ADOBE PHOTOSHOP 7.0: AN ONLINE MANUAL

By

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The project presented by Paul Charles Furthmyre
Entitled Adobe Photoshop 7.0: An Online Manual is hereby approved:

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ABOUT THE AUTHOR

"The achievement of your goal is assured the moment you commit yourself to it."
Mack R. Douglas

Paul Charles Furthmyre earned a B.A. in Education from Western Montana College of The University of Montana in 2001. His endorsements include a Business and Computer Applications Broadfield and a Computer Science minor. He has been employed by the Poplar School District, in Poplar, MT for the past four years. His classroom responsibilities for the district include that of a high school teacher for two years and a technology integration specialist position for two years. Mr. Furthmyre's classes consisted of multimedia, computer applications, and computer programming instruction. Mr. Furthmyre belongs to various national technology organizations. They include the National Council for Computer Education (NCCE), the National Business Educators Association (NBEA), and the Technology Educators Association of Montana (TEAM). He was awarded the 2000 Merit Award by the NBEA. His work in the Educational Technology program at Boise State has allowed for him to comprehend the process of education to a higher level. The program has helped Mr. Furthmyre implement a systems approach to learning in a cognitive setting.

ABSTRACT

Finding an Adobe Photoshop 7.0 instructional strategy that can be used in a high school classroom is nearly impossible. Current manuals have either a reading level to high and/or the design layout of the instruction covers up the content material. This proposal outlines the need of a quality manual and provides an online medium for learning the software.

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NEED FOR PROJECT

Introduction

Since 1989, graphic editing with Adobe Photoshop has become a very popular profession and pastime for many. It allows for the transition from a darkroom to the computer desktop. Thomas Knoll, original Photoshop designer, designed the program that would allow him to process digital images to look like those turned out in a darkroom. The solution was a subroutine of the gray scale effect. Knoll was also interested in saving images in different file formats (Story, 2000). Since the first version, many other features have been added to the software program.

However, a problem presents itself since the first version of Photoshop was released in February of 1989 (Story, 2000). The problem is that many versions have been introduced and implemented into the realm of graphic editing without proper instruction manuals. This dilemma is extremely true with regards to education. Most of the manuals are written by graphic artists and published for graphic artists. In other words, for this software to be used in an educational setting for our youth, the students must have the equivalent terminology of a professional graphic designer.

This is not saying that many resources are not available for instruction. The materials either assume that the reader has prior knowledge of the program or the supplies are focused at the very basics, such as starting the program. A big gap in materials arises when looking for well-rounded and complete tutorials. Most of the materials found are tool and/or function specific meaning that the instructional manual only covers a small percentage of the basics of Photoshop.

On the other side of the spectrum, the material that is readable is covered up by

sloppy design. According to Mercedes (2005) good design consists of four elements that include; contrast, alignment, repetition, and proximity. Many resources looked at have no focal point for the reader, as the text and graphic media blended together. Some resources have different screen looks for every internal link making it feel as if it is a different resource.

Today more than ever, education is accountable for the knowledge of its students. The students in today's classroom are expected to use technology and show they are technology-literate. The National Educational Technology Standards (NETS) for Students outline what a student should be able to accomplish at the end of the twelfth grade (NETS, 2004).   With the Photoshop instruction seven of the standards outlined by NETS can be performed by students. They include:

1. Identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning, and workplace needs.

2. Make informed choices among technology systems, resources, and services.

3. Analyze advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole.

4. Demonstrate and advocate for legal and ethical behaviors among peers, family, and community regarding the use of technology and information.

8. Select and apply technology tools for research, information analysis, problem-solving, and decision-making in content learning.

9. Investigate and apply expert systems, intelligent agents, and simulations in real-world situations.

10. Collaborate with peers, experts, and others to contribute to a content-related knowledge base by using technology to compile, synthesize, produce, and disseminate information, models, and other creative works.

Poplar High School in Poplar, MT has recognized the need for updated graphic

design curriculum. The curriculum for the public school is aligned with national and state standards. The following standards, although some not in entirety, listed in the Poplar High School graphic editing curriculum will be outlined with this manual (Birrer, et. al, 2004).

1.   Describe the controls and the elements of the image window in major photo editing software.

2.   Efficiently use the layers palette to edit photos.

3.   Add, delete, and move layers.

4.   Effectively select shapes, colors, marquee, and vignette effects.

5.   Effectively apply and control text attributes.

6.   Use pen tools and shapes to clip from groups, paths, and shapes.

7.   Properly use painting tools and techniques: paint and patch, brush tips, effects, smudge, and air brush.

In response to the non-proficient manuals for Photoshop 7.0 and the technology standards presented by NETS and Poplar High School, I propose creating an online manual for the students in my classroom. It will be developed to teach and practice the basics of the software program. The tool will be used to support teacher led demonstration and not to be used independently.

Description of Target Population

The target learners for this manual are those students in grades 7-12. However, anyone with an Internet connection will be able to participate in the tutorial. The manual will incorporate different instructional strategies for all different types of learners. It is the desire of the manual designer to have the manual used as the primary instruction medium for a high school multimedia classroom. If the online manual is not used in the classroom setting, highly motivated students will benefit the most from the training. This is due to the learn-at-your-own-pace style of the manual.

The students who benefit from this manual will not only receive a logical instruction of Photoshop 7.0, but will also have the opportunity for continuous access to the tutorial via the web. They will have the chance to improve their graphic editing skills and the continuous opportunity for assessment.

Purpose of the Project

The sole purpose of this project is to design instruction for Adobe Photoshop 7.0 that is easy to read and understand. It will help surmount the problem of poor manuals. The manual will incorporate all the NETS standards and Poplar High School graphic editing standards which it is capable of. The project is geared toward any learner wanting to understand the basics of the software program. One way to achieve this goal is by delivering the content via the internet.

Using the World Wide Web will allow students the opportunity to have instant assessment, interactive illustration, and updated content. Using this standard of instruction, students will have the opportunity to utilize the manual at their own pace. The best attribute of the project is that the designer anticipates hosting the online manual at no cost to the students. It can be used solely as the instruction medium or as a supplement to further understand basic operations.

REVIEW OF LITERATURE

Using a graphic editing program to enhance student learning has been rarely studied in the realm of education, especially Adobe Photoshop 7.0. Very little information is known regarding the use of Photoshop. Therefore, the impression that a tremendous gap in published information is present and that there is a lack of stated positions by researchers and educational professionals. No documents with information regarding tutorials, application reading level, and/or appropriate user age level for the software was found. Throughout the investigation of my topic, hardly any valuable journal articles or documents surfaced. I used The Educational Resources Information Center (ERIC) online too primarily research the topic.

My first step in researching was using ERIC to produce those documents that came from a juried journal, such as Journal of Educational Technology.   After receiving a very low response, I pursued to look for documents, theses, and/or dissertations pertaining to the use of Photoshop with ERIC. The descriptors used for the search included: Adobe Photoshop, Computer Graphics, Secondary Education, Creating Computer Graphics, Computer Graphic Layers, and Graphic Editing. The descriptors were arranged with each other trying to reach a valuable source.

Next, I used ERIC to find documents pertaining to the use of multimedia in education. Graphic editing is a form of multimedia, hence the reason for the search. The search result, surprisingly surfaced some good articles. Most of the articles will help demonstrate how multimedia/graphic editing supports the notion of constructivism and

cognitivism.

Lastly, a broad internet search was conducted looking for examples of online Adobe Photoshop tutorials. It was disappointing that little is available to the general public. Even the creator of the software, Adobe, asked that you registered and paid a fee for their tutorials. The one free tutorial I found of Adobes would not print. Two good college online tutorials were located and will be used. Many other tutorials were located but the information did not seem acceptable. Another problem of resources found online is that they cover only a single tool and/or function and not the basics in entirety.

The review of literature surfaced the possibility of Photoshop being used effectively in the classroom. One author stated that most of her students had very little prior knowledge of graphic editing but had a high level of art background which encouraged students to become risk takers (Kahler, 2002). Another art teacher explained that graphic editing can help students with critical thinking, decision-making, and problem-solving skills (Murphy, 2003). The quotes from both educators leave the impression that not only a multimedia class can use an updated manual, but also art classes. In both cases, Photoshop was used to change existing graphics.

According to Mitchell (2003), a course in graphic editing, multimedia, should confine to six main design characteristics. They include:

1. Integration

2. Parsimony

3. Narration

4. Individual Differences

5. Personalization

6. Interactivity

When graphics are used in the instruction, the designer needs to make sure that text and/or audio are present. The design element of parsimony pertains to the exclusion of extra text, audio, and graphics that are not needed for the instruction. Learning happens better when narration is used instead of text alone. When students have very little prior knowledge of the subject matter, and they are spatial learners, individual differences can be placed into the instruction. When students feel that they are involved, they work harder. When students have the opportunity to work at their own pace, the interactivity portion of the design is met (Mitchell, 2003).

Ways that students respond to different instruction using multimedia surfaced with the examination.   Clark (2000) reports some strengths and weaknesses of behavioral, receptive, and exploratory instruction in the realm of multimedia. The strengths much more out weight the weaknesses. Students are engaged in active learning with a graphic editing program, which in return creates a much higher level of learning that is produced by the student. Another great strength of multimedia is the notion of Howard Gardner's Multiple Intelligence (MI) theory that states that instruction draws upon different intelligences of an individual learner. For example, a learner who learns by having objects spatially ordered can effectively learn and produce quality products by using graphic editing (Giles, Yekovich, & Yekovich, 1993). Multimedia instruction contains some important aspects of learning including; personalized feedback, student motivation, and future directions (Mitchell, 2003). With graphic editing, a student can self-reflect on his/her own work. He/she can also separate himself/herself from other learners through self-expression. Multimedia, including graphic editing, allows for students to be

individual learners that take initiative for their own learning and acquisition of knowledge (Mitchell, 2003).

Throughout the search for supporting journals, an educational theme proposed itself. The theme pertaining to the way classroom instruction is being done currently. In a report by Tapscott in 2001, eight trends in multimedia education regarding classroom learning was indicated. These trends are also the main points of the new educational movement as a whole. They include:

1. Hypermedia Learning

2. Constructivism and Discovery

3. Learner-centered Education

4. Navigation of Information Sources

5. Lifelong Learning

6. Customized Learning

7. Learning as Fun

8. Teacher as Facilitator

Adobe Photoshop allows for all of these criteria to be present in its instruction. On a consistent basis, students of graphic editing and art classes are asked to use the Internet to locate sources on design, color, tone, etc. In the graphic editing class, students learn skills that can be used as they move into their careers. These skills are also made individualized for the student for improved learning. In a typical multimedia classroom, the teacher is a facilitator of information instead of the dominating source of the classroom instruction. With all of these educational perspectives in one classroom, it is no wonder why students excel; the class is geared toward them as a learner (Tapscott,

2001).

The review also brought to attention the need for an effective layout for the presentation of material. The layout of the screen needs to remain constant for easy navigational use by the user. The material presented on the screen at any time needs to be placed in such a manner that the focal point intended for the user is in the correct place. For example, if it is the intention of the developer to have the user's attention on a graphic, the graphic needs to be placed accordingly in concurrence with the text and other media elements of the page (Mercedes, 2005).

Online tutorials are not always the best medium for instruction. The connection to the Internet by the student needs to be a priority of the web site. If the online pages are to consist of many graphics and/or video elements, the instructional designer needs to be aware of the download time of that page. So many times in education, a lesson plan has been built using a web site and on the day of the instruction, the web site fails to work (Tapscott, 2001).

When designing instruction for a specific graphic editing program, the designer should take into consideration the different platforms for delivery. Even though, the course is to be completed online, various formats of the same manual should be given to the student. For example, on a Purdue University Photoshop tutorial, the authors used multiple formats of instructional strategies (Robinos, n.d.). They include the online component, but also the manual saved in Adobe Acrobat Reader and Microsoft Word format. This would cover the broken web connection that was presented by Tapscott (2001). Students and/or teachers would have access to the material at any time. This would also allow for Gardner's linguistic learner (Giles, Yekovich, & Yekovich, 1993).

In conclusion, the review indicated a gap between graphic editing instruction and how it benefits students. Certain strategies for instructional design have been identified. Effective layout and screen design for online courses have been identified. Most importantly, reasons for using graphic editing to elevate student learning was supported.

DESIGN OF THE PROJECT

Manual Framework

The main function of this project is to design an instructional strategy for Adobe Photoshop 7.0. The strategy will be in the form of an online manual for student and/or teacher use. The manual will take into consideration the reading level and graphic editing vocabulary level of the intended audience. The manual will correspond with two sets of technology standards; those presented in the NETS and those listed in Poplar High Schools graphic editing curriculum.

A systems approach model of instruction consists of some basic components. The materials created by the designer require learners to interact actively with the materials. The learners are asked to perform various types of learning tasks and receive specific feedback on the completed tasks. Good instructional design informs the students of what they should learn and the process they will pursue to achieve mastery (Dick, Carey, and Carey, 2000).

Three reasons stand out for the reason to use a systems approach. First, since the designer indicates the desired outcomes of the learners, future planning and instruction implementation is very clear and effective. Secondly, carefully linking each component of the skills and knowledge to be taught, allows for obtaining the desired learner outcomes. Lastly, the systems approach to instructional design is an empirical and replicable process (Dick, Carey, and Carey, 2000).

When goals and skills of intended users are identified, the designer needs to outline the best flow of the material. The best way to accomplish this task is by setting the outcomes and goals you want the instruction to meet. The sequence of teaching the goals should be considered during this part of the planning process. A way of assessing the

goals and outcomes is vital to a systems approach. Therefore, it takes an expert teacher/designer to develop an effective course design. According to Gagne, Yekovich, and Yekovich (1993), expert teachers use a variety of instructional strategies appropriate to the situation. Some strategies found on page 464 include:

1. Communicate objectives, give directions, and present content clearly.

2. Adapt to instruction to students' ability levels

3. Explain to students why they are learning particular material.

4. Explicitly connect new material to previously studied concepts.

5. Give students opportunities to respond, practice, and solve problems.

6. Give specific, informative feedback.

The above strategies are also noted by Dick, Carey, and Carey (2000). They illustrate a cognitive psychologist's view of external teaching activities that support internal mental processes of learning. This project will include the five major learning components expressed by cognitivists on their view of the events in instructional strategy (Dick, et al, Pg. 189). The five components being:

1. Preinstructional activities.

2. Content presentation

3. Learner participation.

4. Assessment.

5. Follow-through activities.

Since this online manual will be used as a teaching strategy, it will meet all of the above stated criteria. The project will allow all students the opportunity to access different content areas of Photoshop to further their understanding. There are tutorial modules for screen interface, tool functions, layer handling, and graphic file extensions. Students will be able to access the manual online either by using a school computer or a home computer. With the use of JavaScript and advanced HTML, informal quizzes will allow for instant feedback to the student. The scores of the pre and post tests will

determine whether a student has successfully mastered specific instruction. The scores of these tests will be sent to the instructor via email.

Contrast, alignment, repetition, and proximity are all design elements that will be used to complete the web page portion of the project. The graphics of the instructional strategy will be the key focal point for the user and not the text. This will allow for easy scanning for conceptual information by the student. Studies have shown that the majority of web users scan pages; they do not read word-by-word (Mercedes, 2005). The information of the online manual will be aligned to the left and in a template form. The template will be created to make the manual feel that it is part of a whole and not a different tutorial. Each module will have its own different template to let the user know that he/she is still in the same instruction area.

Therefore, to support the layout of this project with the guidelines listed above, the following framework will be used to complete Phase two of this project. Phase two will consist of the actual development of the course content and assessments, while Phase one is the conception of the project proposal. Also, all graphics, examples, and figures that are to be included in the manual will be completed during this phase. The instructional strategy that will be delivered via the web is provided by Dick, Carey, and Carey (2000) and illustrated in Figure 1.

Figure 1: Manual Instructional Strategy Development
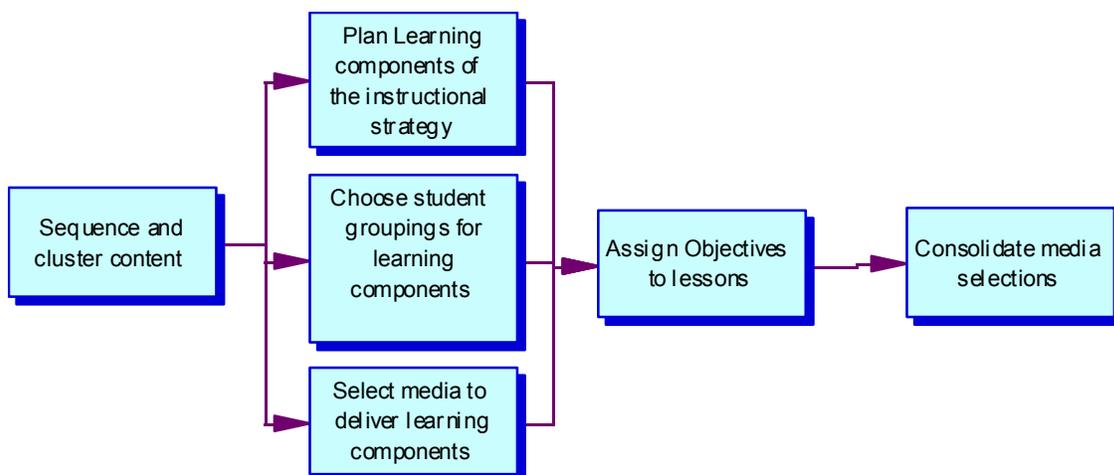
Goals and Objectives of Manual

Goals

The purpose of this manual is to give students the opportunity to learn the basics of Photoshop at their own pace and with an easy reading comprehension level. By training learners of the basics, the individual students will be able to successfully edit graphics.

The goals of this project are:

- To give accessible instruction in graphic editing using Adobe Photoshop 7.0.
- Provide a supplemental source for classroom instruction.
- To allow learners the opportunity to learn at their own pace.
- To allow interactivity between course content and the user.
- To provide instruction using a systematic approach for optimal student learning.
- To assess students without delay for mastery level.
- To provide a learning environment that promotes teacher as facilitator.
- Satisfy seven standards develop by NETS.

Objectives

Learners of the manual will be considered to be a master editor when they can identify and use the basics of Photoshop in a certain amount of time and with accuracy. Students will be able to complete the following after finishing the instruction and assessments of the manual:

1.   Given a computer with Photoshop installed on it, identify the location of the toolbox on the programs interface in thirty seconds with 100% accuracy.

2.   Given a computer with Photoshop installed on it, identify the location of the palette well on the programs interface in thirty seconds with 100%

accuracy.

3.   Given a computer with Photoshop installed on it, identify the location of the tool options bar on the programs interface in thirty seconds with 100% accuracy.

4.   Given a computer with Photoshop installed on it, identify the workspace of the programs interface in thirty seconds with 100% accuracy.

5.   Given a computer with Photoshop installed on it, identify the selection tools of the toolbox in two minutes with 90% accuracy.

6.   Given a computer with Photoshop installed on it, identify the touch up tools of the toolbox in five minutes with 90% accuracy.

7.   Given a computer with Photoshop installed on it, identify the drawing tools of the toolbox in five minutes with 90% accuracy.

8.   Given a computer with Photoshop installed on it, identify the layer palette of the programs interface in thirty seconds with 100% accuracy.

9.   Given a computer with Photoshop installed on it, identify layer sets of the layer palette in one minute with 100% accuracy.

10.   Given a computer with Photoshop installed on it, identify layer properties of a layer in the layers palette in five minutes with 100% accuracy.

11.   Given a list of different file formats, identify graphic file formats of Photoshop in ten minutes with 100% accuracy.

12.   Given a Photoshop graphic file, use the marquee selection tool to make a selection in one minute with 100% accuracy.

13.   Given a Photoshop graphic file, use the lasso selection tool to make a selection in one minute with 100% accuracy.

14.   Given a Photoshop graphic file, add a simple illustration to the graphic using the brush tool in two minutes with 100% accuracy.

15.   Given a Photoshop graphic file, add a simple illustration to the graphic

using the pen tool in two minutes with 100% accuracy.

16.   Given a Photoshop graphic file, make the entire graphic one solid color using the paint bucket tool in one minute with 100% accuracy.

17.   Given a Photoshop graphic file, use the sponge tool to heal a portion of the graphic in five minutes with 90% accuracy.

18.   Given a Photoshop graphic file, add text to the graphic using the text tool in two minutes with 100% accuracy.

19.   Given a Photoshop graphic file, change the order of layers of a .psd graphic format in two minutes with 100% accuracy.

20.   Given a Photoshop graphic file, name layers to correspond to the layer set type in ten minutes with 80% accuracy.

21.   Given a Photoshop graphic file, save a graphic in a .jpg format in one minute with 100% accuracy.

22.   Given a Photoshop graphic file, save a graphic in a .gif format in one minute with 100% accuracy.

Manual Scope and Sequence

In designing the scope and sequence, two different scopes for the manual were considered. The first scope considers the manual being used by a student to learn at their own pace. Students will use the online manual to practice and master the basic skills of graphic editing with Photoshop in modules. A student will be able to move from module to module as they wish. They will participate in the modules and the module practice tests of the skills. A posttest will be given to the student once the student completes the module. This posttest will reflect to the student whether they successfully completed the module or if some remediation of the material needs to take place. The second scope considers a teacher using the manual to supplement the information they present in class. A course timeline will be set up for use by the teacher. This timeline will spread the

modules created and spread them into a 90 day semester.

Manual Modules

Each module is built on no prior knowledge. Therefore, a student could complete the modules in any order without mastering the entire manual. The students can use the Photoshop Pretest to see what part of the software that they should work on in more detail. Once a student starts a module, they will be exposed to the content material. Each module has three or more practice activities to allow students the opportunity for self learning. After each practice activities, a short practice quiz will be presented to the student. Once the student feels that he/she has mastered the modules content, they can take a module posttest. If they feel that more practice is needed, they can do any of the instructional medium again.

Figure 2: Overview of Manual

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┌─────────────────────┐
│  Adobe Photoshop    │
│  7.0 Online Manual  │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│      Manual         │
│ Introduction and    │
│     Learner         │
│    Objectives       │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ Photoshop Pretest   │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│  Assess Present     │
│   Basic Skills      │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│  Instruction of     │
│   Basic Skills      │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│ Practice Activities │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│      Module         │
│    Assessment       │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    Photoshop        │
│    Posttest         │
└─────────────────────┘
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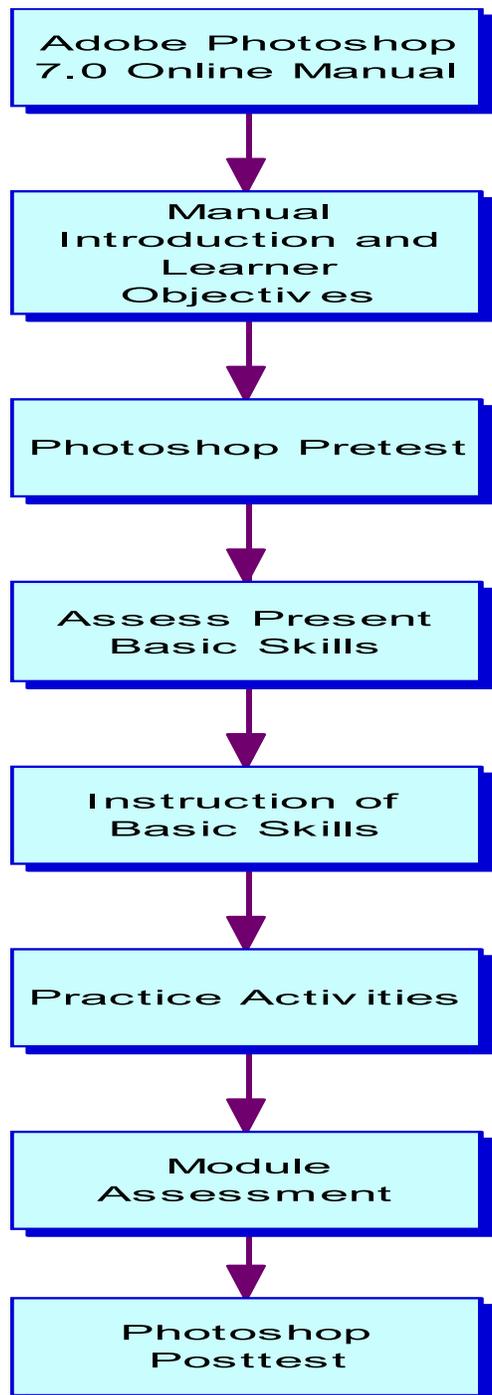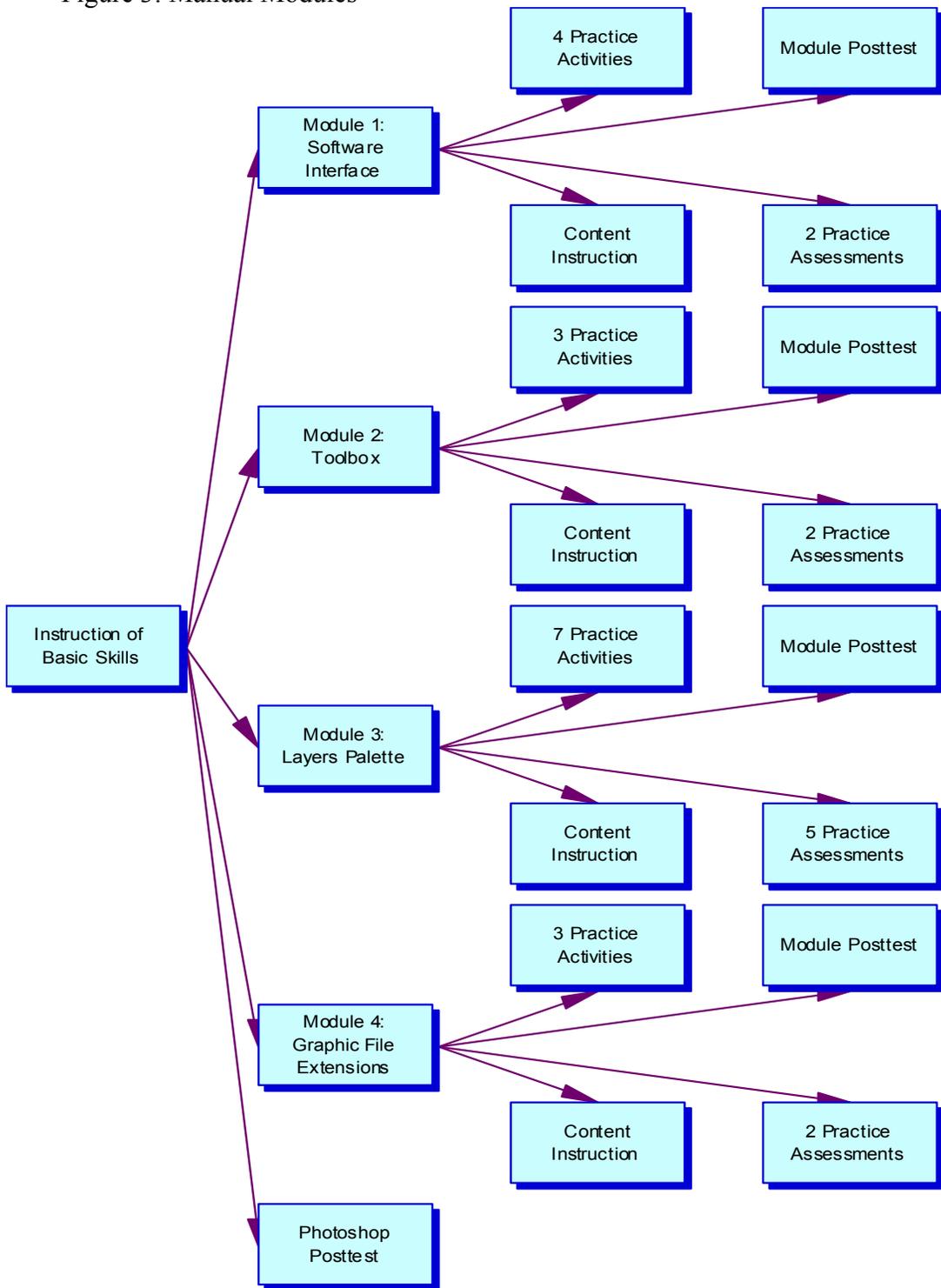
Figure 3: Manual Modules

The suggested scope and sequence is presented to teachers that use this manual as a supplement:

- Day 1 – Manual Introduction and Pretest
- Day 2-10 – Graphic File Formats
    - File Format Name
    - Filename Extension
- Day 11-17 – Photoshop Interface
    - Toolbox
    - Palette Well
    - Tool Options Bar
    - Workspace
- Day 18-50 – Toolbox Tools
    - Selection Tools
    - Hidden Tools
    - Drawing Tools
    - Touch Up Tools
- Day 51-85 – Layers
    - Layer Palette
    - Layer Sets
    - Layer Properties
- Day 86-87 – Photoshop Posttest

Assessment Methods

Multiple methods of assessing mastery level of the students will be conducted throughout the manual. A pretest will be given to check for any prior knowledge pertaining to the software program. It is the assumption of the manual designer that the

students have any prior knowledge of the content. Practice tests consisting of multiple choice and short essay format will be given at the conclusion of most practice activities. Once a student finishes a modules content and practice activities and quizzes, they can take an assessment on the entire module content. This assessment will be in the form short answer, multiple choice, and matching questions.

All of the assessments will be completed as part of the online manual. The practice quizzes at the end of practice activities will not be recorded by the instructor. The correct answers will be given to the students but the instructor will not see any results. Students will be able to take these practice tests as much as possible. The posttests at the end of a module will be recorded by the instructor. Before the student can take the assessment, they will be required to fill in an instructors name and email address. Once the student submits the assessment, an emailed copy will be sent to the instructor indicated by the student.

The practice exercises of each module will be emailed to the instructor for assessment. The student will also be responsible to save the practice graphics and create a working electronic portfolio of their work. The portfolio will be submitted to the teacher after the student has completed the manual posttest.

<div align="center">Instructional Strategy</div>

The final step of this project will involve developing the actual course content and instructional materials. The model that will be used with this project is outlined in the manual framework section of this proposal. It includes a design presented by Dick, Carey, and Carey (2000). The entire manual will be constructed using Macromedia Dreamweaver and JavaScript. The graphics that will be placed in the instruction will be created with Photoshop. The reason for online delivery is simple. Not all learners learn the same way. Therefore, this project will be completed with Howard Gardner's intelligence theory. Gardner's theory illustrates that all humans have nine intelligences

ranging from verbal too existential intelligences which utilize cognitive developmental psychology, anthropology, and sociology to explain human intellect (Giles, et al, 2003). This project will be designed to appeal to visual, verbal, and intrapersonal learners. Learners of this manual will gain cognitive knowledge with the use of multiple intelligences by drawing on the different intelligences.

Assessment of the Manual

The online manual will have four stages of assessment. They include a specialist evaluation, one-on-one tests, a field trial, and a student/teacher survey. All of the assessments will take the format of a formative evaluation.

Specialist Evaluation

A subject-matter expert (SME) will review the content of the online manual. The SME will be a co-worker of the project designer that uses Photoshop extensively in his classroom and personal business. The SME will review the content for accuracy and efficiency of the information presented. A second SME will review the organization and layout of the manual. The expert will be a co-worker of the designer that builds web sites for the local schools and businesses. He will look for navigational strengths and weaknesses. He will also review the layout of the content in regards to appearance.

One-on-One Test

The online manual will be given to three of the target audience members. They will be asked to go through the product to make sure the instructions are clear and understandable. The will also test if all the links and interactive activities function properly. Once the tests are complete, revisions will be made the manual and then two different members of the target group will be asked to test the manual.

Field Trial

After the specialists' reviews and the revised one-on-one tests, a field trial will be conducted. The trial will be conducted with individuals having no prior knowledge of

Photoshop 7.0 to see if the material is presented clearly and logically. Base upon the field trial, the course will be modified based upon valid recommendations.

Online Survey

After the field trail, an online survey for students, teachers, and parents will be available for continuing evaluation and revisions of the project. In the future a summative evaluation will be planned.

Project Timeline

The project will be completed in three phases. This will be done to ensure a high quality of work has been done to the manual. The phases each have there own deadline for the designer to meet. Since most of the committee members will most likely be unavailable during the summer semester, the project will be proposed to the committee by April 11, 2005. Therefore, adequate time will be allowed for proposal review by the committee members and a defense meeting can be scheduled. The proposal defense will hopefully be concluded by the end of the Spring 2005 semester. The proposal is the first phase of the project.

Phase two will be submitted by the end of October 2005. Although, this phase does not need to be submitted to the entire committee, it will be submitted to the chairman for review. Phase two consists of the systematic design outline of the manual, design of all graphics to be included, and the completed formative assessment tool(s). Careful integration of a cognitive/constructivist approach will be placed in the design portion.

Phase three will be submitted to the entire committee around January 2006. This phase includes the development of the manual content with a completed formative assessment. A defense meeting will be schedule around late February. Since the graduation date of the designer is not until May 2006, this will leave amble time for modifications before the graduation deadline.

Figure 4: Module Completion Timeline

Project Timeline   **Completion Date:**

Project Timeline	Completion Date:
Proposal Completed	May 5, 2005
Module One Text Written	June 1, 2005
Module Two Text Written	June 15, 2005
Module Three Text Written	July 1, 2005
Module Four Text Written	July 15, 2005
Revision of Module Text	August 1, 2005
Module One Graphics Created	August 8, 2005
Module Two Graphics Created	August 15, 2005
Module Three Graphic Created	August 22, 2005
Module Four Graphic Created	August 29, 2005
Module One and Two Practice Excercises Completed	September 5, 2005
Module Three and Four Practice Excercises Completed	September 12, 2005
All Modules Posttests Complete	September 19, 2005

Figure 5: Assessment and Evaluation Timeline

Manual Pretest Complete	September 26, 2005
Manual Postest Complete	October 3, 2005
Specialist Evaluation	November 1, 2005
One-on-One Test	November 15, 2005
Revisions from Specialist / One-on-one tests	November 22, 2005
Field Trial	December 16, 2005
Revisions from Field Trial	January 1, 2006
Online Survey	Ongoing
Project Submitted to Committe	January 15, 2006
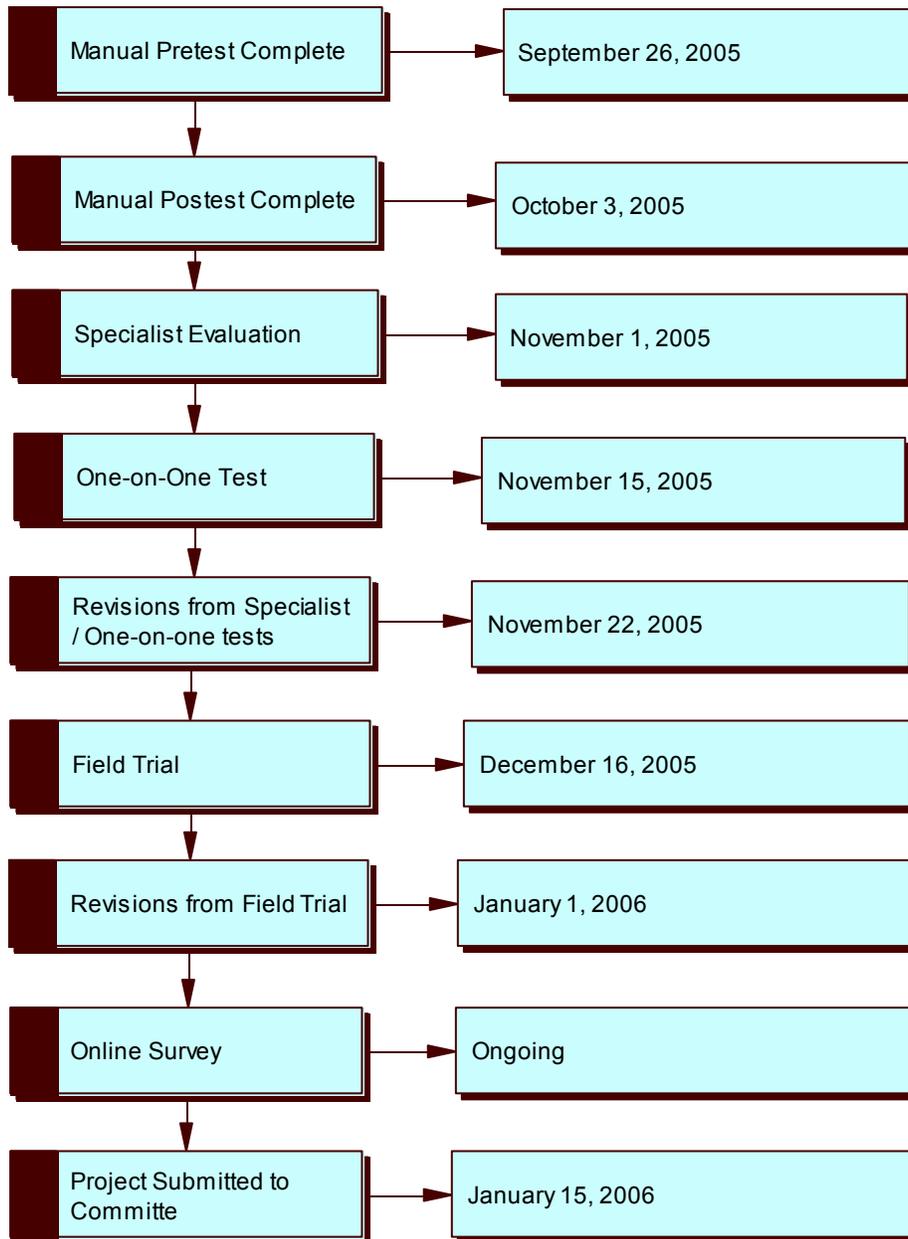
PROJECT EVALUATION AND FINDINGS

The assessment tools will report quantitative data on the manual. The SME's will report data based on a likert scale measuring the content accuracy and the successfulness of the web site navigation and structure. The one-on-one test will report data on the effectiveness of the manual. The data from this assessment will report the strengths and weaknesses of the manual by a sample of the target population. Students will use a likert scale to report the data from the one-on-one tests. The field trial data reported will be gathered from the pre, post, and modules' tests of the manual. The student answers to the tests will be compared to the course objectives to determine effectiveness. Lastly, the data reported by the online survey will be from the online likert scale associated with the manual.

The data reported by all assessments will be looked at for manual revisions. If it is a faulty portion of the manual, changes will be made accordingly. However, if the project designer does not feel that it is a manual error, he will ask those involved with the assessment for clarification. It is the desire of the designer to have all faulty errors worked out of the manual before the online assessment is launched. The reason for this approach is that this online assessment will be used over time to help the designer change the manual as needed.

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APPENDICES