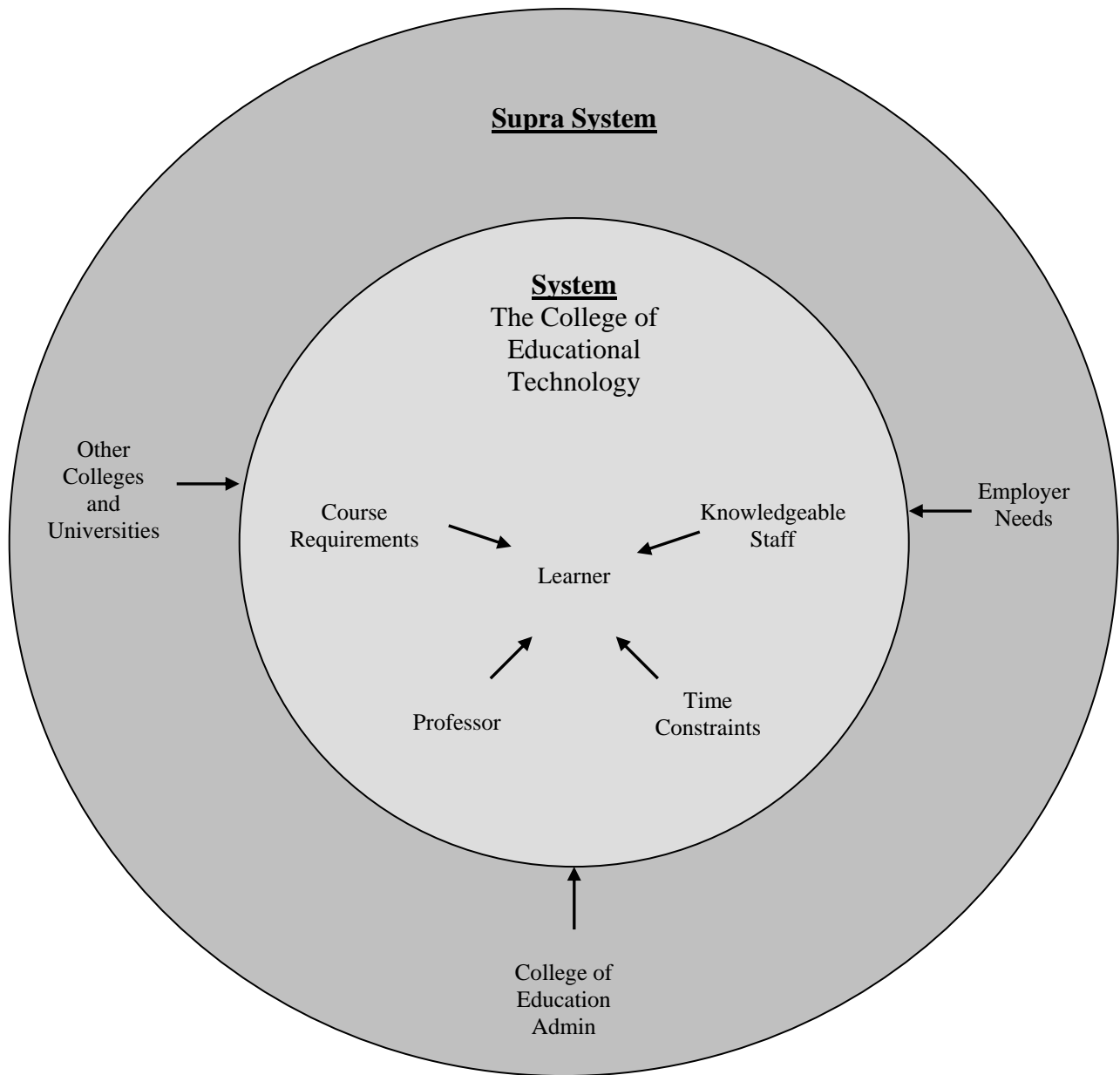
The second component in the system was the ETEC 602 course requirements. One of the course requirements was that students create an electronic portfolio. Although this portfolio may be used to meet the graduation requirement for an electronic portfolio, the assignment in ETEC 602 was meant to encourage students to begin to develop a portfolio that would represent a collection of the work they had completed throughout the program. Various requirements for the assignment included, developing a résumé and a philosophy of using technology in education, and images. One of the technical requirements was that students add a special effect to the portfolio. This could include one or more of the following: animation, sound, or video.

The third component was time constraints. There were many assignments students were expected to complete in the ETEC 602 course, each requiring time to finish. The professor made modifications to the course in 2002 to ensure that students had adequate time on each assignment by disallowing student access to assignment requirements until the project had been assigned. The electronic portfolio project was the final assignment for the course. It was available for students in late October, with the final assignment due the first week of December. In total, students had approximately 6 weeks to complete the assignment, which left little time to research and learn new technologies.

The fourth component of the system was the technical equipment that was available for student use. Students needed access to a variety of equipment to create and add their video clips to their portfolios. Equipment needed included: a computer, a digital video camera, a microphone, a tripod, mini-DV tapes, and video editing software. The College of Education had video cameras and other hardware equipment available for student use. They also had iMovie, video editing software, loaded on Macintosh computers that were available for student use.

The fifth component was a knowledgeable faculty and staff. Students entering the ETEC 602 course have varying degrees of knowledge and expertise when it comes to videography and Web design. Some students had a little understanding of using video equipment and software and creating videos, while other students did not have any experience. The Educational Technology Department had a very knowledgeable staff available in the computer labs, the Curriculum Resource Center, and through the Lei Aloha grant, who were available to instruct students on the use of the camera and other hardware equipment and the video editing software.

Figure 1. Supra System and System



Sub System

The main focus of the systems analysis was the sub system, the graduate student (refer to Figure 2). The sub system consisted of five components, which could impact the student's ability to achieve the instructional goals of the project. Factors that were relevant to the student included the student's purpose for the portfolio; experience with technology; attitude towards technology; access to the technology needed; and time constraints.

The student, who completed the portfolio, was the most important factor in the system. The student decided the purpose for their portfolio. Students who intended to use their portfolio for purposes such as employment or career advancement wanted to create a portfolio that was of high quality with a professional design and with attention gaining methods such as advanced Web page design and video clips. In order to create a portfolio using video clips, the students needed to learn how to create videos and add them to their portfolios. The student's attitude towards learning to create videos and add them to their portfolios was affected by their experience with technology.

A student's experience with technology could impact his or her choice to attempt to learn new technologies and use them. Students who had access to technology were more likely to use technology and become familiar with its capabilities, while students who had not had access to computing technology were more reluctant to try new technologies. In addition, students who had difficulties with technology in the past were resistant to attempting to learn unfamiliar technologies.

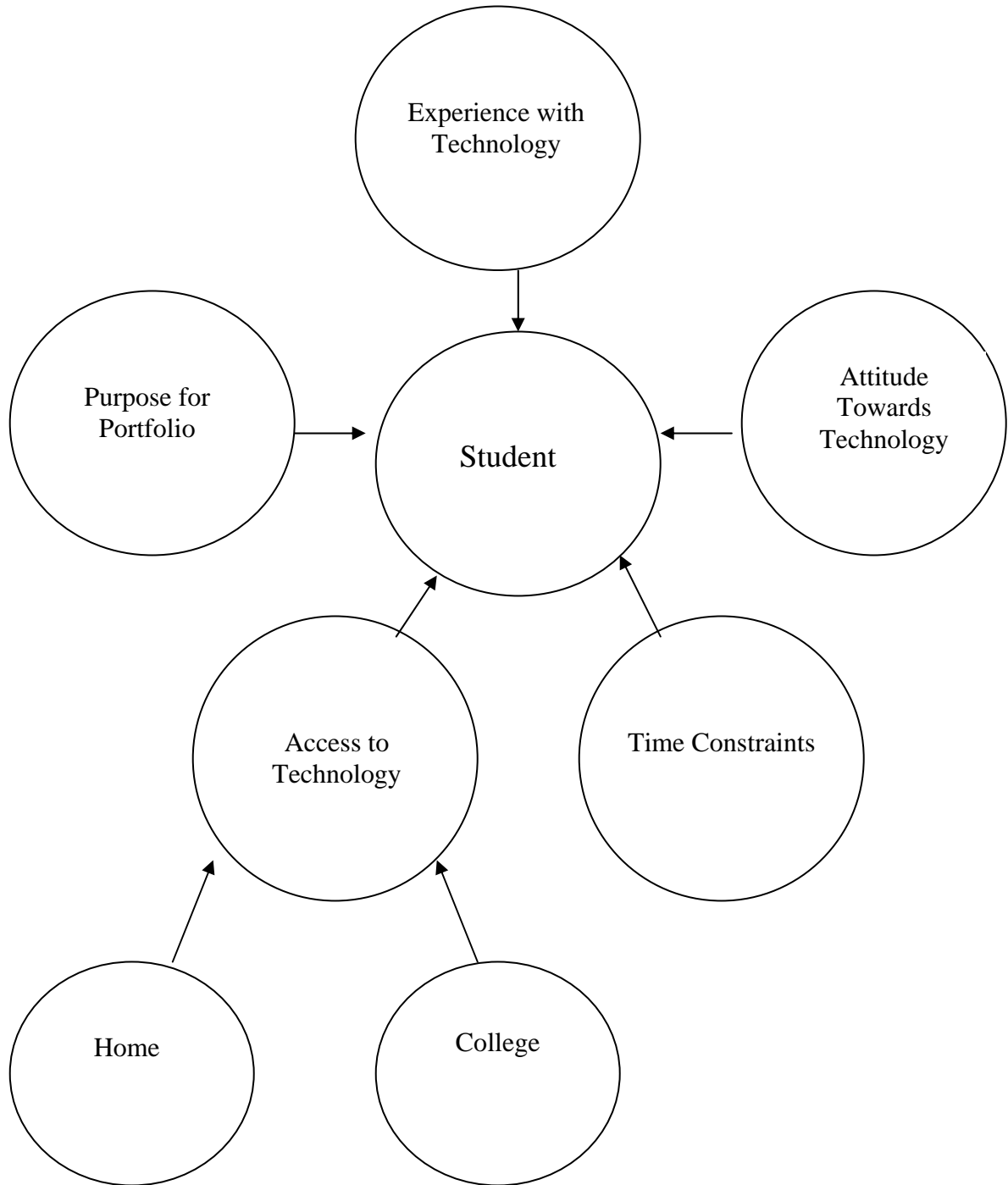
Student attitudes about technology are often a result of past experiences with technology. Student attitudes towards technology can determine their enthusiasm when it comes to working with new or different technologies. A student who is interested in learning additional technology

skills and improving his or her portfolio will be more successful than a student who is completely uninterested.

The students who were interested in creating a video-enhanced portfolio needed to have access to equipment to create the portfolio and videos and add to videos to their portfolio. Some students may have had access to a computer, a video camera, a video editing software program and other hardware and software needed to create and add videos to their portfolio at home, while others may not have had access to any. A student who had access to the needed hardware and software would have a better chance at creating and adding videos to student portfolios.

The addition of creating and inserting a video to their portfolio further complicated the busy schedule of graduate students. Students were required to make some changes in their schedule to allow for time to work on their videos. Students needed time to create a portfolio and then create and add their videos to their portfolios. Students who had fewer computer skills probably needed more time than those who had already mastered many of the skills needed to create the portfolio and the videos and add the videos to the portfolio. In addition, students who had a computer at home had an advantage outside of the college to work on their videos and their portfolio. Even with the availability of computers outside of the college to many students, students may not have had time to work on the portfolio outside of class times. Despite all of the obstacles and since the portfolio was produced by the student over a six week period, the student had enough time to complete the assignment with little difficulty.

Figure 2. Sub System



Target Population

The target population for the Video and Electronic Career Portfolios project was the graduate school students enrolled in the ETEC 602 fall 2003 course, at the College of Education in the University of Hawaii Manoa. Students take different courses in the ETEC program based on the interests and abilities of the students and the programs for which they were registered. The ETEC program offers classes that meet the requirements of other university degree programs. Therefore, some students may be in the ETEC Masters' program, while others may be in an Education doctorate program which requires students take courses to meet the needs of their program.

Participants

The participants in the Video and Electronic Career Portfolios project were graduate school students in the ETEC 602 fall 2003 class who volunteered after a brief period of introduction by the investigator. Students needed to commit to work on their videos and their Electronic portfolios during the last six weeks of the class between the end of October and early December, which was the period in which students were assigned to complete their portfolio projects.

Other participants in the project include the ETEC 602 professor whose students were volunteers for the project and three experts in video and Web design. The professor evaluated the process students went through to complete the instructional module and witnessed the educational and personal gains students made. The professor could explain how the instructional module would affect the planning and evaluation process if adding videos to electronic portfolios was considered for a future course feature. The participating video and Web design experts were the expert evaluators for the project. Their role was to provide feedback concerning revisions to

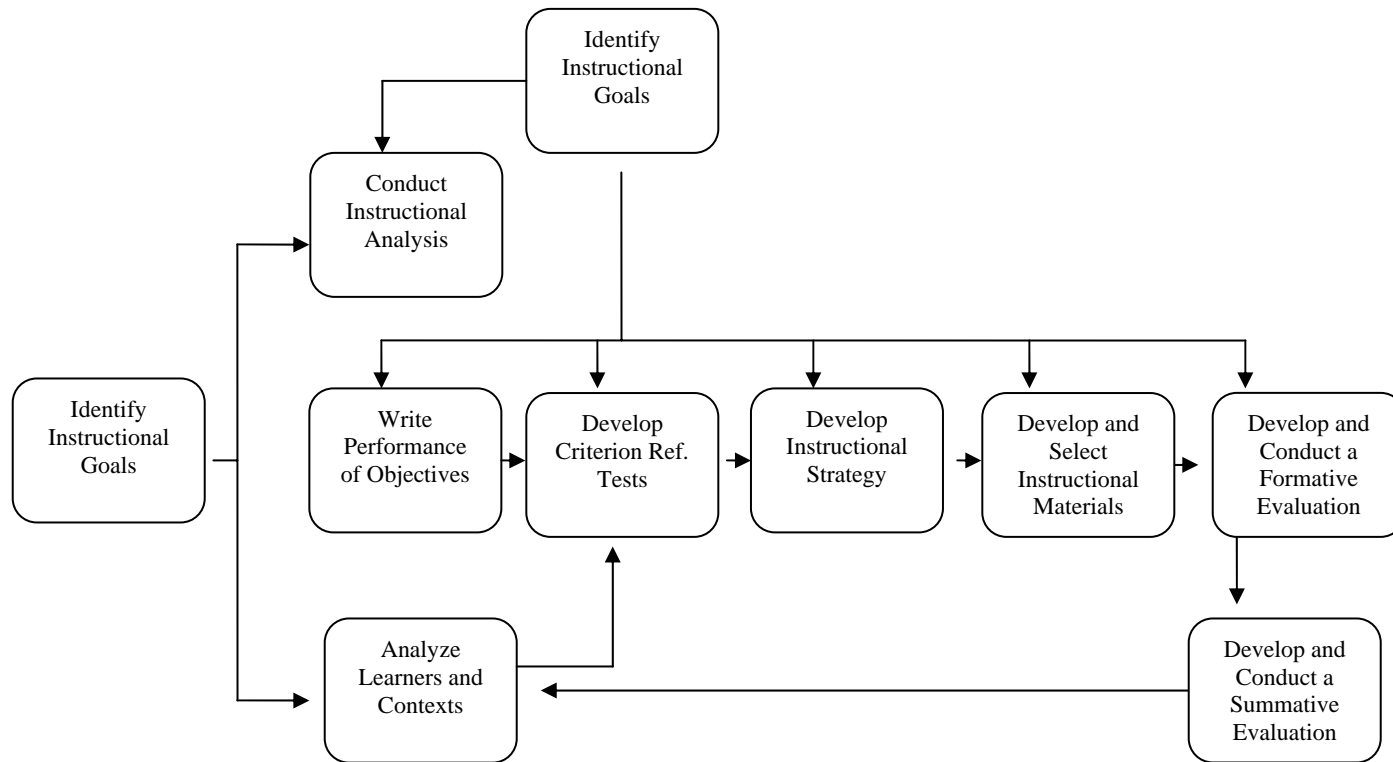
the instructional design module through content expert and one-on-one testing. These materials were revised prior to the field test.

Project Design

The project design and its instruments were based on Dick and Carey's (1996) Systematic Design of Instruction Model. The audiences of the project were graduate level students at the University of Hawaii enrolled in the fall 2003 ETEC 602 Teaching/Training Technologies course. While the focus of the project was for students to learn to integrate video into their electronic portfolios, the purpose of the project was for students and job hunters to learn a new method to improve their chances of gaining employment or displaying skills to current employers. This will be a continual building process as students graduate and continue to use these skills in the future and build on the portfolios with additional videos and other instruments to show their work. Expert reviewers in the video and Web design field examined the module to increase its effectiveness and to help future users to utilize the information provided.

The project consisted of an introductory set of instructions and a Web-based instruction module. The investigator used the Systematic Design of Instruction Model to designing the instructions, checklist, and surveys. The systematic approach provided by the model allowed for a structured design of steps to be completed, to help ensure strong and valuable instruction (refer to Figure 3). "The instructional strategy component of the Dick and Carey model described how a designer (of the instruction) uses the information from the analysis of what is to be taught (gleaned from a pre-implementation "audience analysis" phase), and to formulate a plan for presenting instruction to learners (i.e. the actual application of the model)" (Loh, Model for Designing Instruction).

Figure 3. Dick and Carey Systematic Design of Instruction Model



The first step in the Dick and Carey System Approach Model is to assess of the needs of the learners and set the goals to be met. While completing this step the investigator looked at the discrepancy between the instructional goal and the current state of affairs. Once the needs assessment determined what learner's needed to know, objectives were designed to determine what learners would be able to know and be able to do after the instruction was complete. Step two requires conducting an instructional analysis. This step was used to determine the skills needed to reach the goals. The investigator completed a task analysis to determine the procedures and skills that would be used in each step, an information processing analysis to determine the intellectual skills that would be used by the person learning the complex skills, and a learning task analysis which analyzed the objects of the instruction involving the intellectual skills. The third step is to analyze the learners and contexts. This step determined the entry level skills learners needed. This included intellectual skills, comprehension skills, and personality traits.

Based on the first three steps, the designer set the objectives for the project. Step four, the designing of the performance objectives allowed the designer to take the needs and goals and translate them into the objectives. This step helped to determine if the instruction related to the goals. The skills learned, the conditions under which the skills were learned and performed, and the performance criteria, are all included in the performance objectives.

Step five was the development of instruments for assessment. The assessment was based on the set objectives. It was used to determine if a learner possessed the necessary prerequisites for learning new skills, checked the students understanding during the instruction, and was useful in evaluating the instruction. Assessment was measured by the learner's ability to complete the set objectives.

Step six was the development of an instructional strategy. The instructional strategy was used to outline how the instructional activities would occur and how they related to the objectives. This included deciding the pace and the delivery method for the instruction. The instruction was learner paced since learners could access the instruction and repeat the instruction as was needed. The delivery method was through a site accessed over the Internet. The instructional strategy included the Web-based module, checklist and surveys.

Step seven used the information obtained in the instructional strategy to produce the instruction to be used by the learners. This included all materials produced to communicate each of the steps of instruction.

Step eight was the formative evaluation of the instruction. This was used to provide information for revising and improving the instruction as needed to make it as effective as possible for a larger number of learners. A formative evaluation occurred through the use of expert evaluators conducting one-on-one testing and through field testing. Data was collected by means of a variety of methods including direct contact with the designer through email or phone, and through surveys. There were no tests, however, the checklist served as the guideline for students to ensure that they include the correct components for their Electronic portfolios and videos.

The module was created using Dreamweaver, a Web page authoring program. The module was uploaded to the Web to provide access to the resource once students had volunteered to be a part of the project. Students received an initial set of instructions about the module, the checklist, surveys, and the contact information and available chat times with the designer.

Since participation was voluntary and many graduate students in the ETEC 602 were already busy, only three students out of a potential sixteen agreed to participate. After planning

and carrying out the initial study, in an effort to better examine the perceived effectiveness of the module in greater depth, the investigator also sought out information from 3 professionals who participate in hiring and assisting job hunters in finding positions to review the portfolios of the three participating students. Information was obtained about the professional's perceptions of the effectiveness of having video in portfolios that are submitted as part of a job application process. Donald Kirkpatrick, a noted researcher in the field of training, suggests that evaluators gather information in four levels: 1-participants' attitudes toward the training; 2 – participants' knowledge and skill acquisition; 3 -participants' application of their new/enhanced knowledge and skill on the job and 4- participants' impact on the work place. "According to this model, evaluation should always begin with level one, and then, as time and budget allows, should move sequentially through levels two, three, and four" (Winfrey). Levels one and two were addressed in the testing of the module. Students were asked to provide information regarding their attitude toward the module and training received in the project and the portfolios containing the created videos were examined after the project was completed to determine whether learning had taken place. Level three was addressed through evaluating the additional effectiveness of using video in portfolios with potential employers. This required an appraisal of the performance completed by each student by persons in position to best determine whether there was value in providing video in student portfolios. Level four was not addressed during this study, although this could be addressed in a future case study following the portfolio designers into their work sites to obtain additional information on the impact of using video in their portfolios. This step may look at whether the creation of video for student Web-based portfolios led to improved job performance, promotions, and increased skills.

By further evaluating the portfolios, the investigator is able to continue to determine the value and effectiveness of the training. While the value and effectiveness may seem evident by positive feedback from the participants and the portfolios containing completed videos, having the portfolios evaluated by those in the position to hire personnel or assist in the process, will allow a measurement of the practical results of the training in the real world.

Employers and career personnel examined the completed portfolios to determine whether video would be an asset for reviewing current employees or for persons searching for employment. These hiring personnel work in positions where portfolios will be helpful when employment decisions are made. Participating hiring personnel included the Career Services Coordinator at the School of Psychology and Counseling and the Director of the Information Technology department at Regent University and the Director of Public Relations and Marketing at Southeastern Public Service Authority (SPSA) in Virginia Beach, Virginia.

The employers and hiring personnel participated by providing their professional opinions on the value of the video in the portfolios. The survey for the hiring personnel focused on employers' professional opinions on the quality and value of the student Electronic portfolios and whether the use of video in an Electronic portfolio would be beneficial for applicants and employers in the hiring process. The expectation was that employers would indicate a positive attitude about reviewing portfolios with video for hiring purposes.

Data Collection

Formative Evaluation

A formative evaluation was conducted during the creation of the electronic portfolio projects. Formative evaluation is an important step in the process of producing a well designed instructional module and is a fundamental element of Dick and Carey's Systems Model

Approach for designing instruction (1990). Based on Dick and Carey's Model, revision should occur when feedback is obtained from the target audience. The results obtained will provide evidence for revising the project to make it more effective for future users. The process to obtain feedback occurred after the first and second drafts of the instructional module were completed, through the use of a content expert with extensive knowledge in videography, a one-on-one session with knowledgeable learners from the ETEC graduate program with knowledge in Web Design, videography, and instructional design, and lastly small group testing. Data was collected from consultation with the content expert through a survey, a one-on-one session with verbal feedback, and the small group through a pre and post survey, and a checklist. The feedback that was acquired was then used to reevaluate and revise the Video and Electronic Career Portfolios module and surveys.

Expert Evaluation

The lead expert evaluator received his bachelors' degree in Communications and a minor in Graphic Design. He has extensive experience as a Web designer and video producer. He currently works as a graduate student in with the LEI Aloha Grant Project with the College of Education at the University of Hawaii, where he is working to recreate and update the ETEC Connections Web site; install and maintain the computer systems and multimedia equipment for the Digital Media Group; produce videos for broadcast and Web distribution, and optimize and compress videos for the Web, CD, and DVD distribution. He also co-founded Web Works Hawaii and worked in the past as a media specialist and as a freelance multimedia producer and designer.

The lead expert went through the Video and Electronic Career Portfolios module and participant surveys. This evaluation occurred via the Internet after the second draft was

completed and available on the Internet. The content expert received the link to the Video and Electronic Career Portfolios module, and the participant surveys on October 17, 2003. The content expert was given one week to evaluate the module and surveys. After the content expert reviewed the module and surveys the investigator consulted with him and received valuable feedback on how the Video and Electronic Career Portfolios module could be improved. Discussions with the expert included the expert's professional opinion on the design of the module, the effectiveness of the instructions provided and the accuracy of the module content.

One-on-One Testing

The one-on-one expert has her bachelors' degree in communications. She currently works as a Media Specialist/Technology Mentor at Leeward Community College in Honolulu where she trains faculty and staff on a variety of software programs and technologies. She is also a graduate student in the ETEC program. She has experience in instructional design, Web design and video production and editing. She has some experience with placing videos in Web pages. She does not have experience with creating videos for the purpose of placing them into an electronic portfolio but, she is familiar with computer hardware and using many software applications. Due to time constraints the one-on-one session occurred informally, face-to-face after the first draft of the module was completed. Discussions with the expert included the expert's professional opinion on the design of the module, specific items that were included in the module and the effectiveness of the instructions provided. As soon as possible the investigator recorded the expert's advice.

Field Test

The ETEC 602 class began in the Fall of 2003. Due to time constraints; small group testing was not possible. The field test took place with students that volunteered for the project. Students were informed that they were part of an instructional design study. These students worked on and completed their videos and the Electronic portfolio during the last 6 weeks of their ETEC course from last October through December 12, 2003.

The investigator introduced the instructional design study and explained the purpose of the study to the ETEC 602 class through an emailed letter. Next, the investigator used emailed instructions to explain the requirements of the project. Volunteer participants received the initial instructions, a checklist, a pretest and access to the module, which included examples, instructions, and links to other resources they needed to participate in the study and create their videos for their Electronic portfolio on October 17, 2003. Although the investigator was available for support during the 6 week project duration, students were asked to complete the module independently using the Web-based module. Students who found they could not complete parts of the module without assistance could send questions via email, meet in a weekly chat session, or reach the investigator by phone. Students were asked to send their final survey and link to their portfolio at the end of the class, the second week of December 2003.

Feedback data from the field test was obtained through a variety of methods. Students were asked to complete a survey after the completion of the module and complete a checklist of module requirements. The instructor also collected data through the questions sent via email. The investigator was able to obtain both quantitative and qualitative data from participants.

The Surveys

All student participants were given a survey before beginning the instructional module (refer to Appendix C). A second survey was given after the completion of the module (refer to Appendix D). The first survey was meant to obtain data regarding the student's attitude towards technology, their experience and comfort with Web page authoring, and with videography. The students completed a second survey after they created their portfolio with the added videos in which students will be asked about their comfort level with adding video to Web pages after the module has been completed. The second survey was used to determine any changes the student may have towards technology and the quality of instruction in the instructional module site.

The Rubric Checklist

The investigator used the checklist when reviewing each portfolio and video. Students were asked to refer to the checklist when completing the module. The checklist was used as a guideline for evaluating each portfolio and video and a means of measuring the project's instruction effectiveness. Each student in the field test received a rubric checklist with the initial instructions before beginning the instructional module, so they would know what was expected of them. The rubric checklist (refer to Appendix B) consisted of the requirements for creating and Web pages in the student portfolios, leaving much of the creativity to the student. Objectives for the Video and Electronic Career Portfolios project required 70% accuracy according to the checklist. Instruction for the project was considered effective if the portfolio with video meet the 70% accuracy level.

The Graduate School Professor

The graduate school professor's input was important in ascertaining the impact the inclusion of adding video to student electronic portfolios had on the course and if the perceived

value was worth the effort needed to add this requirement. The professor's opinions were collected through a survey she received two weeks after the course ended to allow for time to evaluate student portfolios (refer to Appendix E).

Hiring Personnel

The hiring personnel's input was important in determining whether employers and personnel in positions to hire or assist students in finding employment or employers in finding candidates felt that portfolios with video would be a valuable asset for a job applicant when submitted with an application. Three hiring personnel agreed to participate in the project. None of the employers had ever received or reviewed an electronic portfolio before. Employer A, is the Director of Public Relations and Marketing at Southeastern Public Service Authority, (SPSA) in Chesapeake, Virginia. Employer A has worked for SPSA for 13 years, and hires personnel for the Marketing and Public Relations departments. Persons who work in the marketing and public relations department do many things including creating and publishing newsletters, maintaining the public SPSA Web pages, and participant in television engagements. Employer B, is the Career Coordinator for the School of Psychology and Counseling at Regent University, in Virginia Beach, Virginia. Employer B does not hire personnel for positions at the University, however her position directly relates to preparing students for searching for employment and connecting employers with student applicants. She has a huge list of responsibilities which include providing guidance and counseling to students as they decide on specific careers, coordinating and helping run the annual Career Fair with over 30 vendors, maintaining the Career Services Web site which includes information on Résumé' Writing, Interviewing Skills, Cover Letters, and Career development, as well as links to job banks, job postings, and current openings and she works individually with students to review and critique résumé's and cover

letters and prepare students for interviews. Employer C is the Vice President of the Information Technology department at Regent University in Virginia Beach, Virginia. She oversees the university Web, all IT support and operations, university networking, software development and support and the university media services. She hires all personnel for the IT department. The opinions hiring personnel were collected through a survey they received after the project was completed (refer to Appendix F). The hiring personnel received links to each of the student portfolios that were stored on servers on the Web.

Tasks of the Investigator

The first tasks of the investigator were to design the plan for the research, create the instruction module and survey instruments, and obtain approval or exemption from the Committee on Human Studies at the University of Hawaii. Once an exemption had been received the investigator collaborated with the content experts in the field of Web and instruction design and video production and editing who determined the instruction's effectiveness and the accuracy of the content. After receiving evaluations from the experts, the module and survey tools were revised. Once the module was revised, field testing was conducted where data was collected and analyzed. The module was revised several more times and the paper was written and finalized.

Tasks of the Participants

The participants were given an instruction sheet (Appendix A) that explained what the module was all about and what was expected of them. The participants also received a checklist (Appendix B), access to the Web-based module, and a pretest survey (Appendix C). The pretest survey was returned to the investigator during the first week of the module testing. After the

module was completed, the students received a posttest survey. The posttest was returned to the investigator upon completion.

CHAPTER V

DATA ANALYSIS AND RESULTS

Evaluation Tools

The tools used for data collection were each student's portfolio, checklist, pretest survey and posttest survey along with the professor's survey. The feedback from the expert evaluator and the one-on-one session also provided useful advice toward improving the instructional module.

Formative Evaluation

A formative evaluation of the Video and Electronic Portfolios provided data results through the expert evaluator's feedback, the one-on-one sessions, and the field testing. The results gathered were used in the data analysis and reevaluating and revising process.

There were two evaluation sessions conducted before the module was field tested. Due to time constraints, the first of the two evaluations was conducted informally over two sessions after the first draft of the module was completed with a one-on-one expert evaluator. The one-on-one was a female with experience in videography and Web design.

One-on-One

The one-on-one reviewed the module for approximately 30 minutes over two different sessions. Because of her abilities and experience in Web design and videography, she was able to quickly read over the module content and provide on-the-spot feedback. We discussed the design of the pages, the content in the instruction portion of the module and content in other areas of the module such as the module objectives and the technology glossary. She provided valuable feedback on the design of the module and the module instructions. She went through the module and reviewed each of the sections. She suggested reviewing the definitions in the glossary to

ensure they would be understood by an amateur Web designer or videographer. She recommended changing the layout of materials to breakup the material into smaller chunks.

Other smaller items were noted such as grammatical errors.

Expert Evaluator

After revising the Video and Electronic Portfolios module based on the information provided by the one-on-one, the module was reviewed by an expert in the field of both Video and Web design. In addition, the expert evaluator has extensive experience using video in Web pages. This expert provided a more in depth look at the material to ensure its accuracy. He also spent time evaluating the appearance of the structural look of the Web-based module, providing feedback on the design of the Web pages. See Table 1 for information provided by the one-on-one and the expert evaluator after reviewing the pretest, post test and module and the actions taken.

Table 1. Expert Recommendations

Project Item	Expert Evaluator Recommendation (verbatim)	Designer Response	Reasoning
Pretest Survey	Grammatical errors	Fixed errors	Expert evaluator feedback
Pretest Survey	Expanded the explanation of questions	Redesigned questions	Expert evaluator feedback
Posttest Survey	Style of writing. Noted terminology could be clearer.	Changed terminology	Expert evaluator feedback
Module	Noted grammatical errors	Fixed noted errors	One-on-one feedback
Module	Definitions in technology glossary may be difficult for a lay person	Revised the terminology used in some definitions	One-on-one feedback
Module	Adjust content layout into smaller chunks	Broke information up into smaller topics	One-on-one feedback
Module	Video/ QT media in top right not working in Netscape 7.1	Removed media.	Served little purpose and required a lot of space

Project Item	Expert Evaluator Recommendation (verbatim)	Designer Response	Reasoning
Module	Top area a site (banner) much to large, its just wasting space, less content can be viewed thus increasing scrolling	Changed design of site banner	Expert evaluator feedback
Module	Design: Photo is over compressed, generally it's not good to over compress head shots	Left photo	I like the photo and will look into changing the photo in the future.
Module	Did not like the font used for the titles	Changed the titles	Expert evaluator feedback
Module	Design: No engaging graphics, kinda plain looking	Will add more graphics and interactivity in the future	Expert evaluator feedback
Module	Electronic portfolio – was not defined	Defined the terms in the overview section of the module	Expert evaluator feedback
Module	Terminology: PC, or MS Windows, IBM is not used much anymore	Changed acronyms	Expert evaluator feedback
Module	Positive response to the nav buttons (forward and back) on the top and bottom of page.	None	Expert evaluator feedback
Module	Equipment needed was very similar to the content in the Overview of module section	Removed repetitive items	Expert evaluator feedback
Module	Recommended asking users to utilize updated browsers only due to problems with older browsers	Added recommendation	Expert evaluator feedback
Module	Simplifying explanations	Simplified explanations throughout module and added links to more in depth material	Expert evaluator feedback
Module	Some areas were confusing	Revised content	Expert evaluator feedback
Module	Liked instructions on installing media players	None	Expert evaluator feedback
Module	Video clip in example clips page was too large	None – This video served two purposes. It was an example of an introductory video and it was an example a of a video file size that was too large	Expert evaluator feedback
Module	Video Placement – didn't like the title of this section	None – couldn't think of another name	Expert evaluator feedback

Project Item	Expert Evaluator Recommendation (verbatim)	Designer Response	Reasoning
Module	Liked the links to resources in the creating videos sections	None	Expert evaluator feedback
Module	Noted that novices may not understand the video size comparison chart – recommended graphics	Due to time constraints this was not able to be completed before testing. In future revisions additional graphics and explanations will be added.	Expert evaluator feedback
Module	What about trade offs? Resolution vs. Frame rate vs. quality settings = file size	Added additional content to cover this information	Expert evaluator feedback
Module	iMovie was used as example/ PC users unable to use iMovie – recommended keeping the information more general and use iMovie as example	None – iMovie was an example of one video editing application	Expert evaluator feedback
Module	Adding video to a Web page for download – section is too broad and over simplified. Should use entry level characteristics only	Revised section	Expert evaluator feedback
Module	Focus on why users should add video to their portfolios	Added a section on this topic	Expert evaluator feedback
Module	Add section on the strengths and limitations of video on the Web.	Added a section on this topic	Expert evaluator feedback
Module	Add section on how video can be misused or used poorly on the Web	Added a section on this topic	Expert evaluator feedback
Module	Changed video/portfolio requirements from 90% to 70%	Changed checklist requirements	Investigator’s change because of the amount of material to be learned

Field Test

There were three field test participants, all of whom were excited about the prospect of learning how to add video to their portfolios. These students were able to begin using the Video

and Electronic Portfolios instruction module immediately and had many questions. Most of the immediate questions involved the submission of surveys. Many of the later questions involved information that was provided in the module. Two of the students had to be continually reminded that many of the questions they were asking were covered in the module. However there were a few occasions where the answer was not available in the module. These issues were noted, the students were provided with an answer and the questions were addressed in the final revision of the module. See Table 2 for student questions and revisions taken.

Table 2. Student Questions

Participant	Project Item/Type of question	Student Question (verbatim)	Investigator Response
1	Checklist	I am unclear what " if they've they've been they've been video editing equipment" refers to	Changed terminology to state: "video editing equipment and software" and provided examples
2	General	Should I limit myself to 40 seconds video?	Pointed the participant to the section in the module covering video size and downloading
2	General	Should I stream my video since I have access to storing my portfolio on a DOE server?	Pointed the participant to the section in the module covering progressive download vs streaming and streaming video
2	General	If my video is short, 15 seconds, should I still stream if the option is available?	Pointed the participant to the section in the module covering progressive download vs streaming and streaming video and addressed the issue of the benefits and disadvantages of streaming verse progressive download

Checklist

The investigator used the project checklist while reviewing each student's portfolio and videos. The value of each item on the checklist was 10 pts., equaling a maximum of 100 pts., before the possible bonus items which were equal to 10 pts. each in addition to the other points. Items that were completed on the checklist were marked with 10 pts. However if of an item was completed only partially, the student received only partial credit. See Appendix B for the complete Video and Electronic Portfolios checklist. Each item was scored and tallied in Table 3. The scores on the checklist helped to determine how effective the instructions in the module were and whether the students followed the instructions. The checklist was used in evaluating

each portfolio and video. The checklist focused mostly on a finished product rather than each of the items students would learn in the module. Objectives for the Video and Electronic Portfolios required 70% accuracy according to the checklist. The average checklist score was 81%.

Table 3. Student – Checklist Results

Checklist Scores by Item

Question	Participant			Mean
	A	B	C	
1	10	10	10	100%
2	10	10	10	100%
3	5	10	10	83%
4	10	10	10	100%
5	10	10	10	100%
6	10	10	10	100%
7	10	10	5	83%
8	0	0	10	33%
9	5	10	10	83%
10	0	5	5	33%
Score	70%	85%	90%	81.5%

n = 3

Scale: 0.0 (lowest score) – 10 (highest score)

High score: 100

No student scored 100%. One student earned 90%, another 85% and the last earned 70%.

Once the completed portfolios and data was available to analyze, it became evident that the students that spent the most time creating a professional look to their portfolios also spent the most time creating well made videos.

For checklist items 1, 2, 4, 5, and 6 all three students earned all ten points. However, all three students lost points for item #10, because their video file sizes were not compressed enough leading to long download times. This is an issue every student would encounter when deciding

between long download time or quality video. Since the purpose of the project was to create a video that will be viewed by an employer, the download time was important since the average Internet user is not patient. Participants B and C lost half their points for item #10 for long download times and Participant A earned no points since her video took an extremely long time to download. The download times were measured using T1, DSL, and dial-up connections. Download times in excess of 30 seconds but less than 1 minute 30 seconds lead to partial points. Download times in excess of 1 minute 30 seconds lead to no points.

Participant C earned 90%. Participant C lost points for a long download time and for relevance to the page the video was located on. The video this student created was an introduction video. It introduced the audience to the portfolio and its creator and would have been best placed in a more prominent position on the home page for the portfolio. Instead, it was a text link on a page titled "About Me."

Participant B earned 85%. Participant B lost points for download time and for not including a link to a media player for her audience. The media player is important since it provides a method for users to view the video. Media players loaded on PCs and Macs are often restrictive in screen size and may not be the best for users.

Participant A earned 70%. Participant A had an extremely long download time, she did not include a media link for her audience, and she had only completed some rough editing. Some items still needed additional editing. This student's video was different from the other student's videos in that her video had been created as an example of a class project she had completed with her elementary school students. The video had been created six months before she had begun working on her portfolio, while the other project participants had created their videos with their portfolio in mind.

The checklist mostly focused on the finished product. The checklist did serve its purpose in evaluating each portfolio and video. However, some items could have been better placed in a separate checklist that could be used while completing the instructional module. In addition, some items in the checklist seemed to be more subjective rather than objective. The participant may feel that their editing is sufficient, while the investigator may feel additional footage should be removed and the audio improved. Using the checklist to measure the effectiveness of the module did not seem to be the purpose nor did it seem that it could provide accurate information about the effectiveness of the module, since students may chose not to complete one item or spend much time on another although it was covered thoroughly in the module. Most points were not given because the student did not complete the item, lack of interest or time constraints.

Surveys

The initial survey given to each student measured the student's opinion, attitude and experience with technology with a specific focus on Web design and videography. The posttest survey measured the student's opinion and attitude about the Video and Electronic Portfolios project. Both surveys collected quantitative and qualitative data. Students answered questions with a response on a five point scale with one being the lowest and 5 being the highest. A non-applicable (n/a) response was also available for some questions when it was appropriate. After each scaled question, there was also an opportunity for students to explain their answers. There were also sections of the surveys which were qualitative questions where the answers were not limited to a specific set of choices and students could state their responses in their own words. Each section of the surveys focused on a component of Keller's ARCS model. See Appendix C for the pretest survey and Appendix D for the posttest survey.

The pretest survey showed that each of the students had created videos and worked with Web design programs in the past. However, the experience with creating videos and Web pages varied. Two students responded that they had a lot of experience with computers while one said their experience was only some. All three students had created Web pages before. One had taught himself and one learned in a professional development course and another had learned as a school activity. One student noted that she had a lot of experience with video cameras and had even taken a course in videography. None of the students had ever added a video to a Web page.

For the posttest survey students responded to questions about their experience after using the module and creating their portfolios with video. These questions were meant to evaluate the student's perception of the value and effectiveness of the module. Student responses to each question are shown in separate tables for each section of the survey and the type of data collected. Tables 4 and 5 display student responses to questions contained in the Attention section of the survey. Table 4 shows responses questions that provided quantitative data and Table 5 provides responses that provide qualitative data.

Table 4. Student Survey - Section I: Attention Questions Quantitative Data

	Question	Participant			Mean
		A	B	C	
1	The home page got and kept my interest	4	5	5	4.6
2	The graphics got and kept my interest	1	4	5	3.3
3	The use of videos got and kept my interest	1	5	5	3.6
	Score	6	14	15	3.86

n = 3

Scale: 1.0 (lowest score) – 5.0 (highest score)

High score: 15

Table 5. Student Survey - Section I: Attention Questions Qualitative Data

Participant A		
Survey Question	Participant Response (verbatim)	
1	The home page got and kept my interest	Looking at the index on the left, I could see that there was a lot of information that was included in the site. I also liked the text used for the title. =)
2	The graphics got and kept my interest	I don't remember seeing any graphics that described how to put video into a Web page.
3	The use of videos got and kept my interest	I didn't look at any of the videos that were included in the module. I was more concerned with the process of getting a video onto my own Web site. Thus, I basically used the written text as my guide to completing the video.
Participant B		
1	The home page got and kept my interest	First of all, I like the personal touch with your beautiful picture. You look very professional and "with it". The homepage is uncluttered with a clear organization.
2	The graphics got and kept my interest	I liked features like the back and forward button at the top of pages. Also, I appreciated having info. boxed in: it seems easier to focus on information this way.
3	The use of videos got and kept my interest	Once I decided to be patient and wait for the videos to download, I enjoyed looking at the different examples.
Participant C		
1	The home page got and kept my interest	Yes. The page gave a detailed explanation and was organized in a way to lead you systematically to the rest of the topics.
2	The graphics got and kept my interest	I liked the pictures as it was relevant to the mission of the page.
3	The use of videos got and kept my interest	Yes. It was interesting, however a step by step guide exactly by using the video clips will enhance it.

Section I contained questions that focused on Attention. Question 1, seeing the home page of the module, scored the highest at 4.6. Scores from questions 1 -3 showed that different students liked different things about the module and had different preferences in what gained their attention. Students A, B and C all felt the home page gained their attention, but Student A did not find the graphics (question 1) or videos (question 2) in the module interesting. This student explained that because there were not graphics in one section of the module, they gave a low score. Student A also noted that she wasn't interested in looking at the example videos because she had already created a video, so she was more interested in the text explanations to help her get her video into her Web page and gave that question a low score. Students B and C however, both rated like the graphics and the videos gave these areas high scores.

Section II of the survey contained questions focusing on Relevance of the project. This section looked at the perceived relevance and value of the skills learned and whether the value would assist in employment or technology usage in the future. The employment skills included using video in future employment attempts (question 10) using video to present work to show abilities and skills to employers (question 11), and skills in general that will be used in the future in employment (question 12). The general technology skills included using the computer when creating and adding video (question 13), making Web pages (question 14), using the video camera to create videos (question 15), using video editing software (questions 16), and adding videos to Web pages (question 17). Table 6 shows student responses to questions in the Relevance section of the survey.

Table 6. Student Survey - Section II: Relevance Questions Quantitative Data

	Question	Participant			Mean
		A	B	C	
4	Using video in future employment attempts?	5	5	5	5
5	Using video in Web pages to present work to show your abilities and achievements	5	5	5	5
6	Skills you will use in future employment?	5	5	5	5
7	Using the computer when creating videos to add to Web pages?	5	5	5	5
8	Making Web pages?	5	5	5	5
9	Using the video camera to create video and record yourself?	5	4	5	4.67
10	Using video editing software?	5	5	5	5
11	Adding videos to Web pages?	5	5	5	5
	Score	40	39	40	4.958

n = 3

Scale: 1.0 (lowest score) – 5.0 (highest score)

High score: 40

The scores showed that the students felt that the skills obtained by learning how to create and add video to Web pages would be relevant in the future for both employment and technology usage. Since the students are in an educational technology Master's program they will likely choose careers that involve technology on a daily basis learning additional skills such as creating videos and adding them to Web pages would be valuable assets. Participants A and C both gave all the skills in question the highest score. Participant B chose to give question 9, using the video camera to create videos and record yourself, one point lower. This maybe because the skills learned when using a video camera to create video maybe more valuable for the overall knowledge verse only using those skills to record their self. Perhaps this question could have been better stated.

Section III, Confidence, focused on how confident the students were that they could use these same skills again. Table 7 provides scores for this section of the survey.

Table 7. Student Survey - Section III: Confidence

	Question	Participant			Mean
		A	B	C	
12	Using video in future employment attempts?	4	5	5	4.67
13	Using video in Web pages to present work to show your abilities and achievements	5	5	5	5
14	Skills you will use in future employment?	4	5	5	4.67
15	Using the computer when editing videos to add to Web pages?	5	5	5	5
16	Making Web pages?	5	5	5	5
17	Using the video camera to create video and record yourself?	5	4	5	4.67
18	Using video editing software?	5	5	5	5
19	Adding videos to Web pages?	4	5	5	4.67
	Score	37	39	40	4.835

n = 3

Scale: 1.0 (lowest score) – 5.0 (highest score)

High score: 40

Questions concerning: using video in Web pages to present work or to show abilities and achievements, using the computer when editing to add to Web pages, making Web pages, and using video editing software all received the highest score of 5 from each of the participants. Using video in future employment, skills that will be used in future employment, using the video camera to create and record yourself, and adding video to Web pages all scored 4.67. The low scores of 4.67 for (question 12, using video in Web pages to present work or show abilities and achievements), (question 14, using the computer when editing to add to Web pages), and

(question 19, adding videos to Web pages) were directly related to participant A and her lack of effort to create a video specifically for her portfolio. Participant B marked question 17, using the video camera to create and record yourself, one point lower for perhaps the same reasons she had marked the same item earlier. When analyzing the data the investigator came to the conclusion that question 14 could be perceived as the confidence of the student that they will use the skills they learned in future employment rather than their confidence they could use the skills they learned in future employment. This question could have been better stated.

Questions concerning the satisfaction with skills learned while completing the module and the satisfaction with the instruction and module design were included in Section IV. Tables 8 and 9 provide scores for this section of the survey. Table 8 shows responses to questions that provided quantitative data and Table 9 provides responses that provide qualitative data.

Table 8. Student Survey - Section IV: Satisfaction Quantitative Data

	Question	Participant			Mean
		A	B	C	
20	The writing was easy to Read	4	5	4	4.33
21	There was enough writing to Explain	5	5	5	5
22	The instructions were Clear	3	5	5	4.33
23	The examples were Clear	4	5	5	4.67
24	There were enough Examples	4	5	4	4.33
25	The order of the instruction made sense	5	5	5	5
	Score	25	30	28	4.61

n=3

Scale: 1.0 (lowest score) – 5.0 (highest score)

High score: 30

Table 9. Student Survey - Section IV: Satisfaction Qualitative Data

Participant A		
Survey Question	Participant Response (verbatim)	
20 The writing was easy to Read	I felt that the way that the material was presented was easy to follow. The index on the left of the page really helped so I knew where I was in the Module.	
21 There was enough writing to Explain	The explanation for creating the videos was very detailed. Since the steps were written in a logical pattern, it was easy to follow.	
22 The instructions were Clear	Some areas were a little hard to follow. I think that there was so much information for both PC and Mac computer users in one area that I got confused. Also, there was some information that I wasn't too familiar with so when I was presented with the information, I didn't know what to do with it. For example, I remember learning about fire wires before, however, I got this wire mixed up with another cable.	
23 The examples were Clear	There were many examples that were very useful. I was able to refer to many of them when creating my own video.	
24 There were enough Examples	There were more than enough examples. I didn't have a chance to look at all of them.	
25 The order of the instruction made sense	The order of the instruction was planned out very well. It was very easy to follow and went in a logical step-by-step manner.	
Participant B		
20 The writing was easy to read	Your explanations are straight forward and well laid out. That was useful...technology can be overwhelming at times. Your explanations helped me "feel" this was not so hard after all!	
21 There was enough writing to Explain	Yes. Too much info. would have been overwhelming.	
22 The instructions were Clear	I specifically looked for streaming information to find out what it was, and the info on your site turned out to be useful because I did not have to look somewhere else.	
23 The examples were Clear	They support the explanations	
24 There were enough Examples	An offering of too many examples becomes overwhelming given the pressure of time to both complete the assignment and learn new	
25 The order of the instruction made sense	The order of instruction made sense to me once I became more familiar with the site. Each site is different and requires some practice in navigation to comprehend the instructions.	

Participant C		
20	The writing was easy to Read	Yes, it was straight forward, however a glossary will be useful for some students to refer to.
21	There was enough writing to Explain	Yes. It was sufficient and writing that is too long may lose students' interests.
22	The instructions were Clear	Very clear.
23	The examples were Clear	Very clear,
24	There were enough Examples	More examples will be even better.
25	The order of the instruction made sense	No response

Question 20 asked whether the writing was easy to read. All of the participants felt that the writing in the module was easy to read and there was enough text to explain. Participant C wrote for question 20, the writing was easy to read, but a glossary would be useful. A glossary was available with the link available on every page and words that may be unfamiliar were linked to the glossary section the word was in. For question 21, all of the participants felt that there was enough writing. Question 22 focused on the clarity of the instructions. Participant B and C both felt the instructions were very clear. Participant A felt the instructions were not clear in some areas because information was provided for both PC users and Mac users and because some information was presented that unfamiliar and she did not know what to do with. Instructions were included for both PC and MAC users to prevent excluding users from the module. The example Participant A provided for information presented that she was unfamiliar with was the fire wire, which is a cable used to transfer a video from a digital camera to a computer. However this item was discussed in three areas of the module with the first area

explaining its need and providing a link to its definition. For question 23, Participants B and C felt the examples provided were clear. Participant A noted that the examples were clear and useful and that she used many of them when creating her video. For question 24, Participant B felt there were enough examples and wrote that too many examples would be overwhelming. Participant A wrote that there were a more than enough examples in the module. Participant C wrote that additional examples would make the module even better. For question 25, all participants, felt the instructions were laid out in a logical order.

Section V focused on the participants' opinions on the process of creating and editing a video and adding it to their portfolio Web pages. Table 10 provides responses to questions 26 through 28.

Table 10. Student Survey - Section V: Overall Process Satisfaction

Participant A	
Survey Question	Participant Response (verbatim)
26 What did you like best about learning to make videos and adding them to your portfolio?	I've taken many ETEC classes that taught how to create videos. However, I've never had the opportunity to learn how to actually put it on the Web and use the videos. I really enjoyed being able to export the video from the iMovie program and actually being able to view it in my portfolio. It's rewarding to see my final product on the Web. =)
27 What did you like least about learning to make videos and adding them your portfolio?	I enjoyed every part of making the video and adding it to my portfolio.
28 What changes would you make to the process of learning to make videos and adding them to your portfolio?	I felt that the process that was presented in the Module was fine. The only thing I would recommend is adding more pictures to the instruction so that visual learners have an easier time to grasp the material. I also think that if a group of individuals worked together to make and add the video to a Web site would be beneficial. Students wouldn't be afraid to try different editing software and different Web authoring programs. Since I've only used iMovie in my other classes, since that is what I am comfortable with, that is what I used to create the video for this project. I didn't feel comfortable trying new software.

Participant B		
26	What did you like best about learning to make videos and adding them to your portfolio?	I had wanted to learn how to include a video on my Web pages for a few years now. Having this assignment helped me to commit to learning the process, and doing it. I believe the relationship with you kept me on track as I was committed not only to me but to you. There came a time where I felt pressured, and if I had not committed to making this video, I may have dropped the idea of integrating a video on my Web pages.
27	What did you like least about learning to make videos and adding them your portfolio?	Having to read more Web pages to find the info I needed. It's time consuming.
28	What changes would you make to the process of learning to make videos and adding them to your portfolio?	No response
Participant C		
26	What did you like best about learning to make videos and adding them to your portfolio?	The use of software program to edit the video.
27	What did you like least about learning to make videos and adding them your portfolio?	A short hands-on course on using the software will have been very useful.
28	What changes would you make to the process of learning to make videos and adding them to your portfolio?	More hands on practice in using the software program and also pair work will be good.

Question 26 asked students to explain what they liked best about creating a video and adding it to their portfolios. Participants A had a lot of experience creating videos in college courses and personal experience; however she had not had the opportunity to add a video to Web page and found this exciting. Participant B had wanted to learn how to add a video to a Web page for years and was excited that she was finally able to learn how to do it. Participant C liked working with the video editing software. Question 27 asked participants what they like least

about the process. Participant A liked every part of creating her video and adding it to her portfolio. Participant B didn't like having to read more Web pages to get the information she needed. Participant C felt that a tutorial was needed for this software. Unfortunately the module was not designed to teach students how to use specific video editing software, rather to help users determine the best methods to use when editing their videos to get the best quality finished product. Question 28 asked students what they would change about the process. Participant A wrote that she recommended additional graphics be added to the module for visual learners. Participant B stated that future users should be offered a chance to chat about questions and concerns. A chat session was available to participants each week for the module's duration. Participant B replied that she had a class during the chat time offered and would be unavailable to attend. Participants A and C never attended a session either. Participant C wrote that more hands-on use of the software would be good and to divide the work among two persons.

Participant A was very inconsistent in many of her answers. Earlier in the survey she wrote that she gave question 2 a low score of 1, because graphics were not available to help her create her video yet she wrote in question 20, that the text on creating a video was very detailed and written in logical steps that were easy to follow leading one to think graphics were not necessarily needed. Her answer for question 20 is also inconsistent with her score for question 23 where she said that the instructions were not clear. For question 24 she wrote that there were more than enough examples, however earlier in the survey when answering question 3, she wrote that she had not viewed the video examples because she was only interested in the information on how to add her video to her portfolio. For question 26 she wrote that she liked everything about the process of creating and editing her video and adding it to her portfolio, yet she was the most critical about the module and the entire process.

The participating ETEC 602 instructor was also given a survey in order to measure the instructor's attitude about using the module. Refer to Appendix E to view the instructor's survey.

The instructor's responses are helpful in determining whether the module is effective in its ability to instruct students how to create videos and add them to their portfolios, what educational skills were learned and personal achievements were made, and whether the instructor would request that video be added to portfolios in the future. The survey focused on four things: the instructor's opinions on the impact the module had on student's attitudes while completing their portfolios, the impact the module had on the course, the effectiveness of the module when reviewing the completed portfolios and the possibility of using the module in the course in the future.

The instructor noted that eight students out of the sixteen in the class mentioned possibly adding video in the discussion about plans for creating their portfolio. Eight others expressed concerns about users being able to access the video, the time needed to add a video instead of other easier to add special effects, and another mentioned he was not knowledgeable despite the support and training offered in the project. For question 2, the instructor wrote that overall the students did take care in presenting preparing their portfolios to present themselves well to potential future employers. The instructor did note that there was some concern that one student did not wear clothing in their video that would be deemed professional by an employer. When asked whether the module helped students to understand how to create a video and add it to a Web-based portfolio and whether the students received adequate instructions in questions 3 and 4, the instructor wrote that the module would, and that two student's specifically mentioned the assistance provided, but that perhaps requiring students to create a graded video clip would lead to additional students learning to create and add video to Web pages using the module. None of the

students contacted the instructor for additional assistance in creating their videos or adding them to their portfolios by email, during chat sessions, or through the class forum (question 5). For question 6, the instructor stated that she had not been able to ascertain whether the students spent a lot of time on creating their videos and adding them to their portfolios. Since the ETEC 602 is a distance education class, the instructor has minimal face-to-face contact with the students. When asked whether working on the videos for the portfolios interfered with the overall focus of the electronic portfolio assignment (question 7) the professor answered “absolutely not.” The instructor noted that students who chose to add video to their portfolio provided another example of their skills. In addition despite the fact that only 3 students participated in the project four students in the end of the course evaluation mentioned that the examples and/or resources contributed to their learning the course. When asked whether the instructor felt that video should be a requirement for future student portfolios (question 8), the instructor explained that she would like to provide examples of student portfolios with video to encourage more students to include video, but she did not want to make it a requirement because she preferred to allow students the opportunity to make choices. The instructor wrote the in the future she would emphasize the importance of the professional look of portfolios that include video in the future (question 9). For question 10, the instructor stated that the inclusion of a video would not affect her evaluation of the student portfolios unless she required videos be included. Since the instructor does not plan to require that videos be included, if they are used by the student to meet the requirement of a special effect she will evaluate the quality of the video as a special effect.

Once the participant portfolios were completed, they were given to professionals in the position to hiring personnel or assist in finding employment for students and job candidates for open positions. The employers received links to the three student portfolios and the

Employer/Hiring Personnel Survey. Refer to Appendix F to view the Employer/Hiring Personnel survey. When asked whether using an electronic portfolio with video would be beneficial for an applicant for a job position all three of the hiring personnel wrote that an electronic portfolio would be beneficial.

Next, the employers were asked whether using an electronic portfolio with video would be beneficial for an applicant for a job position. Employers A and B both said yes and no. Employer A stated that it could be beneficial for both the applicant and the employer, but she felt that if she came to expect portfolios with videos from candidates at this time, she may lose out on many great candidates for positions because they are unfamiliar with the technology. Employer B felt that if the video was made well it could be a beneficial. However, she stated that some candidates could portray themselves well on video, through repeated takes, but they may be a bad choice for the position. An employer would be concerned about hiring the right person for a position whether they have a portfolio with video or just résumé. Either way, a candidate could portray them self as one way, yet be completely different on the job. Employer C said yes, an electronic portfolio with video would be beneficial. She noted however, that it depends on the position being filled. Employer C wrote that she hires persons for positions that need strong customer service skills and the video would allow her to get to know the candidate so she would be able to decide if she would like to request the candidate come for an interview. She also noted that video would help her determine if the candidate will meet the needs of the position since she feels she is able to gain a great deal from seeing and hearing a person.

When asked whether an applicant with an electronic portfolio would have a significantly better chance at a position as compared to an applicant with similar skills and abilities who only had a résumé or if they had an electronic portfolio with video would improve their answer, their

results varied. Employer A said yes, an electronic portfolio would be an asset for applicants, but an electronic portfolio with video would be even better. Referring to the images available when watching a video; Employer A wrote “a picture is worth a thousand words”. Employer B said yes and no. She wrote that if the electronic portfolio was made well it could really improve a candidate’s position in the application process since their portfolio and résumé will stand out against the many other résumés employers receive for vacant positions. However, she reiterated that a poorly made portfolio and/or video could harm an applicant’s chances at obtaining a position. Employer C felt very strongly that an applicant with a portfolio containing video would have a significantly better chance at obtaining a position than an applicant with only a résumé or electronic portfolio. She wrote that she can tell a lot from a person by meeting or seeing them. She knows quickly whether a person’s personality will be one that she can work with and fit into a specific work environment.

When asked to evaluate the student videos, Employer A was unable to view any of the videos. She said she did not have a media player and would have needed to download a media player, but was unable to do so on company computers. Employer C felt that the student videos were “okay”. She wrote that she understood that these were students, but she felt improvements could be made. She noted that she would have preferred more detailed and better made videos. She felt that she did not gain an understanding of the student’s personalities from the videos. Student A’s video was a project activity on a school field trip. Employer C said she would have liked more information on the project. Student B’s video only had her voice while art pieces were shown and discussed since they were used in the design of the Web site. Employer C said she would have liked to have seen student B in video. She unable to view student C’s video.

Employer C stated that the videos were okay but she would like to have seen more personable videos introducing the students.

All three employers felt that well made portfolios with videos would encourage them to pursue further interviewing and possibly hiring a candidate. Employers B and C stated they would have liked to have seen additional video clips throughout the portfolio. Some of the video topics the employers would like to have seen included videos showing applicants doing what they are applying for, videos explaining their past work experience, a brief video biography, and a video résumé. Employer C wrote a “Personal introduction that shows what the person is passionate about in a job.”

CHAPTER VI

DISCUSSION

The primary purpose of this project was to evaluate the effectiveness of a module teaching students how to add video to electronic portfolios. The Web-based module was created to instruct users how to create videos for the specific purpose of adding them to electronic portfolios and then instruct students how to add the videos to their electronic portfolio.

The results of the field testing proved successful. All three of the students were able to successfully add videos to their portfolios. All three participants found the module an important and helpful resource in learning how to create and add video to their portfolios.

The majority of the interactions with the project participants, experts and the professor occurred by e-mail. This worked out well, since the project was meant to test a module that will be eventually a stand-alone resource, interaction with the participants was limited to sending important instructions, surveys and answering questions as needed.

Testing the instruction module in an ETEC 602 was both a positive and negative experience. The students who participated were motivated to build professional portfolios since it was a graded assignment. The students wanted to create portfolios that would meet the course requirements and be a useful resource they could use in the future. In addition, the investigator was introduced to students who wanted to learn how to add video to Web pages, but had not known where to receive training. This was an excellent opportunity for the investigator to gain participants for the project.

Distributing the module through a Web site proved to be an excellent choice. Originally there was discussion about using CDs for storing the module and presenting the CDs to students when asking that they participate in the project. However, this would have meant a lot additional

expense would have occurred through purchasing CDs, labels, cases, envelopes and postage to mail CDs to the students. By placing the module on a Web server, students were easily able access the module from any computer with Internet access and there wasn't a concern that the CDs may be lost, broken or defective.

Testing the module in the ETEC 602 class was difficult because the investigator was limited to the sixteen students in the class. It was anticipated that most of the students would participate in the project. Students were solicited by the investigator twice in hopes of gaining participants. The instructor also sent out weekly messages and mentioned the project in the initial course letter. The students who mentioned adding video to their portfolios in there portfolio design plans were again contacted in hopes of obtaining additional participants. Participation was voluntary, but all students had access to the module regardless of their agreement to participate in the project. Some students may have used the module, but chose not to participate in the project. Five students added video to their portfolios. Two students discussed the value of the information in the module in the ETEC 602 course evaluation, but only one of those actually created a video for their portfolio.

The module covered many aspects of adding a video to an electronic portfolio, including the value of adding video, the placement of videos throughout the portfolio and the subject of videos. However, the instructor and the employers mentioned that the professional dress of students in their videos was important. Although only one student that created a video for the project was in his video, his dress was casual and because he was a Sikh he wore a traditional turban. Professional appearance in videos was covered in the module. There was mention of preparing for the video with the clothes and other props when planning a video in the section discussing creating a storyboard. However, there was not a section dedicated to the

professionalism portrayed by the appearance of the students in their videos. In the future, a section discussing professional appearance will be included in the module.

One problem that was noted by two of the participants and both of the expert evaluators was that some of the information was overwhelming. Although the module was commended for its valuable information, the amount of information was too much in some areas of the module. This issue was addressed twice before the module was field tested, yet it appears that there are still some areas that need to be broken down further with additional links to pages where more in depth information could be located.

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APPENDIX A
STUDENT INSTRUCTIONS

Dear Participant,

Congratulations on your decision to add video to your portfolios and thank you for taking the time to participate in this project. This guide will provide you with the initial instructions and survey, and the Video and Electronic Career Portfolios participant checklist.

Adding Video to Your Portfolios:

It is anticipated that you will gain an understanding of how to create and add videos to your electronic portfolio pages during the completion of this project. Please complete the initial survey, referred to as the Pretest Survey, which is attached, and then begin the module. In addition, the attached checklist should be used during the module's progression to ensure you have completed the module and have gained to most use of the knowledge you will acquire.

Pretest Survey:

Please complete the initial survey and return your answers in a Word document attachment via email as soon as possible. Be sure to answer all questions completely. Thank you :)

Module Access:

The Video and Electronic Career Portfolios site can be accessed at the following URL:

<http://victoria.astonishingportal.com/electronicportfolio/addingvideo/videosite/>

or

you can click on the link in the library section of the ETEC602 CT site.

Contact Information:

You will also have my assistance as needed. If you need assistance, there are a number of ways you can contact me. The best way is to email me. You can email me at viwalker@regent.edu or walkerv@hawaii.edu. I check the Regent address many times throughout the day. I will be available to answer student questions through out the use of the module in real time on Monday nights from 5:00 -6:00 in Chat Room 1 of the ETEC602 CT site. As a last option, you also call, however, there is a time difference of 5 hours. (We are 5 hours ahead of you.)

APPENDIX B
STUDENT CHECKLIST

Name _____

Participant Checklist

Use this checklist as a guide while creating and adding your videos to your electronic portfolio pages. Each item is valued at 1pt. for study purposes only. There are 10 possible points for questions 1-10. Questions 11-13 are bonus for participants who create more than one video and are worth an additional 10 pts each.

- ___ 1. Did you create a storyboard for your video?
- ___ 2. Did you create at least one video? Does it look the way you want? Did you use good lighting and professional dress and background?
- ___ 3. Did you edit your video? Did you cut out unnecessary footage?
- ___ 4. Did you successfully compress your video? Were you able to compress your video while maintaining video quality for Internet distribution?
- ___ 5. Did you successfully add a link to your video in your portfolio? Does the link work? Is it easy to find? Did you determine if was better to link from an image or text?
- ___ 6. Did you provide a reference to your video for your audience? Does your audience know the video is there? Do they know how to access it?
- ___ 7. Does your video contents relate to the page it is located on? Did you provide reference to items on the page the video is located on?
- ___ 8. Did you provide a link to media player for your audience? Will your audience know what a media player is and how to download the player if needed?
- ___ 9. When accessed, does your video play smoothly, with clear sound, and have an acceptable screen size?
- ___ 10. Does your video download/play quickly?

Participants who created more than one video:

- ___ 11. Did you use another method to link to your video? An image verse text?
- ___ 12. Did your produce two or more different types of videos for your portfolio?
- ___ 13. Are the videos located on different pages?

APPENDIX C
STUDENT PRETEST SURVEY

Name _____

Date _____

Initial Student Survey

1. Have you ever used the following items: (Please place an X in front of your response.)

- Web page creating programs ___yes ___no
- Digital cameras ___yes ___no
- Video cameras ___yes ___no
- Video editing software ___yes ___no
- Video editing equipment ___yes ___no

2. Please rate your response to your comfort level of using the following items: (If you have not used that item, please select N/A for not applicable.) Type your response in the last column.

	A little.....A lot					Response
Using Computers?.....	1	2	3	4	5	N/A
Using a Digital Camera?.....	1	2	3	4	5	N/A
Using a video camera?.....	1	2	3	4	5	N/A
Using Video editing software?.....	1	2	3	4	5	N/A
Using Video editing hardware?.....	1	2	3	4	5	N/A

Directions: Please place an X in front of your response.

13. Have you ever created an electronic portfolio before? If **No** please go on to question #15.

Yes No

14. How did you learn to create an electronic portfolio?

Parents Taught Me Taught myself
 School Activity Other _____

15. Have you ever created a Web page before? If **No** please go on to question #17.

Yes No

16. How did you learn to create a Web page?

Parents Taught Me Taught myself
 School Activity Other _____

17. Have you ever added a video to a Web page before? If **No** please go on to question #19.

Yes No

18. How did you learn to add video to a Web page?

Parents Taught Me Taught myself
 School Activity Other _____

19. Have you ever taken a course in videography?

Yes No

Directions: Please answer each question completely to the best of your knowledge.

20. Briefly describe anything that had a positive impact on your video production experience.

21. Briefly describe anything that had a negative impact on your video production experience.

22. What is your purpose for creating your electronic portfolio? Please choose the item that **BEST** exemplifies your purpose.

- a. Fulfill requirements for course
 - b. personal/family viewing
 - c. future employment
 - d. Other
-

23. Why did you choose to add video to your electronic portfolio verse another special effect choice?

24. What benefit(s) do you expect to gain by using video in you expect to gain by using video verse another special effect?

APPENDIX D
STUDENT POSTTEST SURVEY

Name _____
Date _____

Post Instructional Module Survey

Important Note before you begin - Please answer all question truthfully and completely. Your answers will be analyzed to ensure the userability of this instructional module and determine changes that will be made in the future.

I. Attention: To what degree did the Adding Video to your Web page Instruction Module get and hold your interest?

No -----A little----- Yes

1. The home page of the instruction module got my
interest..... 1 2 3 4 5

Please explain:

2 The graphics (pictures) used in the instruction module kept my
interest..... 1 2 3 4 5

Please explain:

3. The use of videos in the module got my
interest..... 1 2 3 4 5

Please explain:

III. Relevance: How much do you think the skills learned during this project will help you in the future?

No -----A little----- Yes

A. Employment

- | | | | | | | |
|----|--|---|---|---|---|---|
| 4. | Using video in future employment attempts?..... | 1 | 2 | 3 | 4 | 5 |
| 5. | Using video in Web pages to present work to show your abilities and achievements | 1 | 2 | 3 | 4 | 5 |
| 6. | Skills you will use in future employment?..... | 1 | 2 | 3 | 4 | 5 |

B. Technology

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 7. | Using the computer when creating videos to add to Web pages?..... | 1 | 2 | 3 | 4 | 5 |
| 8. | Making Web pages?..... | 1 | 2 | 3 | 4 | 5 |
| 9. | Using the video camera to create video and record yourself?..... | 1 | 2 | 3 | 4 | 5 |
| 10. | Using video editing software? | 1 | 2 | 3 | 4 | 5 |
| 11. | Adding videos to Web pages? | 1 | 2 | 3 | 4 | 5 |

III. Confidence: How confident are you that you can use the skills you learned during this project again?

No -----A little----- Yes

A. Employment

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 12. | Using video in future employment attempts?..... | 1 | 2 | 3 | 4 | 5 |
| 13. | Using video in Web pages to present work to show your abilities and achievements..... | 1 | 2 | 3 | 4 | 5 |

14. Skills you will use in future employment?..... 1 2 3 4 5

B. Technology

15. Using the computer when creating videos to add to Web pages?..... 1 2 3 4 5
16. Making Web pages?..... 1 2 3 4 5
17. Using the video camera to create video and record yourself?..... 1 2 3 4 5
18. Using video editing software? 1 2 3 4 5
19. Adding videos to Web pages? 1 2 3 4 5

IV. Satisfaction

Instruction

20. The writing was easy to read..... 1 2 3 4 5

Please explain:

21. There was enough writing to explain. 1 2 3 4 5

Please explain:

22. The instructions were clear..... 1 2 3 4 5

Please explain:

23. The examples were clear..... 1 2 3 4 5

Please explain:

24. There were enough examples..... 1 2 3 4 5

Please explain:

25. The order of the instruction made sense..... 1 2 3 4 5

Please explain:

V. Overall Experience

Instructions: Please write a short response to the following questions.

26. What did you like best about learning to make videos and adding them to your portfolio?

27. What did you like least about learning to make videos and adding them your portfolio?

28. What changes would you make to the process of learning to make videos and adding them to your portfolio?

APPENDIX E
INSTRUCTOR SURVEY RESULTS

ETEC 602 Instructor Survey (Verbatim responses included with permission from respondent.)

Your students were involved in adding video to their electronic portfolios. Please answer the following questions based on the process you observed your students going through during your course.

Student Attitude

1. Did you notice what type of attitude your students had about adding video to their portfolio verse one of the other special effect choices available?

In their initial plans for adding special effects, six students indicated that they would add video and two noted that they might. When the 16 students discussed their plans for special effects of the eight who did not mention adding video:

- Four mentioned concerns with viewers being able to access the videos, with one noting that he did not want to distract viewers and "a lengthy video would be unnecessary"*
- One said that he was not knowledgeable (with no acknowledgement of the help that was available from Victoria)-Three didn't specifically mention not using video but one did say he wanted to save time*

In actuality, five students included videos—three of the six who had planned to add them and both of the students who thought they might.

2. Did your students appear to take more care in preparing their portfolios for possible use in obtaining future employment?

I thought that overall my students did take a good deal of care in presenting themselves for future employers. I did, however, note that a few students seemed torn between designing a portfolio for either my expectations or those of an employer. For example, one student included a video clip, which met a course requirement for a special effect, yet was not professionally dressed (which an employer would expect). Another student designed the portfolio to appeal to a specific type of employer, yet tended to address some of the required content in a limited manner.

By meeting the course requirements they certainly would all have portfolios that could appeal to potential employers. Most students recognized this point.

Module effectiveness

3. Do you feel the module helped your students understand how to add video to a web page?

From my review of the module on adding video to a portfolio it certainly would. Two students specifically mentioned "Victoria's help," although only one chose to add video. I believe that if the students took the time to work through the module they could all readily add video. It may be that they need to be required to work with the module, that is, provide a graded video clip that they then would choose to include or not in their portfolios prior to creating their portfolios.

4. Do you feel your students received adequate information from the instructional module to create and add video clips to their web pages?

See above.

5. Did your students have many additional questions about adding the video that were not answered by the module?

Surprisingly, no. No student contacted me either by e-mail, in the Forum, or during my virtual office hours to ask about using the video.

Time

6. Did you notice your students spending a large amount of additional time preparing the videos for their portfolios?

As the course was online I had no way of ascertaining that information unless the students noted it specifically. No one made that type of comment.

7. Did adding video to their portfolios interfere with their overall focus for the electronic portfolio assignment?

Absolutely not! I believe that for those students who chose to include this option it was an extremely worthwhile part of their learning experience. Students who included video clips in their portfolios showed themselves as having yet another valuable skill for today.

Although the video module was not mentioned specifically, in the end-of-course evaluation, 4 of 13 students did mention that that examples and/or resources contributed to their learning in the course. The video module was certainly one of the examples/resources. When discussing ways to improve the course two students mentioned having more samples (which supports future plans to provide more portfolios with video clips).

8. Would you recommend that video be a requirement in future student electronic portfolios?

There is so much to address in this course, that I would hesitate to make it a requirement. I believe that by having portfolios that include good examples of video clips as samples, more students will opt to include that feature. Letting students make choices is something that I try to provide whenever possible.

9. How do you think adding video to student electronic portfolios could affect your planning process for future courses?

I would plan to emphasize the professional look of portfolios that include video in materials that I disseminate to my students.

10. How do you think adding video to student electronic portfolios could affect your evaluation process if used in future courses?

Unless required (which I do not plan to do) it would not affect my evaluation of their portfolios in terms of whether video was the special effect that was selected. I would, however, evaluate the special effect used. I did so with this group of students.

APPENDIX F

EMPLOYER/HIRING PERSONNEL SURVEY

Employer/Hiring Personnel Survey

Demographic Information

Instructions: Please fill out the following demographic information by placing a red X in the blank or fill out the information requested.

1.	Name:		
2.	Occupation:		
3.	Position Held:		
4.	Company/School:		
5.	How long have you held this position?		
6.	Gender:	_____ Male	_____ Female
7.	Age:	_____ 21-30 years _____ 31-40 years _____ 41-50 years _____ 51-60 years _____ 61-70 years	
8.	Race:	_____ Asian _____ Black _____ Hispanic	_____ Native American _____ White
9.	Highest Education Completed:	_____ High School _____ Associates _____ Bachelors _____ Masters	_____ Doctorate _____ Certifications Specify: _____ _____

Attitudinal Survey

Instructions: Please review the portfolios and then answer the following questions completely based on your professional opinion. If this survey sent electronically, and you would like to respond electronically, place an **X** under your answer and explain in the space provided.

Professional Opinion

Based on your experience in the interviewing, selecting, and hiring process,

- | | | | |
|----|--|-----|----|
| 1. | could the use of an electronic portfolio with video be beneficial for an applicant for a job position? | Yes | No |
|----|--|-----|----|

Please explain your answer:

- | | | | |
|----|--|-----|----|
| 2. | would the use of video in an electronic portfolio be helpful in the process of choosing new employees? | Yes | No |
|----|--|-----|----|

Please explain your answer:

- | | | | |
|----|---|-----|----|
| 3. | would an applicant with a electronic portfolio have a significantly better chance at a position verse an applicant with similar skills and abilities who only had a résumé? | Yes | No |
|----|---|-----|----|

Please explain your answer:

- | | | | |
|----|---|-----|----|
| 4. | would an applicant with a electronic portfolio with <u>video</u> have a significantly better chance at a position verse an applicant with similar skills and abilities who only had a résumé? | Yes | No |
|----|---|-----|----|

Please explain:

Past Experience w/Electronic Portfolios

5. In the past, have you received electronic portfolios from applicants? (If No, go to #13) Yes No

6. About how many electronic portfolios have you received?

7. Do you feel that the electronic portfolios you have reviewed were well made? Yes No

Please explain your answer:

8. Did the electronic portfolios you received affect your choice in the selection and hiring process? Yes No

Please explain your answer:

9. In the past, have you received electronic portfolios with video clips included? Yes No

10. About how many electronic portfolios with video clips included have you received?

11. Do you feel that the video clips included in the electronic portfolios you received in the past were well done? Yes No

Please explain your answer:

12. Did the addition of video clips in the electronic portfolios affect your choice in the selection and hiring process? Yes No

Please explain your answer:

Student Electronic Career Portfolios

13. How many electronic portfolios did you review?

14. Do you feel that the electronic portfolios were well made?

Yes No

Please explain your answer:

15. Do you feel the video(s) included in the electronic portfolio were well made?

Yes No

Please explain your answer:

16. How many videos did the electronic portfolio(s) contain?

17. Do you feel that the videos grabbed your attention?

Yes No

Please explain your answer:

18. Do you feel the locations of the videos in the portfolios you reviewed were well planned?

Yes No

Please explain your answer:

19. Did you find the subjects of the videos in the portfolios you reviewed to be interesting?

Yes No

Please explain your answer:

20. What video subjects would you find helpful in an electronic portfolio?

21. Would you have preferred additional videos in the portfolios you reviewed? Yes No

Please explain your answer:

22. After reviewing the electronic portfolio(s) do you feel you would hire one of these potential applicants if you had a position available in their field? Yes No

Please explain your answer:

23. Did the addition of video clips in the electronic portfolio affect your choice in question #22? Yes No

Please explain your answer:

24. Did the videos improve your overall opinion of the portfolio and the candidate? Yes No

Please explain your answer: