Evaluating an Interactive Media Tutorial for Presentation Authoring

Brent K. Simonds, Ed.D.
Illinois State University
Normal, Illinois, U. S. A.

Abstract
This paper describes the design, development, and testing of an interactive media tutorial for presentation authoring. Several agencies are calling for university graduates to possess skills with information technologies including the ability to communicate visually in a variety of contexts. Unfortunately, many students do not receive explicit instruction in this area. This project was aimed at solving a context-specific problem while at the same time documenting the design and development process and subsequent testing to glean “lessons learned” for future projects.

Repeatedly, research has shown that oral presentation ability is one of the top skills needed by college graduates to obtain employment and then succeed on the job (Curtis, Winsor, & Stephens, 1989; Winsor, Curtis, & Stephens, 1997). The development and use of visual aids are important aspects of oral presentations. Most, if not all, public speaking textbooks devote entire chapters to visual aids and recommend their use because they enhance oral communication effectiveness (see e.g., Andrews, Andrews, & Williams, 2002; Daly & Engleberg, 2001; Lucas, 2004, Osborn & Osborn, 2003). Furthermore, the use of information technology to create visuals for public speaking has become an expectation in business, government, and education. It is clear that representing one’s ideas visually during a presentation is an important skill that should be a core competency of any public speaking class at the university level. Recent technological
innovations in the presentation software field (e.g., PowerPoint, Keynote, and Astound) have made it possible for public speakers to create a variety of visuals without resorting to using artists and graphic designers. But most speakers lack formal training in visual communication design. Many students at the university level may take a public speaking class during their college careers – though the use of modern technological tools often lags behind the latest developments and standard practices in business and other institutional settings.

Despite limited formal training in visual communication design, the use of presentation software by business, government, and educational speakers has proliferated almost to the point of ubiquity in recent years. So much, in fact, that scoffing at these types of presentations is quite common. In two short pieces in *Educational Technology*, Mason and Hlynka (1998) ask, “PowerPoint in the Classroom: Where is the Power?” and “PowerPoint in the Classroom: What is the Point?” Recently the *Chicago Tribune Magazine* (Keller, 2003) asked on its cover “Is PowerPoint the Devil?” Amusing as the titles may be, a careful reading of these articles reveals that the criticisms are not really levied at the software itself – though the authors try to make it seem so – rather it is poor presentation design or inappropriate use that is to blame for the legion of mediocre presentations that many people have to endure. These criticisms are usually aimed at “bullet” thinking – the overuse of an easy-to-produce text effect. Many speakers do not make use of appropriate photos, diagrams, charts, and graphs; all of which are within the capabilities of presentation software.

**Educational Context**

Several professional, educational, and governmental agencies are calling for increased technological competence from university graduates. Toward that end these agencies have compiled recommendations that they hope universities will implement as part of the educational experience for their students. The argument is that information technology has suddenly exploded into our everyday lives yet most of us do not have any formal training to understand or effectively use it. Additionally, its rapid diffusion has resulted in a glut of information that ironically requires effective use of the same technology to manage, organize, retrieve, and communicate this information. All university graduates should be able to use information technology to accomplish personal and professional goals, but while some students may have experience using information technology, some do not. For example, Kemp (2000) found that pre-service teachers in the Minnesota university system possessed basic computer skills such as word processing but lacked significant skills with emerging technologies such as digital imaging and projection. Universities should seek to ensure that students can use technology
in a contextually-appropriate manner and document their performances compared to stated criteria required for graduation.

The Association of College and Research Libraries division of the American Library Association (ALA) (2003) advocates “information literacy” – the ability to find, evaluate, and use information. The ALA argues that their conception of information literacy is larger than just print, computer, or media literacy. It means information in all its forms. The ALA has drafted six competency standards for students in higher education.

Likewise, the National Research Council (NRC) (1999) has conceived of information technology competencies that encompass more than mere computer literacy. The NRC has adopted the phrase “Fluency with Information Technology” or “FITness.” Its argument is that “fluency” connotes a higher level of competence than “literacy.” Though the NRC lists 10 contemporary computer skills university students should possess, it also calls for knowledge of 10 foundational concepts and possession of 10 intellectual capabilities. For example, one skill it recommends is using a graphics and/or artwork package to create illustrations, slides, or other image-based expressions of ideas. A concept would be “digital representation of information” and an intellectual capability would be the ability to communicate to other audiences.

The NRC claims that the concepts and capabilities are timeless, whereas the skills approach will always call for revisions because of the introduction of new hardware and software. The NRC also addresses the difference between the ALA’s notion of information literacy and FITness; it views information literacy as primarily dealing with the content of information whereas FITness focuses on “a set of intellectual capabilities, conceptual knowledge, and contemporary skills associated with information technology” (p. 3-5). The NRC posits that both information literacy and FITness are essential for making use of technology.

Educause, a non-profit association that is committed to advancing higher education by promoting the intelligent use of information technology, also has recommendations about what students should look for in the way of competencies required at universities (http://www.educause.edu/consumerguide/academic.asp). In addition, the Association of Educational Communication and Technology (AECT) and the International Society for Technology in Education (ISTE) have indicators in their standards that deal with these issues.

Underlying the arguments these organizations and groups make is the assumption that technological competencies are necessary life skills that will enhance the performance of both individuals and society. With our growing information society and the ubiquity of technological devices in our everyday lives, these arguments are justified on utilitarian grounds.
**Presentation Authoring Competency**

With these recommendations in mind, a grant-funded committee at a large Midwestern university drafted several technology competencies and sought to embed them within the curriculum. Toward that end a “presentation authoring” requirement was implemented in a beginning-level public-speaking course that is required of all students. Broadly defined, the ability to create and deliver an electronic presentation is consistent with all of ALA’s recommendations for information literacy. It also specifically fulfills the National Research Council’s recommendation calling for the ability to create image-based expressions or ideas. Furthermore, Educause explicitly recommends the ability to do technology-enhanced presentations.

The public speaking course typically enrolls around 3,000 students a year and is taught by various faculty as well as graduate teaching assistants. The curriculum for the course is fairly rigid, as stipulated by the academic senate, and everyone who teaches the course must undergo extensive training in an effort to ensure consistent content across all sections. Among other requirements, students in this course must deliver both an informative and persuasive presentation. Course directors agreed to document students’ use of presentation authoring software during their informative presentations since use of a visual aid was already a requirement of the assignment. However, the role for the instructors is only to verify whether or not students possess the required competency – not to teach it. For that reason, training for the competency had to come from another source outside the classroom.

This study drafted a set of criteria based on recommendations from external agencies and public speaking textbooks. The criteria (skill set) are for students in this course to design and deliver an informative presentation with PowerPoint software that includes the following:

- A design template,
- Transitions between slides,
- Bulleted text,
- Animation of at least one screen element, and
- Photographs, diagrams/illustrations, or graphs/charts (at least two of the three types).

To deliver the instruction, the researcher designed an interactive media tutorial so that instructors would not have to teach these skills during class time. The tutorial was designed to provide a modest amount of interactivity. It, of course, used a variety of symbol systems (text, photos, video, and audio) in an interactive format (see Figure 1). The learning content was broken into smaller segments that allowed users to non-linearly access the desired information. A quiz section was included that prohibited users from advancing to the next question until the current question was answered correctly (see Figure 2). External hyperlinks to more learning resources were also provided. The researcher also hoped to provide a video controller to allow non-linear access to video segments; however, technical constraints prohibited its inclusion at the time of prototype development.
**Figure 1.** QuickTime Movie with Flash Track that Enables Interactivity and Navigation.

**Figure 2.** Users Cannot Advance in “Quiz” Until They Select Correct Answer.

*Simonds – Evaluating an Interactive Media Tutorial for Presentation Authoring*
Visual Design Principles

Since the public speaking instructors are judging many aspects of their students’ speech performances, the criteria are meant to be extremely low inference. That is, the instructors only note the presence or absence of the visual elements. However, an effective presentation aid relies heavily on good visual design. For this reason, the researcher included visual design principles in the CD-ROM to aid the user. Since the public speaking class is a general education course taken by all students, it is assumed that most of them are neophytes when it comes to visual design. There is no shortage of good books and resources for graphic artists and other visual specialists that go into great detail on the visual design process. However, most of them are too in-depth and unwieldy to work satisfactorily with the present project. A source that condensed the extensive design literature down to a few manageable principles was identified. Williams (1994) offers four easy-to-understand and implement visual principles:

- **Proximity** – group related items together
- **Alignment** – items should have visual connection with other items
- **Repetition** – repeat aspects of the design throughout
- **Contrast** – if two items are not the same, emphasize the difference

One section of the interactive media tutorial was devoted to a quick explanation of these four principles.

Conceptual Framework

A significant question to be resolved in the design and development of the instruction is whether some form of interactive media is the best way to deliver the training. Media comparison studies have typically yielded “no significant difference” results despite the excitement and speculation that accompanies new technological developments (Clark 1983, 1994). Researchers who have sought to establish causal media effects on learning have not had much success, leading Clark to assert that media will never influence learning under any conditions. Of course, there are instructional problems other than learning such as cost and distribution. Clark recommends media choice based on an economic model. That is, designers should use whichever medium provides the cheapest way of delivering instruction to
the intended audience. This cost/benefit or return on investment model should please most administrators.

The guiding assumption behind most media effects research in the instructional technology field is behavioral. That is, researchers provide stimuli (lessons encoded into various media) and hope to measure and compare learner response (learning), with the goal of isolating the most “effective medium.” Recent scholarship has called for reframing the basic research question from “what do we learn from media?” to “what do we learn with media?” (Jonassen, Campbell, & Davidson, 1994; Jonassen & Reeves, 1996; Reeves, 1998). This view of learning acknowledges that students are active participants in the learning process and that various media such as video or computers become cognitive tools with which users can resolve problems. Lowther, Bassoppo-Moyo, and Morrison (1998) refer to this practice as computer-supported instruction (CSI). That is, technology is conceptualized as a tool for learning rather than solely as an instructional delivery system.

Some mass media researchers have asked similar questions. Originally articulated by Katz (1959), uses and gratifications theory asks, “what do people do with media” rather than the traditional media effects question, “what does media do to people.” This change of focus allows researchers to attack the problem from a different perspective by asking different questions. Cross-fertilization between the two fields (instructional technology research and mass media research) may prove beneficial since both are concerned with mediated messages. One problem to overcome is how the two fields use the term “media effects.” Instructional technology scholars tend to use the term to test and/or describe any supposed effect the different media may have over the same content. As mentioned earlier, those studies have typically yielded no significant differences. Many mass media researchers, on the other hand, have developed theories based on research results that support relatively strong effects. However, these theories are based primarily on the content of mass media (e.g. cultivation theory; Gerbner, Gross, Morgan, & Signorielli, 1980).

While the researcher acknowledges that interactive media is a medium of communication, this study conceptualizes the interactive tutorial primarily as a cognitive tool. That is, this study was concerned more with what students do “with” the medium rather than what the medium does “to” them. The study falls into the developmental research paradigm (Reeves, 2000; Richey & Nelson, 1996). That is, the study is aimed at solving a context-specific problem while describing and studying the process.
Methodology

Interacting with the Tutorial Prototype

The researcher developed a prototype of the interactive tutorial using Flash MX software to create navigation. However, because there were several video segments, the researcher chose to have the tutorial run in the QuickTime player since early testing revealed that was much more robust when dealing with video. Fortunately, the QuickTime standard allows for a Flash track to play within the player so designers can make the best use of different technologies.

To test the prototype, a focus group was drawn from the summer session public speaking classrooms. Four students came to the computer lab to participate. First, they would use the interactive tutorial on CD-ROM and then be given the task of creating a short electronic presentation. Finally, they would be interviewed on videotape about their reactions to the program.

Each participant was given a CD-ROM that contained written instructions on its cover about how to start the program. The researcher observed the participants as they used the system and noted that they all accessed the information in a linear manner. That is, they started with the top link and followed the links down in a step-wise fashion. Once they began using the tutorial, no questions were asked and no one had trouble with navigation. The total time the users interacted with the tutorial program ranged from 38 minutes to 45 minutes.

Focus Group Presentation Task

After experiencing the tutorial, the students were given a presentation task that would fulfill, upon successful completion, the proposed skill set for the presentation-authoring competency. The participants were provided with the information and data to place in their electronic presentations. The assignment required a presentation based on a design template and consisted of three slides that contained headings, bullets, a photo, a diagram, and a vertical cylinder bar chart. The users were required to group the photo and its caption, and add an entrance animation effect to the group. Transitions were required between all slides.

All users were instructed to work alone and if questions arose, to try to find answers to their questions on the tutorial CD-ROM without consulting each other or the researcher. Three of the users set about the task without going back to consult the CD-ROM. One user, a male, would work on the presentation for a while and then go back to the CD-ROM to gather information. When this user went to access particular movies, the researcher noted that he would try to click on the preview graphic in the movie to try and navigate the movie itself. Unfortunately, for this user, the only video
controls available were play, pause, and rewind. He was unable to skip to the section of video he desired. This user thought the preview graphic was a hyperlinked index that would allow him to jump to different parts of the video (see Figure 3). A hyperlinked index is within the capabilities of the software used but unfortunately was not part of the prototype’s design.

The first user to complete the task, a female, was finished in 18 minutes. She demonstrated to the researcher her completed presentation which fulfilled all of the requirements. The second user, a male, finished the task in 35 minutes and also fulfilled all of the criteria. Since time was running out on the allotted two hour block for testing, the researcher decided to stop the other two users (both males) from the task and conduct the focus group interviews. The two participants were told they could complete the task after the interviews if they wished, or that the researcher would inspect their actual informative presentations for their public speaking class at a later date. Both subsequently e-mailed the researcher their PowerPoint files that they presented for their informative speeches. Both presentations fulfilled all of the criteria. As will be seen in the next section, neither of these two users had ever used PowerPoint software before.

Figure 3. Preview Section of the “Templates, Text, Photos” Video.

Note. A focus group participant tried to navigate the movie by clicking on text in the video content area. Unfortunately, this type of navigation was not part of the design.
Results

After the participants had interacted with the tutorial and worked on the presentation task, they were gathered for focus group interviews. The interviews were videotaped and subsequently transcribed.

First, each person described their previous experience and amount of knowledge concerning PowerPoint. The following descriptions are based on their responses. The participants will now be referred to as Users 1-4. The users are numbered according to the amount of their previous experience with PowerPoint that they reported.

User 1, a junior, was a 20-year-old female with extensive experience with PowerPoint. She had gained this experience in high school:

USER 1: I’ve used PowerPoint a bajillion [sic] times because of my high school. All of the teachers found out about it and went to a workshop and came back and went PowerPoint crazy. In pretty much every class you had a PowerPoint presentation. It would be part of your presentation or serve as your research paper.

User 1 was the participant who had finished the presentation task in 18 minutes. Obviously, she possessed technical proficiency with PowerPoint prior to training.

User 2, a junior, was a 29-year-old male who had served in the military and had delivered briefs via PowerPoint while in the service. User 2 noted that he did not have formal training with the software but had picked up his skills as a matter of necessity. He did say that he had learned new things from the CD-ROM and was now more aware of what could be done with the software. User 2 took 35 minutes to complete the presentation task. The researcher noted that User 2 completed some parts of the assignment rather quickly (e.g., creating text, inserting the photo), but slowed down when working on the diagram and bar chart.

User 3, a freshman, was a 25-year-old male who had also served in the military. Though he had used a personal computer before and had witnessed others delivering PowerPoint presentations, he had never used the software himself. According to User 3, before interacting with the CD-ROM “I knew absolutely nothing about it.” This user did not complete the presentation task before the interview. After the interview, he indicated to the researcher that he would use the CD-ROM to create his actual informative presentation for his public speaking class. Two weeks later he e-mailed the presentation to the researcher. His informative presentation met all of the criteria. In a subsequent conversation with User 3, he indicated that the CD-ROM allowed him to create his electronic presentation in 20 minutes. He said that it took him much longer to find photos to include, than to create the presentation itself.
User 4, a 46-year-old junior, had recently returned to school after earning an associate’s degree several years ago. User 4 described himself as completely computer illiterate. He had never heard of PowerPoint before and had never seen anyone deliver a presentation using the software. However, he had recently bought a computer and was eager to learn. The only software he had used thus far was a word processor. He said a recent paper for one of his courses had taken him twice as long to format on the computer as it had taken to write it.

USER 4: This is all just fascinating. When I was looking at the tutorial, basically, it was almost like I was watching Nova. I was just sitting wondering – it was almost like magic. All these things you can do. I was thinking “Wow, this is stuff I would like to know.” I was setting there observing all of it, soaking it in, rather than concentrating on memorizing every point.

User 4 also was not able to complete the presentation task before the interviews began. However, he too opted to deliver his informative presentation via PowerPoint and gave his presentation to the researcher on a floppy disk at a later date. His presentation met all requirements. His case was perhaps the most illuminating since he was an absolute neophyte concerning not only PowerPoint but personal computers as well. User 4 also provided the researcher a written note after having made his presentation in the public speaking class:

USER 4: Studying the PowerPoint tutorial was a bit of an epiphany for me because it not only enhanced my appreciation of the versatility and potential inherent to computer assistance, but it also encouraged me to more aggressively pursue that assistance by demonstrating how easily I could become acquainted with, and adept at, using computer programs. In this case, PowerPoint.

The focus group participants can be categorized into four distinct skill levels:

- User 1: avid/experienced PowerPoint user
- User 2: semi-experienced PowerPoint user
- User 3: novice PowerPoint user – some computer skills
- User 4: absolute neophyte to both personal computers and PowerPoint

Now that we have a description of each user and their skills levels, their comments concerning the usability of the tutorial will be examined.

RESEARCHER: How did the tutorial work overall?
USER 2: I think it was great. I think that the way the software was presented was very user-friendly. It went into great detail about certain aspects of the things that you can do with PowerPoint.

RESEARCHER: Any other reactions?
USER 4: I was just completely awed. My mind, as I was watching, I was imagining all of the things that it could be used for. How versatile the tool was. I was amazed at all of that.

RESEARCHER: (to User 3) Your reactions?
USER 3: it was a lot of information all at once because I’ve never done it before, but it was easy to follow.

As mentioned in the “Interacting with the Prototype” section of this chapter, the researcher had observed the users accessing information on the CD-ROM in a linear fashion. The researcher then asked them if they would have accessed the information in this manner if they were alone and not in a testing situation:
USER 3: It’s kind of a continuous presentation.
USER 1: But it’s not overly long.
USER 2: And that’s good too, because you don’t want to bore anyone with too much information. It’s pretty much in the order you want to do it in. But if you just toss this CD at somebody, they might look at it and go “Oh, what do I want to learn about? Drawing tools?” But, if they don’t know much about PowerPoint, they need to go through the whole thing.

Their answers seem to suggest that a linear presentation might be appropriate as an introduction to the material or for those with less background knowledge. This led to a discussion of whether or not they felt prepared to take the quiz on the CD-ROM tutorial materials.
RESEARCHER: Did the information in the CD-ROM prepare you sufficiently for the quiz questions?
USER 1: I think they were all good.
USER 4: I got a few wrong, but that’s OK. That’s the point of it, right? I remembered, yes, it was talked about. But then you find the right answer. It’s like when you get a study guide from a past test to study for a coming test.
USER 1: Plus, I like that it doesn’t necessarily say “Wrong!” It says “No, there might be a better answer.” That’s kind of nice.

Comments of both users 1 and 4 support Palmer and Rhodes’ (1997) argument that interactive media training should allow users the opportunity to make mistakes – to not always be penalized for wrong answers.

Though there were many positive comments concerning the design, the researcher pressed participants to offer constructive criticism about the design of the CD-ROM.

USER 4: I have a suggestion. It seemed to cover everything. After watching the tutorial, I really felt empowered. Now I can put my thoughts, my ideas onto the screen. I have tools now to do it. But, because I didn’t know too much about computers, I had to do it. I had to go back to the tutorial. It’s a great learning thing because you can go back and forth. But when I hit rewind, it went all of the way back to the beginning.

INTERVIEWER: So, if you could navigate to a particular part of a video?

USER 4: Yeah, if I could go to where the first screen comes up. And it says like templates, text, and bullets. If I just wanted to know about bullets, I could go to bullets and click and get to that section because that is what I need. Instead of sitting through the whole thing to get there.

As reported earlier, the researcher had noted this user’s behavior during the testing phase. This observation points to an important design consideration. Though many users may initially choose to experience the content in a linear fashion to orient themselves – especially the videos which are by their very nature linear – subsequent use may tend to be non-linear. This non-linearity is, of course, a defining characteristic of interactive media. The design challenge becomes making linear segments such as video easily navigable. As mentioned previously, the limitations of the software prohibited the use of the video controller now available in Flash MX. However, the manner in which User 4 tried to navigate the videos may be a workable solution.

The researcher then asked the group about whether written instructions for the video tutorials on the CD-ROM would be useful should they need to review the content:
USER 3: You should watch it as an overview (the CD-ROM videos) so that you get the visual pictures, but sometimes it’s easier just to thumb through actual pages because it’s quicker to get to the point that you are trying to get to. Instead of going, OK, I need to get to the toolbar. Now I need to get to the bullet section. Now I need to fast forward to this point in the speech. You have something printed out in front of you. You’ve already seen it once. You have a general idea of what it is. If you have the printed instructions, (snaps fingers) two seconds you’re there.

RESEARCHER: The printed instructions are on the CD-ROM in the “Resources” section. How can I make three thousand users see them?

USER 3: I think you should point out that there are printed instructions available right at the very beginning. I didn’t even see that part. You can put it as a note on the CD cover or in the introduction when you are speaking, “these instructions are available for printing out here, here, and here.”

USER 4: I thought the resources section just referred to net resources. I didn’t realize it also referred to the CD-ROM itself. . . . I think it would be useful to have the instructions printed out. When I get home I’m going to learn this. I’m going to print it out. I’m going to sit there with the printed version. But then if I need to go back, I can actually see what he’s doing. See the picture of it. I think the two of them together would work. The more information the better, as long as you can get back into it where you need to go, to navigate through the information, to get what you need, as you need it.

RESEARCHER: Again, how can I get people to look at the resources page?
USER 1: The fact that it is at the bottom, you’re going to go through all of the videos. You’re going to do the quiz. I think you should move the “Resources” link up – maybe with a subtitle “more useful and helpful tips.” Users may think that it is not important since it is after everything else.

USER 4: For some reason, “Resources,” that element, it was sort of like an afterthought. It wasn’t as stressed or explained as well. The audio part it sort of explains what each section is, when it gets to resources if it was a little longer or more informative.
USER 1: I know a bunch of the different videos say “go refer back to data and tools or whichever” to learn more about this. If you said “refer to the ‘Resources’ section if you had any other unanswered questions.” Just repetition.

User 1 was referring to the audio tracks of the tutorial videos that contain references to other videos on the CD-ROM as well as the “Design Tips” section. Her recommendation that reference be made to “Resources” in the audio tracks seems a sound one. Liu (1997) found that users of an interactive media kiosk tended to seek out visual information (which often included audio tracks) rather than text. Therefore, to ensure that users are aware of important information that they might otherwise miss, placing information in the highly visual sections (such as videos) is an important design consideration. User 4 also suggested an audio or video section that explained how to use the CD-ROM.

Here is a summary of the users’ suggestions concerning the “Resources” section:

• move the link higher in the navigation list
• point out the resources available on the CD-ROM cover
• make references to the various resources in the tutorial videos
• create an introductory video to orient users to the CD-ROM

It should be noted that the researcher did not orally advise the focus group users of the resources available on the CD-ROM.

The researcher also was interested in the users’ reactions regarding the “Design Tips” section. That is, amid all of the technical information, did the visual design training seem superfluous?

RESEARCHER: For people who are struggling with the technical aspects of PowerPoint, is it too much to ask them to learn visual design principles?

USER 3: No, it’s not too much to ask. You need the design stuff to increase the quality of the presentation. The technical stuff is fine, but if you don’t have it in a way that is pleasing to the eye, what’s the point?

RESEARCHER: Were the four principles clearly explained and demonstrated?
USER 1: Yes, I think so. Having learned this in high school, when we first learned, we just threw things together. And we had huge, long paragraphs on each slide, eight million colors, whatever. It makes a lot of sense, because now you are in a university atmosphere. It does have to be professional. It does have to look nice. Things like keeping your alignment on captions and pictures, and having things close together because they are closely related. It’s common sense and I think it needed to be addressed to show that this is something that people will look at when they look at your presentation…… I think it should have been addressed and I think that it was done well.

USER 4: I thought it was done well, as well. Because it mentions things like proximity and alignment – it mentions it a little bit during the presentations, so it lets the person watching know that there are elements of style. It is just not “painting by the numbers.” At the end of the video it let people know that there is a section there for “Design Tips.” You can improve your skills here. To me, that was like the “carrot on the stick.” It’s like if I can get this technical part down to where I know where I am going, then I can go over here and improve the aesthetics of it. But first I have to get the technical part down. But I knew that once I did that, that there was more to do.

To find out if the task presented to them seemed “doable,” the researcher also pointed out the informative presentation on the CD-ROM fulfilled “A” criteria, the speaker was a national champion public speaker, and that the presentation had been written and designed by the researcher. There was general agreement among the participants that the task seemed appropriate and they felt confident in their abilities to do similar work.

USER 1: I like the fact that he actually stutters and messes up like three times. . . I like the way that he used the PowerPoint. He knew his stuff. A lot of the people that I’ve seen using PowerPoint completely survived off of the PowerPoint. If anyone asked a question or if the information wasn’t right there – then they didn’t know. I like that he used it basically as a background.

Interestingly, User 1 points out the usual complaints made by critics of PowerPoint – the fact that the tool is often used inappropriately.
To end the focus group session, the researcher solicited some final comments from the participants:

USER 3: the best part of the CD-ROM is that it gives you an overview. It gives information for someone who has never done it before. And then you can screw around with it yourself and say “Here’s what he was talking about, and here is how I can do it.”

USER 2: And it’s tool. You can pick it up anytime. “Well, I’ve got to do this PowerPoint presentation, there’s some things that I would like to remember.” Well, throw the CD-ROM in the drive and go through it again. “Oh that’s how he did that.”

USER 4: I thought it was very user-friendly. I look forward to sitting down with this and really learning it and getting into it. It’s not dry, it’s not something that you have to force yourself to sit down and work through, so you can learn it. It’s really enjoyable. You want to sit down and engage it.

User 2’s comment that the CD-ROM is a “tool” is consistent with the notion of the computer as a cognitive tool, something we learn with and not from (Jonassen, Campbell, & Davidson, 1994; Jonassen & Reeves, 1996).

Discussion

This study details the design and development processes of an interactive media tutorial, so that other projects may make use the lessons learned from the usability testing. Overall, this study demonstrates that a large amount of instruction can be contained in an interactive media product that students find engaging and useful. All of the students were able to demonstrate technical competence and they expressed both need and interest for developing better visual design skills. USER 1 who already possessed the technical skills noted that university presentations demanded better visual designs than the ones she had produced in high school. USER 4, who had no previous experience or skill with PowerPoint, referred to visual design as the “carrot on the stick” that motivated him to develop the necessary technical skills.

More products of this type may lessen the need for expensive classes and workshops that offer software training. The CD-ROM format allows for audio and video representations of desired student performances, in a cost effective medium, under the control of the user, and at any time. The integration of Flash and QuickTime allows for complex interactivity as well as stable...
audio and video demonstrations that play in a free piece of software. Furthermore, as DVD-ROM drives become more common, this type of interactive training can be enhanced with higher quality audio and video productions since content will not have to be compressed as much to fit on the storage medium.

Finally, another benefit to interactive media tutorials is that students can access this type of training when and where they choose, at their convenience. After the program is in place, another research area that might yield interesting results could be an investigation of the intersection between technical skills with visual design skills. That is, how much technical skill must users possess before they begin to apply relevant visual design principles to enhance their presentations? Only with technical skills and a visual sensibility – and the will to use them – can speakers move beyond the bullet-based presentations that plague so many presentation situations today.

References


