Developing a web-based video tutorial on using HyperStudio

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Abstract
The goal of this project was to provide an effective way for students to learn how to use an authoring language, HyperStudio, through an efficient interactive on-line environment. The author begins by identifying the necessary components for effective web-based tutorials and exploring video's impact on delivering web-based tutorials. The process used to plan, design, develop and implement this project was explained. This project demonstrates how a web-based tutorial can be created to assist the traditional classroom as a supplementary medium.
DEVELOPING A WEB-BASED VIDEO TUTORIAL

ON USING HYPERSTUDIO

A Graduate Project
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Division of Instructional Technology
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Sangsun Kim

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The goal of this project was to provide an effective way for students to learn how to use an authoring language, HyperStudio, through an efficient interactive on-line environment. The author begins by identifying the necessary components for effective web-based tutorials and exploring video's impact on delivering web-based tutorials. The process used to plan, design, develop and implement this project was explained. This project demonstrates how a web-based tutorial can be created to assist the traditional classroom as a supplementary medium.
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INTRODUCTION

Technology has taken an important role in education. The emergence of the World Wide Web has changed the world in which we live. As an interactive and dynamic medium for sharing information globally, the Internet has become a powerful force in education. According to Alessi and Trollip (2001), “Use of the web will probably have more impact on learning than all the developments in instructional technology of the past 30 years” (p.372). The Internet has provided powerful tools for reshaping the educational process in the classroom and beyond, consequently affecting the traditional education methodology.

The ability to incorporate various multimedia formats including graphics, sound, and video to deliver instruction through web pages has brought about a revolution in education. Internet application has been adopted for many educational systems. Web-based instruction is a good example of the type of opportunities that can be experienced in our digital society. Olson and Wisher (2002) stated web-based instruction offers learners access to the instructional resources and allows possible learning experiences that are open, flexible, engaging, interactive instruction. Effective web-based instruction must involve a systematic process of design, development and implementation.

The purpose of this project was to explore how to create effective web-based tutorials to teach undergraduate students an authoring language, HyperStudio. According to the product review from HyperStudio 4.5, “for over 10 years, HyperStudio has been the de facto standard classroom multimedia authoring program” (http://www.hyperstudio.com). It is a multimedia development software package that permits the user to create a stack of cards within which pictures, movies, sound clips and
animations can be incorporated. HyperStudio works very much like web pages that are hyperlinked from one page to another page. It uses the metaphor of a stack, which can be viewed in sequential order or by jumping from one card to another with the use of hyperlinks and buttons.

Traditionally, instruction about HyperStudio has only been available in the educational media classroom where the students met face-to-face with professors and/or graduate assistants. This did not allow for individualized instruction. Students sometimes fell behind as they progressed through the lessons. On-line tutorials can provide an opportunity that can assist the students' learning by allowing them to proceed at their own pace either at home or in computer labs at school. Consequently, they can enhance their computer skills and eventually improve their knowledge and skills through the process of learning to use the HyperStudio program.

This paper discusses the development of a computer-based hypermedia instructional tutorial. It documents the creation of the tutorial, the software used to develop the tutorial, and the development process. Moreover, the writer will present how streaming video was used for this web-based instruction as an augmentation to text and image-based instruction on HyperStudio.

This project is important because it empirically explores the process of providing Internet-based tutorials for blended courses. Such innovative courses, while offering a wide range of opportunities, still present many problems (Percini & Casati, 1997). Yet, Internet courses can be enriching educational vehicles (Relan & Gillani, 1997). Burghstahler (2003) agreed with this view in that “Web-based distance learning programs promise learning options anywhere, anytime, to anyone”. Burghstahler, 2003, p.32).
Beyond providing increased student access to a course, many colleges and universities view online courses as a way to conserve limited resources and provide an alternative to the traditional classroom-based course. This project will explore the process of creating a web-based tutorial to assist the traditional classroom as a supplementary medium.

**Terminology**

CD-ROM (Compact Disc Read Only Memory): An adaptation of the audio CD format that allows 700 megabytes of data to be stores on a disc (Picciano, 2002).

Digital: Signals represented as a series of zeroes and ones. Examples include high definition television, Mini-DV videotape, DVD disc, and compact discs (Picciano, 2002).

Hyperlink: Words, phrase, icons, pictures, movies, or any other program object that can be selected (usually by clicking with the mouse) to initiate some action (Alessi & Trollip, 2001).

Hypertext: Text linked so that the user can jump from one place to another usually by clicking on text (Picciano, 2002).

Internet: The rapidly growing, worldwide system of connected computers and networks (Picciano, 2002).

Multimedia: Forms of media, such as video, audio, text, and images (Picciano, 2002).

QuickTime: A system software solution developed by apple computer to provide general approaches to presentation of time based materials such as audio, animations, and movies (Picciano, 2002).

Server: A computer that serves as the hub of a network (Kearsley, 2000).
Streaming media: Digital audio or video files that are sent out live or begin playing before the entire file is transferred. Common formats include QuickTime, Real Media, and Windows Media (Picciano, 2002).

Upload: The process of transferring files from your computer to another computer anywhere on a computer network or telecommunications service (Picciano, 2002).

Tutorial: An instructional lesson that leads the user through key features and functions of things such as software applications, processes, system designs, and programming languages. The tutorial typically is set up as a series of steps that progress through levels of difficulty and understanding. For this reason, the tutorial is best followed in its logical sequence in order to understand all of the elements of what the user is trying to learn (Picciano, 2002).

Web-based tutorial: On-demand instructional materials stored in a server and accessed across a network. Web-based instruction can be updated very rapidly, and access to instructional resources can be controlled by the providers (Percini & Casati, 1997).

World Wide Web: A system of Internet servers that support specially formatted in a markup language called HTML (Hypertext Markup Language) that supports links to other documents, as well as graphics, audio, and video files (Picciano, 2002).
METHODOLOGY

Review of the Literature

As technology is used in education, it is necessary to identify how technology can be most effectively implemented in the educational setting. Many instructors and researchers have demonstrated the significance of using web-based education to deliver instruction in modern society (Kocour, 2000; Whitely, 1996; Cofield, 2002). A review of the literature was conducted to demonstrate how web-based instruction is effective as a teaching and learning tool for the instructors and the learners. This review explored the following areas:

(a) What is a web-based tutorial?

(b) What are the necessary components of a well-designed web-based tutorial?

(c) How can video improve the effectiveness of web-based tutorials?

(d) What are the advantage and disadvantages of web-based tutorials?

What is a Web-Based Tutorial?

Various definitions of web-based instruction have been presented by different researchers. Bannan and Milheim (1997) defined Internet-based instruction as “an instruction program, which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment” (Bannan & Milheim, 1997, p.381). A web-based tutorial can be defined as “… instruction that can be viewed as an innovative approach for delivering instruction to a remote audience using the Web as the medium” (Khan, 1997, p. 5). Percini and Casati (1997) defined on-line instruction as “… on-demand instructional materials stored in a server and accessed across a network. Web-based instruction can be updated very rapidly, and access to instructional resources can
be controlled by the providers" (p. 2). It is easy to see that a web-based tutorial is a good format to deliver instruction on the Web (Alessi & Trollip, 2001).

There are two main models of web-based tutorials: synchronous and asynchronous. Synchronous can be defined as the transfer of information without delay while asynchronous can be classified as all stored and archived materials including media CD-ROM, web-pages, email, video tape and so on (Lamb & Smith, 1999). The difference between the synchronous model and the asynchronous model is the communication time. Synchronous communication takes place at the same time just like chatting on the phone while there is a time lag during asynchronous communication. The traditional education methodology, where teachers give lectures to students in the classroom face-to-face, is considered the synchronous model. Live transmissions of audio, video via Internet and simultaneous communication between the instructor and students will all be considered synchronous. The benefit of the synchronous model is that the instructor can get feedback and solve student problems without any delay. The asynchronous method can be seen in a situation where the students work through web-based instruction at a time when the teacher is not online.

Most web-based instruction is composed of textual content, still or simple animated images, and some forms of interactive communication such as threaded discussions, chats, and video conferencing (Belanger & Jordan, 2000). Web-based instruction with video seems to be growing in popularity and many institutions are experimenting with its application. Cohfield (2002) found that video application on web-based instruction not only made the learning environment more convenient, efficient, and accessible but also improved the effectiveness of learning and the motivation of learners.
Necessary Components of a Well-designed Web-Based Tutorial

Along with development of the Internet, web-based instruction emerged as an innovative method to deliver instructional messages by using the web as an instructional delivery tool. Compared to traditional classroom instruction, web-based instruction is relatively new and is grounded in the traditional instruction model. Dewald stated that sound pedagogical principles have informed traditional face-to-face library instruction and those same principles should be used to create WBI (Dewald, 1999). As web technology is maturing, the instructional design theories, learning theories and good pedagogy, which have proven successfully in traditional instruction should be applied to WBI development. Employing instructional design principles and models in creating WBI can help ensure that what is produced is of high quality and is able to present significant challenges to students (Moallem, 2001).

Simmons (2004) summarized characteristics of good web-based instruction from the application of learning theories and good pedagogy towards developments of WBI. Good web-based instruction has the following characteristics:

- States clear objectives
- Has consistent layout and well-planned navigation
- Is interactive
- Uses a variety of styles to engage different learning styles

Application of these characteristics will assist in ensuring useful web-based instruction.

State Clear Objectives

Gagne et al. (1981) asserted that informing the learner of the lesson objectives is crucial. It is identified as the second of Gagne’s nine essential events of instruction.
Stating clear objectives is an important aspect of effective WBI. Along with objectives, learners should also be presented with clear prerequisites for each segment. Because the WBI uses hyperlinks, it can allow learners to choose their own individualized paths to decide the sequence of study. The clearly stated objectives and prerequisites for each segment are important to facilitate students following the direction (Simmons, 2004).

**Use Consistent Layout and Well-Planned Navigation**

A consistent layout and well-planned navigation helps learners easily access the materials and take advantage of the nature and structure of WBI. Well-planned navigation is a basic requirement for a website. Menus, buttons and icons can be used for navigational purposes. They should be easily spotted on the screen. With assistance of hyperlinks and well-planned navigation, the learner should be in a position to move in a self-directed manner though the lessons and control the pace of the lessons.

**Make It Interactive**

Interactivity makes the difference in what distinguishes an information source from a learning experience (Hall, 1997). Web-based instruction should be interactive. Experience demonstrates that students learn most from continuous practice with immediate feedback. Quizzes, exercises and feedback forms are good ways to employ interactivity and monitor learning success. The system should give immediate feedback after quiz or exercise and offer new chance to practice or do the explanation.

**Use a Variety of Styles**

How to motivate the learner to keep moving forward is a big concern for teachers. Good web-based instruction must draw and hold learner’s attention. Gaining the learner’s attention is one of the nine essential events of instruction (Gagne et al., 1981). The
content offered by a web-based tutorial should maintain the learner’s attention and ensure that the message is being conveyed.

A variety of media styles such as text, graphics, video, and audio can help maintain a learner’s interest and involvement. Various presentation styles can appeal to different learning styles. A well-designed web-based instruction module should use the fewest words possible to teach each instructional objective (Moallem, 2001). Usually people have short attention spans and get tired quickly. Presenting information in small chunks helps the learner build knowledge gradually and control their pace easily.

To sum up, many principles of traditional instructional design can be applied to good web-based instruction. In order to find the best design method, a WBI designer should adopt a number of successful learning theories and instructional design theories. The WBI designer should keep in mind the needs of the intended learners. Additionally, these designers should use the principles of strong instructional design and take advantage of the continuously developing web technology to maximize learner’s learning ability.

Video’s Impact on the Effectiveness of Web-Based Tutorials

Educators and instructional designers are interested in creating effective learning surroundings. They attempt to combine various media to lead to better results in teaching and learning. The rapid growth of the Internet, or the World Wide Web, as a delivery medium has enabled educators to develop web-based courses and instructional materials. In the 1990s, these web materials were limited to text and images, but with the development of greater network bandwidth and increase in user connection speeds, audio and video have become good resources for instruction. Furthermore, CD-ROMs and
multimedia-equipped personal computers have provided additional support for the use of web-based materials (Martindale, 2000).

Kemp and Smellie (1994) believe that video is ideal for educators who wish to produce their own instructional materials. Past studies have shown that video instruction is equal to or more effective than on-campus instruction in terms of academic achievement. Gibbons (1997) designed the method to combine the positive features of lectures with those of small group discussions. This form of instruction used videotaped lectures. This method was excellent because it was suitable for the large-enrollment classes. It provided the ability to stop and review a lesson. It enabled the students to not be geographically-bound in taking the course. Time did not limit the students' ability to be involved in the course because the tape could be viewed at any time. Finally, faculty could review the tape for self assessment (Gibbons). Videotape was cost-effective and reusable, and the editing process for video was much easier than film. Special effects were easier to incorporate which made the instruction more active (Taylor, 1988).

Video can be used in different ways. Traditionally, video could be used to present a recorded program during a class. As technology is developing and evolving, the use of video as an instructional tool reaches the level of QuickTime files for the Internet that students can view on computers at any time (Martindale, 2000). More and more, video production is increasingly made in the digital domain, but the ability to work with analog sources and output in analog formats is still important. Olson and Wisher (2002) suggest that the combination of a computer controlling high quality video/audio segments is a compelling advancement in web-based instruction. They compared the effects on learning through hypermedia instruction (e.g., networks of related text, graphics, audio,
and video) to different types of non-hypermedia instruction such as text and videotape. Results indicated that, overall, the use of hypermedia in instruction resulted in more positive effects on students' learning than non-hypermedia instruction (Olson & Wisher). The actual procedures of how the video can be combined with the computer will be described in the Project Description Section.

Benefits of Web-Based Tutorials

As described before, innovations in computer and network technology lead to dramatic changes in education patterns. The number of exciting curricular and pedagogical tools and opportunities has grown quickly and they are increasingly available for teachers and students through computers (Schrum & Berenfeld, 1997). Technologies can enhance classroom activities and resources and can transform conventional pedagogical models. With the sharp change of pedagogy and curriculum, many researchers and educators have investigated the advantages and disadvantages.

Basically, the keys to learning still depend on motivation, creativity, thinking, reflection, and active participation in the knowledge building process (Alessi & Trollip, 2001). There are various reasons why many teachers are trying to make use of web-based tutorials as teaching and learning assistant tools. The first reason is that these tutorials can make the educational process accessible to almost everyone, regardless of where they are or what social-economic environment they are in. In other words, the potential audience is very large (Valauskas & Erterl, 1996). Kruse (2000) stated that students always have access to a potentially huge library of training and information whether they are working from home, in the office, or from a hotel room. As cable modems become more popular and Internet technology becomes more mature, students will even be able to access the
web tutorial in a place that doesn't have a traditional phone line or network connection. Computer technology is going wireless. Additionally, tutorials allow learners to study at their own pace and their own way. Because web tutorials are always accessible, they can be used at the learner’s convenience. According to Schrum and Berenfeld (1997) web-based tutorials enable students, even those living in remote communities, to solicit answers from experts throughout the world.

The second reason is that the web-based tutorial can support much higher levels of interactivity. The authors claimed that the web tutorial can support traditional types of interaction such as questioning problem solving, simulation control. It could work as a complementary of traditional methods. The web server is used as a file storage and retrieval system. However, interaction between learner and computer or among learners facilitates learning far more than the mere retrieval and presentation of information (Alessi & Trollip, 2001).

The third reason is that web-based tutorials make it easier to manage rapidly changing information. Educators can upgrade their own creations easily and quickly on thousands of websites. In the past, users have had to receive software updates for any updating of multimedia learning materials manually. Web-based multimedia has provided a system where the software developer must update only the website on the server and all of the users can access the latest version. It provides new opportunities for particular content areas and methodologies via websites (Alessi & Trollip, 2001). Kruse (2000) also cited this benefit because in today’s fast-paced business environment, training programs change frequently.
According to Kruse (2000), the ease of student tracking in web-based tutorials can be beneficial. He mentioned that because students complete their learning while they are connected to the network, it is easy to implement powerful student-tracking systems. It does make sense. The traditional ways, such as CD-ROM, have required students to print reports or save scores to disks while in web-based tutorials. Today, data can be automatically tracked on the server-computer. This information can be as simple as identifying who has accessed the courseware and what their assessment scores are. The information can be as detailed as including how students answered individual test questions and how much time they spent in each section.

Last but not least, the web-based tutorial can be used to facilitate communication among learners and teachers (Roblyer & Edwards, 2000). The capability for facilitating communities among learners, regardless of time and space, is very important in providing a successful tutorial. Compatibility of software is needed to facilitate good communication among members of a community. The environment must meet the different needs and work styles of a variety of users.

In the following circumstances (Alessi & Trollip, 2001), a web-based tutorial can be recommended:

- When there is good institutional support for the technical aspects of delivering Web-based tutorials.
- When learning materials are amenable to the Web.
- When the freedom associated with the Web, the extensive user control, and the open-ended nature of the web are compatible with the characteristics of learners.
• When you want to reach remote learners who have good access to the Web.
• When your learning activities benefit from the communication features provided by the Web.

The general benefits of web-based instruction, when compared to traditional instructor-led training, include all of those shared by other types of technology-based training. These benefits are that the learning is usually self-paced, highly interactive, results in increased retention rates, and has lower costs because students do not need to travel to an instructor-led classroom. When compared to CD-ROM training, the benefits of Web-based tutorials are that access to the content is easy and requires no distribution of physical materials (Kruse, 2000). Even though there are plenty of advantages which web-based tutorials provide, there still exist some concerns and disadvantages the instructors should take into consideration while they are planning, developing and implementing a web-based tutorial.

When compared to traditional instructor-led training, the first concern is the lack of human contact, which can greatly impact on learning. (Kruse, 2000). Web-based tutorials can be better than CD-ROM learning in this aspect because students can use e-mail to contact other students, post messages on learning forums, or use chat rooms and videoconference links to communicate in synchronously. Interaction is an improvement over CD-ROM learning, but it still doesn't have the impact of a traditional classroom teaching. As higher speed connections and software develop, in the not-too-distant future, students around the world will be able to communicate with each other and get feedback in real time through high speed Internet.
The lack of multimedia in many web-based tutorials is also a pitfall. The use of audio and video is critical when creating compelling metaphors, realistic job simulations, and accommodating different learning styles (Kruse, 2000). But there can be a bandwidth problem. Full multimedia delivered over Intranets is workable and many institutions are doing it. But mostly, even if students have a high-bandwidth Intranet connection, information technology departments do not like large media files to be used because those huge files slow down the entire network, consequently resulting in most web-based tutorial programs using text and graphics only. Bandwidth problems will be solved in the near future with advancements in network protocol standards and software compression (Kruse, 2000).

The third pitfall is the lack of social and cultural interaction (Kruse, 2000). Even with advances in communication technologies, the problem of social and cultural interaction cannot be improved. Nonverbal communication such as body language can compliment a message to help make the communication clearer and more effective. On web-based tutorials, those communication mechanisms are suppressed.
THE PROJECT

This project can be divided into main three components: audience, project design and evaluation. As the literature review mentioned, the web tutorial can be an ideal tool for delivering tutorials for programs such as HyperStudio through a combination of text and video. In this project, by combining two media in one tutorial, the effectiveness of learning will be increased. An important advantage of combining these methods is creating an interactive environment rather than having students passively watch a video.

Audience

This project targeted the undergraduate students (sophomore through senior) taking an educational media class for preservice teacher education students at a mid-sized Midwestern university. The students had minimal technology skills in Microsoft Word and Microsoft PowerPoint. Considering this targeted audience, the developer designed the tutorial to deliver the HyperStudio instruction at a beginner level while maintaining enjoyment and learner interest.

These students were, for the most part, 19-25 years old with 5% non-traditional students who were 30-50 years old. The class was a blended class that combined face-to-face instruction with on-line support materials. While the course was taught as a single class, the skill levels of the students could be broken into two groups: the beginner section and advanced section. The beginner groups were usually about 20% male and 80% female. The advanced groups were usually about 60% male and 40% female.

While no formal assessment of the students’ learning characteristics was made, Halsne and Gatta (2002) showed that traditionally, college level students preferred a combination of visual and auditory styles in the classroom. Therefore, in order to get
students more involved in the learning process, the program developer created a multimedia-based tutorial to provide both visual and auditory inputs.

**Project Design**

Web-based tutorials can be enjoyable, interesting, and helpful for learning concepts and applications (Cofield, 2002). This tutorial was originally a static, text-based web page to teach students the basics of HyperStudio. Working with one of the professors who taught the educational media course, the developer redesigned and updated the original web page to include distinct video-based lessons describing each step in creating a HyperStudio stack.

The project was divided into two parts. These parts were the web page and the video tutorial. The web page described the complete tutorial along with objectives for each lesson. It began with a definition of HyperStudio and provided examples about HyperStudio on the opening page. Books, articles and websites were also included as additional web resources. The tutorial was accessible through the web page.

The web page was divided into five parts: (a) Introduction, (b) Tutorial, (c) Examples, (d) Resources and, (e) Conclusion. The opening page menu linked to the five different areas:

- **Introduction:** In the Introduction, the HyperStudio program was introduced with pictures. This part takes the students to the world of HyperStudio and explains the concept of HyperStudio.
- **Tutorials:** In the Tutorial section, the developer included 13 video lessons. The students were able to watch the lessons at their own pace. Each lesson demonstrated a step in making a stack.
• Examples of HyperStudio stacks: In the Examples part, the developer added examples that showed previously-created stacks. This section assisted the student in understanding the material. At the end of this section, a rubric was provided to provide the students with a standard for analyzing HyperStudio stacks. The students can also use the rubric to evaluate the HyperStudio stacks that they create.

• Resources: In the Resources section, the developer provided links to other websites to allow students to compare other Web pages and locate related materials throughout the web. In this section, the students could also find useful websites demonstrating HyperStudio authoring programs.

• Conclusion: In the Conclusion, the developer included some closing remarks. If the students had some questions regarding this website or the HyperStudio program content, they could send e-mail to the developer directly or through the instructor.

The program developer made many decisions about layout, text, image, navigation, and feedback. In terms of layout, the developer used a tan color for the background. This color is comfortable and safe for the eyes and contrasted with the black letter color so that it was easy to read. Font size could not be specifically controlled because of the dynamic nature of web pages.

The developer inserted pictures at the end of each section to increase the attractiveness of the page. In this web design, the developer used the CARP model: Contrast, Alignment, Repetition, and Proximity (Williams, 1994). This helped develop the organization and strengthened the page’s unity. Every element, including visual connections with elements on the page created a clean, sophisticated fresh look.
**Video Clip Production**

Video clip production took place in the university production studio. Before the recording process, the developer wrote a long script for the entire process of creating a HyperStudio stack (See Appendix A). The script was reviewed and edited by the production studio's staff person.

Camtasia software was used to capture the voice and video for each tutorial. A video host was selected to narrate the tutorial. This host was selected because she was a native English speaker and her voice was suitable for the project. The host read the script while the developer moved the mouse to demonstrate the various actions in using HyperStudio.

After the complete script was recorded, the developer split the audio track into 13 segments. Each segment was saved individually to create a single tutorial. All 13 segments were saved to the video streaming server to allow access through the web. These streaming video clips were accessed by means of hyperlinks in the web-based tutorial associated with the topics and concepts. Clicking on a hyperlink on the web page caused a QuickTime video to play on the learner's computer.

**Evaluation**

"Formative evaluation involves gathering information on adequacy and using this information as a basis for further development" (Seels & Richey, 1994, p. 57). The developer performed the formative evaluation for correction and ongoing revision of the video segment of this project throughout the development process. This evaluation involved: (a) correction of scripts, (b) modification of voice volume, (c) repetition of
action, (d) changing the color of web backgrounds from yellow to tan color, and (e) checking the web links to make sure whether the web site still exists.

The developer was able to correct and modify the project throughout the process with the assistance of the staff of the university’s production technology center. They evaluated this project periodically by giving prompt feedback.

"Summative evaluation involves gathering information on adequacy and using this information to make decisions about utilization" (Seels & Richey, 1994, p. 57). In the summative process the developer focused on some questions that needed to be taken into account. Three interviewees participated in the beta test and some gave suggestions. The interviews revealed numerous issues regarding contact, feedback, web design, and comfort level. Overall, interviewees were satisfied with the design and felt comfortable to use this medium. They found some positive aspects including accessibility, instant results, and the ability to learn at their own pace. They mentioned, however, that it took time to watch the video instruction. They felt that a novice needed textbooks and a professor for instruction to introduce the lessons because on the first day there was too much new information going on at the same time.

Actually, the lack of personal interaction was a recurring theme and was the main reason one student would not repeat the tutorial. But the interviewee mentioned even though feedback was available via e-mail, this project was a supportive vehicle for teaching. He felt that this online tutorial would be useful as a system to reinforce in-class instruction on HyperStudio.
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

While new technologies are changing lives, they are also reshaping the educational process both within and beyond classroom activities. With various emerging new technologies, new educational patterns are being introduced and not only provide educators new ways to teach but also provide students new ways to learn.

Throughout this paper and project, literature about web-based tutorials was reviewed. The ways to improve the effectiveness of web-based tutorials by using video was explored. The advantages and disadvantages of web-based tutorials were discussed. A variety of instructional software programs are emerging for self-learning and support for teaching activities. During the development, the on-line HyperStudio tutorial, a number of computer software tools such as Camtasia, Netscape Composer and HyperStudio, were used to design the program. Meanwhile, other software tools such as PhotoShop were used to improve the images and maximize the effectiveness of the students’ learning process.

This project was meaningful for the developer in that the authoring program development process is not so overwhelming but rather quite rewarding. At first glance, it seemed very complicated to design and develop a tutorial for the entire program of HyperStudio. As the development tools became more familiar, the developer came to realize that developing various tutorial programs with the assistance of software tools such as Camtasia was within the capabilities of the typical instructor.

Through this tutorial, the learners can learn the HyperStudio authoring program and they can enjoy the benefit of self-study by using the tutorial anytime and anywhere.
The crucial benefit of the web is that regardless of time and space, learners can access content and get information at will. This project demonstrated how instructors can create educational media as a supportive teaching tool that can be used by students for learning outside of the classroom.

Good communication with the students is very important during program development. Students are the program users. The highest goal of an instructional program is to give students an optimal learning experience. The developer should always begin with a proper assessment of the students’ needs and then involve learner focus groups in formative and summative evaluation along the way. This on-going evaluation will result in better future software.

While the developer received some assistance in the production of this product, she was the sole designer and developer of this tutorial. The content of this lesson might be richer if a group of people could share the responsibilities of designing and developing the program and participate in writing the script, designing the web page or developing the video lessons.

Recommendations

For further research and development, other programs of instructional technologies could be used. In this project, the developer used the Netscape program to design the website. FrontPage or Dreamweaver might be used to develop a more sophisticated website. In addition to creating tutorials for learning the HyperStudio authoring program, there are many other programs for which tutorials could be developed. Photoshop or Fireworks MX are good examples of programs that would benefit from on-line video lessons. Recently, the availability and application of digital
technologies such as digital camera and digital video recorders is increasing so that many students can apply these new technologies outside the classroom and in every routine life. There are many learners who would be motivated and excited to learn about software that would assist them in creating and editing videos.

While the HyperStudio program was beta tested by a small group of learners, it should be used with the intended audience, undergraduate Educational Media class students. This would provide a more authentic form of summative testing that would provide feedback for revising and improving the program. This should be an on-going process that will keep the tutorials up-to-date with the available delivery technologies as well as the up-coming revisions of the HyperStudio authoring program.

The Lessons Learned from this Project

As an outcome of this project, the developer realized that a teacher should stay current with technological trends. New technology is developed everyday. Some of these innovations can be applied to the classroom setting to maximize the effectiveness of education. The emergence of the World Wide Web has provided revolutionary change in the world. A web-based tutorial is a good example of using the Web as a medium for providing graphics, audio and video to complement traditional classroom teaching. Even though web-based tutorials provide a successful learning situation, they must be integrated with a comprehensive instructional program that is designed and usually administered by a trained educator. With the advancement of technology, the current educational system demands that teachers are technologically knowledgeable and will into consider new approaches to learning. A good teacher is required not only have a
strong pedagogical foundation, but to also have the technical experience necessary to best implement computer-based instruction.

Besides learning how to do a literature review, the writer learned that designing a web tutorial class is not easy but it is gratifying. Thousands of media tools exist in the market. Each of them has its advantages and disadvantages. Appropriate media selection is crucial to enhancing the learning process. In this project, the weak part was the evaluation. Due to time and scheduling restrictions, no evaluations from actual Educational Media students were made. Student feedback is an essential part of developing a web-based tutorial and can provide the necessary input for improving project quality.
REFERENCES


APPENDIX A: TUTORIAL SCRIPT

HyperStudio: Creating a Big Cats Stack

Step 1: Starting the Video

Begin by opening the HyperStudio program. If a dialogue box appears asking about card size, answer “yes”. The opening page will appear. Click on the file menu at the top of the screen. Select new stack. If a dialogue box appears asking about card size, answer “yes”. The first card of your stack will appear.

Step 2: Setting Preferences

It’s important to set the proper settings before using HyperStudio. Go to the edit menu and then click on preferences at the bottom of the menu. Select “show card number with stack name”. This is useful for creating a stack, because it shows the name card number in the header. Select “I am an experienced HS user” for additional features. Then select “Presentation Mode” to allow it to cover the rest of the screen, by clicking OK, or by selecting “one of the colors” to cover the desktop. Click OK again.

Step 3: Getting ready to work: preparing your tools and palettes

Begin by “tearing off” or “dragging down” the tools from the menu at the top of the screen. Also, “tear off” the colors menu. We will also add two other tool boxes to the screen- the “navigation” and “shortcuts” menus. To add these tools, go to the Extra menu at the top of the screen and select the navigational panel and the Shortcuts panel to be positioned to the outside of the card.

Step 4: Adding the Title and Menu Cards

Up to this point we have just prepared for the work, now we are ready to do the work. Add a text object from the shortcuts menu for the title.
Click on the text box you have created. A screen will appear. In the screen, deselect the
draw scroll bar, scrollable and draw frame checkboxes.
For the style select Arial for the font-bold-size 48-left justification-and the color black.
Hit OK. Select feature-and then select “ transparent”. Hit okay twice. Now type the word
“ Big Cats” for the title.
To add out menu card, select “ add new card” from your shortcuts menu.
Add a text object from the shortcuts menu for the menu title.
Click on the text box. In the dialog box, deselect the draw scroll bar, scrollable and draw
frame checkboxes.
For the style select Arial for the font-bold-size 48-left justification-and the color Red. Hit
OK. Select feature-and then select “ transparent” Hit okay twice.
Now type the word “ Menu” for the title.
We will create two more text objects on our menu card. Add a new text object.
Click on the new text box. Deselect the draw scroll bar, scrollable and draw frame
checkboxes.
For the style select Arial for the font-size 36-left justification-and the color black.
Hit OK. Select feature –and then select “ transparent”. Hit okay twice.
Now type the word “ Cheetah”
Repeat this process to create a text box that says “ Tiger” right below the word Cheetah.

**Step 5: Adding the Cheetah Card**

Select add new card from your shortcuts menu.
Add a text object for the title as you did in the previous cards and then click on the text box.
Deselect the draw scrollable and draw frame checkboxes

For style choose arial-bold-size36-center justification - and the color blue

Hit okay twice

Now Type the word “Cheetah” in the title

We are now going to add a picture of a cheetah onto our card.

Click on “Add clip art” in the shortcuts box. It will ask you where to locate the file, select “from disk”. Depending on your computer, we may have to look for the clipart files. If the clipart files don’t automatically show up, go to the drop down menu and select the C drive then open the program files folder. Look for the HyperStudio folder and open that. Then open the clipart folder. Select the cheetah image from the pictures available.

When you see the picture, click on the “scale/rotate” button and change the scale factor to 90% then click OK - Use the lasso tool to outline the cheetah. Click on the OK button.

Now position the cheetah on the page. Click away from the cheetah to select the position.

**Step 6: Adding the Tiger Card**

Select “Add new card” from the shortcuts menu then return back to the Cheetah card you just created using the navigation tool box. Select the pointer arrow in the tools Menu.

Click on the title box. At this time, “Red Ants” will appear around the title box.

Click the copy button in the shortcuts menu.

Go back to your new card, the tiger card. Click the paste button in the shortcuts menu.

This will paste a copy of the title text box from card 3 onto card 4. It will be located exactly where it was on card 3. Using the hand tool, change the title on your new card. From Cheetah, to “Tiger”.
We will now add the Tiger graphic to our new card from the Web.

Open Internet Explorer, in the url address bar at the top. Type in “www dot PICS-the number four-L EARNING-dot COM. That’s www.pics4learning.com. Hit enter.

Here you will see many categories, select the animal category and then select tiger.

Click on the cat 13 dot jpeg picture. Right click on the picture and select “save picture as” In the dialogue box select the “desktop” from the Save In drop down at the top.

Change the name of the file to the word “Tiger” and hit save. Back in HyperStudio, located your Tiger card.

Click the “Insert Graphic Object. Select “disk file” when prompted and hit okay. In the open file dialog box, make sure the look in drop down says “desktop” and select the “tiger” file and hit okay. Use the rectangular marquee tool to select the tiger and hit OK.

Position the picture and then click outside the picture when you have it where you want it. When the dialogue box appears, type the word Tiger in the bottom right for the name and hit okay.

Step 7: Adding Citations

Citations give the source for the picture.

Select add text object. Resize the height of the text box so that it is smaller and then click outside of the box. Deselect the draw scroll bar, scrollable and draw frame checkboxes.

For the style select Arial, size 9, center justification, and the color black. Under feature, select transparent. Hit okay twice. Click on the text box with the hand tool and type “www dot BIGCATS dot com”

Step 8: Linking the Tiger Graphic to the Website www.Bigcats.com

Select the pointer arrow tool from the tool box.
Double click on the tiger photo.

Select the Actions button in the dialogue box.

Select “Go to URL” when the window appears type the URL “http://www.BIGCATS.DOT.COM.” Then click okay. Return to the Actions box, click done, and then okay.

**Step 9: Adding Buttons to the Tiger Card**

We will be creating navigational buttons for the menu, Cheetah and tiger cards.

Select add buttons from the shortcuts menu.

Name the button menu. Select the style button.

Choose red for the background color and a light yellow for the font color.

Make the text size 12.

Click okay twice.

Place the button in the bottom left corner. Then click outside of the button. The Action window will appear. Under “places to go” select “another card”. Click on the arrow until you arrive at the Menu Card. Click OK.

Now we will add a transition—choose iris open from the transitions menu. Click OK.

Repeat this process to create both the Cheetah and the Tiger buttons.

For the Cheetah button, choose orange for the background with black for the text. Link the button to the Cheetah card and place the button in the bottom center of the card.

For the tiger button: choose black for the background and orange for the text. Link the button to the tiger card and place the button in the bottom right.
Step 10: Saving Your File

Go to File> Save As – In the save In drop down menu, make sure it says “Desktop”
Change the name to “Bigcats” and hit save.

Step 11: Trying It Out

Go ahead and try out your buttons to see if you can navigate to the different pages.

Step 12: Copying the Buttons to the Other Cards

Go to the Tiger card. Select the button mode from the tools menu. Click on the menu
button on your card then click “copy” from the shortcuts menu. Go to your Cheetah card
and click on the paste button in the shortcuts menu. This will paste the button on your
card in the same location as it is in the Tiger card. Repeat this until you have all of the
buttons on the Cheetah card.

Step 13: Placing Invisible Buttons on the Menu Card

Go to your menu card and then click on “add button” on the shortcuts menu. Select
invisible button in the dialog box and deselect “show name”. Click OK. Position the
button over the word Cheetah and resize it to fit. Double click on the button. The actions
window appears. Under on places to go, select “another card”. Click on the arrow until
you reach the Cheetah card then select OK. Choose the transition of your choice for this
button and hit okay. Repeat this process to create an invisible button to go from the menu
to the Tiger Card. Again be sure to save and then test out your stack. Make sure
everything works and then you are finished! You have accomplished your project!
Introduction

Welcome to the world of Hyper Studio. Hyper Studio is one of easy and powerful multimedia authoring tools which allow you to incorporate text, graphics, sound, video, hyperlinks and active URLs into your presentation. It is a good vehicle to make you expert presenters as well as adept communicators. From now on, you can explore and experience the magic new world. It's time to rush to the new world. Please, open your eyes and look at the movies and enlarge your ear and hear the sound. It will be a great experience.
Procedures: How to get started and work in hyperstudio

Step 1: Starting video

Objective: The learner will learn how to start the video and the hyperstudio program with 100% accuracy.

Step 2: Setting preferences

Objective: The learner will set HyperStudio preferences with 90% accuracy.

Step 3: Getting ready to work: Preparing your tools and palettes

Objective: The learner will prepare to work on a HyperStudio stack by dragging the tools on the menu to the desktop with 95% accuracy.

Step 4: Adding the title and menu cards

Objective: The learner will create and format a text object on a new card with 90% accuracy.

Step 5: Adding the cheetah card

Objective: The learner will add a clip art to a card with 95% accuracy.

Step 6: Adding the tiger card

Objective: The learner will copy and paste a graphic object, download a graphic object, and will insert a graphic object onto the card with 95% accuracy.

Step 7: Adding citations

Objective: The learner will add a text object to the card.

Step 8: Linking the tiger graphic to the website www.Bigcats.com

Objective: The learner will link the pictures to the website they are cited with 95% accuracy.

Step 9: Adding buttons to the tiger card

Objective: The learner will create the buttons and activate the button functions with 90% accuracy.

Step 10: Saving

Objective: The learner will save the HyperStudio file in the desired location with 100% accuracy.

Step 11: Trying out

No objective.

Step 12: Copying the buttons to the other cards

Objective: The learner will copy buttons from a previous card with 95% accuracy.

Step 13: Placing invisible buttons on the menu card
**Objective:** The learner will create and place invisible buttons on the menu cards with 100% accuracy.

You can find the examples used in all levels of classes. The teachers are using Hyper Studio for the class activities, including presentation. Here is an example for Hyper Studio which can be utilized in geography or social studies class. Look at it carefully and give some comments below the rubric and evaluate this example.

<table>
<thead>
<tr>
<th>CARD #1 Passport</th>
<th>CARD #2 Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write down important information about yourself which includes your name, address, citizenship, date of birth, and social security number. Add a picture and any other graphics to make this card look like a page from your passport.</td>
<td></td>
</tr>
<tr>
<td>What things are you going to take with you? What type of clothing will you need in terms of the weather? What about money, personal items such as toothbrushes, camera, etc.?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CARD #3 Location</th>
<th>CARD #4 Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where is your country located? What other countries border your country? How big is it? What water bodies are around it? Does it have any major lakes, rivers, or mountains? Use a map to show location and label major places.</td>
<td></td>
</tr>
<tr>
<td>Where are you going to go in this country? What major cities or sites will you see? Add a picture of something that you will see in this country.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CARD #5 Itinerary</th>
<th>CARD #6 Climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an itinerary of where you will go and what you will be doing for the duration of the entire trip. Write down the day, date and list of each event in point form e.g.</td>
<td></td>
</tr>
<tr>
<td>What is the climate like in this country? In the summer? In the winter? Does this affect your travel plans? How is it similar/different to where you live?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CARD #7 People</th>
<th>CARD #8 Famous</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the people like in this country? What language do they speak? What is the population? What are the main religions?</td>
<td></td>
</tr>
<tr>
<td>What is this country famous for? Where will you find this? Write some information about this site, event, product</td>
<td></td>
</tr>
</tbody>
</table>

**Preparation:** This is a great stack for getting students to learn about another city or country in the world as well as practicing their reading and researching skills. Show a video of a far away place which has a totally different culture one that the students would find appealing. After viewing, divide class into small groups and have them discuss what they would like to travel to this place in the video. In small groups have them discuss which place they would go to if they were to travel to this place.
they could go on a vacation to anywhere in the world. Take class down to the library and have them read and find out as much as they can about their special place. Get students to go to a travel agency and get any brochures and additional information on their chosen destination. Students will use the World Traveler Stack Template for this project.

Time Required: 8 - 10 blocks

Subject Area: Social Studies, Geography, Writing

Skills: Reading, Researching, Thinking, Planning, Decision Making, Writing, Editing, Cooperative Learning

Directions: Print out a copy of the next couple of pages of the World Traveler, for each student. Discuss what the students would have to do in order to travel to this place e.g. book a flight, get appropriate shots, decide on things to pack, arrange for a passport, etc. Have them collect as much information as they can.

Students load up a copy of the World Traveler Template and save it under their own name. When they are ready, get them to complete this stack on their computers. At the end they can dress up in the clothing of their chosen countries and share their stacks with their friends.

How was this activity? Is is appropriate for your class and students? You can see the rubric and evaluate this activity.

Click here to see the rubric:
http://www.sdcoe.k12.ca.us/score/actbank/thyperstu.htm

This activity is based on Internet site: http://mypage.direct.ca/g/grewal/Lessons.html

Resources

There are many resources on the Internet and related books about Hyper Studio. Here are some sites you can look for some information and materials for the class activities.

http://www.hyperstudio.com/  
http://www.atomiclearning.com/  
http://volcano.und.nodak.edu/downloads/stack.html
http://www.uni.edu/webtools/checklist.html

http://www.users.ties.k12.mn.us/~motylin/hstudio.html  
Hyper Studio Stacks: Fifteen lessons (for 5th - 8th graders) on Plate Tectonics, Earthquakes and Volcanoes, Cones, Eruptions, and Pyroclasts, Rocks and Minerals and the Prehistoric Earth, by Scott Johnson

http://www.camtasia.com

Conclusion

At last, you come to the destination where you want to reach. Congratulations!!!! on your success. So far, you have experienced and explored new and magic world by yourself or with group members. It was wonderful time for us.