

DESIGN REPORT

Project URL: <http://mywebpages.comcast.net/JenEd830/6740/index.htm>

Project Objective

1. To develop an asynchronous Web-based training for ESI employees that will provide a model for future internal employee training on other topic areas.

Learning Objectives

1. Each time the learner is given a new graphic, he or she will be able to classify the graphic type, the media for which it is appropriate, and its features, including size and resolution.
2. Each time the learner is given a graphic that is not appropriate for the desired media, he or she will be able to edit the graphic correctly so it meets the user's needs or determine if a new graphic is needed.

Because of the time constraints of this project, I have only been able to develop the training introduction, Module 1, and the Capstone; however, Module 1 gives clear examples of the kinds of instructional strategies that will be used throughout Module 2. As far as meeting the learning objectives, both objectives are addressed in each module, so, since Module 2 is not developed yet, neither objective above is fully met by the instruction that has been developed at this point. The instruction that has been developed addresses the following abbreviated objectives:

1. Each time the learner is given a new graphic, he or she will be able to classify the graphic type and the media for which it is appropriate.
2. The learner will be able to identify whether or not a graphic they are given is appropriate for the desired media and if a new graphic is needed.

Training Features and Instructional Strategies

I have developed a one- to two-hour asynchronous Web-based training and its features and instructional strategies are described in detail below. I have also noted where they occur and my justifications for choosing these strategies. **Note about the Web pages: In the top of each Web page, in the address bar, you will find the Module and page number listed.**

► Training Features

Printable tools (Module 1: pages 2 and 7)

Since the goal of this training is to have learners understand basic ideas and concepts and NOT to have them memorize the details of the content (such as how to modify clip art in Word), printable tools accompany each activity; for example, the activity in Module 1 on page 7 includes a set of instructions for modifying clip art in Microsoft Word that the learner can use after the training is complete. The purpose of this activity is to demonstrate how vector art can be modified in a way that is accessible to the learner, not to have the learner memorize the steps involved in the process.

Rationale

- “Transfer is affected by the degree to which people learn with understanding rather than merely memorize sets of facts or follow a fixed set of procedures” (Bransford 55).

Differentiation: Users can skip through parts they know (entire training)

Since ESI staff have such diverse backgrounds, learners can easily jump to the quizzes to test their skills and skip through the various sections to the parts they need to know. There will also be a site map so users can go to topics they need. While supervisors will expect that their staff have the knowledge and skills described in the training, the focus is not on having the learner complete the training for the training’s sake. Also, all learners who are signed up for the course will need to complete the Capstone activity, which is submitted to an ESI staff member for evaluation and feedback.

Pacing: Users do not have to go through the entire program at one sitting

Because ESI staff are very busy, they might not have time to take the entire training at one sitting. Also, I don’t want the learners to “cram” in the information. Therefore, learners can exit and return to the training at times that are convenient to them. I have also recommended that users do not complete the capstone activity right after going through Modules 1 and 2 so they have time to digest the information before they apply it.

Rationale

- “You will learn material in a way that is more resistant to forgetting if you space out the learning sessions” (Halpern 23).
- “Providing students with time to learn also includes providing enough time to process the information” (Bransford 56-58).

Casual, straightforward style (entire training)

To keep the training interesting and lighthearted, I used casual language throughout the training and a simple question and answer format for text.

Rationale

- “Information is best transmitted when simple and precise language is used” (Halpern 51).

► **Instructional Strategies**

Chunking (throughout entire training)

I have taken the content and chunked it into modules that the user can access individually.

Rationale

- “It is much easier to recall information that is chunked into meaningful numbers” (Halpern 33-34).

Case study and questions with feedback (home page, Module 1: pages 3, 5, 6, 8, 10, 12)

To get the learners attention and show how the information in the training is applicable to the learner’s work, I have invented a case study featuring “Sally,” a fictional ESI employee who has been asked to do tasks that are common to many ESI employees. I have also used this case study to set up a series of questions at the beginning of the training to show the learner what he or she will be learning and to get them thinking about what they already know about the subject matter. This case study is then revisited throughout the training; I use Sally’s story to pose periodic questions to the learner to demonstrate how

the elements of the training can be applied to an employee's day-to-day work. This also provides the learner with appropriate feedback, demonstrating that they are learning something as they move through the training. I also used hints to get the learners to ask themselves questions about what they are learning.

Rationale

- “Memory is enhanced when the material is meaningful” (Halpern 22).
- “Great training is purposeful... The purpose or purposes must be both evident and resonant to the student” (Rossett 2).
- “Learners of all ages are more motivated when they can see the usefulness of what they are learning and when they can use that information to do something” (Bransford 61).
- “Guided discovery: This architecture is predicated on the belief that learners will seek, find, and make sense of learning assets with proper guidance, background, and rich options.... ‘The authenticity of the scenarios and case materials increases the likelihood of transfer to the job.’” (Rossett 6).
- “Several studies have shown that when students generate and answer their own questions about a text, comprehension and recall improves” (Halpern 67).
- “Hints are additional information that is given after an individual has begun to work on a problem. Often the hint provides additional information that is important to your solution.... The more specific the hint, the greater the benefit derived from it” (Halpern 235).
- “Great training, online or otherwise, makes people engage, think, and decide” (Rossett 3).
- “Understanding when, where, and why to use new knowledge can be enhanced through the use of ‘contrasting cases,’ Appropriately arranged contrasts can help people notice new features that previously escaped their attention and learn which features are relevant or irrelevant to a particular concept” (Bransford 60).
- “Learning is most effective when people engage in ‘deliberate practice’ that includes active monitoring of one’s learning experiences. Monitoring involves attempts to seek and use feedback about one’s progress. Feedback has long been identified as important for successful learning” (Bransford 59).

Metacognitive approaches (Module 1: page 11)

Before the training begins, I ask learners to think about what they might already know about the topic being presented. Throughout the training I have students think about what they are learning by using periodic quizzes and feedback questions.

Rationale

- Before learning, “Consider what you already know about the topic, the reason why you are learning it, and your own abilities.”
- During learning, “Monitor how well you are understanding the information or performing the skill.” After learning, “Reflect on how well you learned the material. Have you overlearned for maximal retention and used distributed practice?” (Halpern 36).

Interactivity (Module 1: pages 1, 4, 6, and 11)

I used interactive graphics that demonstrate the ideas conveyed in the text. I have learners roll their mouse over the images to show them the idea being conveyed to make the training more participatory; for example, to see the pixels in an image (Module 1: page 1).

Rationale

- “Good visual representations can help readers comprehend difficult text.... Use multiple representational systems—that is, using diagrams along with printed text and using verbal descriptors with spatial information” (Halpern 225).
- “Great training is active. E-learners, all learners, in fact, should enjoy programs that encourage them to be active” (Rossett 2-3).

Quizzes (Module 1: pages 9 and 13)

There are quizzes spaced throughout the training (two are developed at this stage) to provide the learner feedback. I incorporated detailed feedback into the quizzes because the goal is not for the learner to get the question correct, but rather to understand the material. If I could make this training fully functional, I would create a system for tracking learner’s success rates at answering the quiz questions to determine if the content and instruction is successful in teaching the learning objectives. This data could then help me modify instruction at a later date.

Rationale

- An indicator of authentic performance includes, “The assessment is designed not merely to audit performance but to improve future performance. The student is seen as the primary ‘customer’ of information” (Wiggins 23).
- “Measurement, practice, testing, and feedback are very much a part of great training” (Rossett 7).

Opportunities for practice (Module 1: page 2 and 7)

I have incorporated opportunities for learners to practice and experience the content; for example, the activity on page 2 of Module 1 is an example of guided discovery. I have provided the learner with the opportunity to practice applying the content being described and draw conclusions.

Rationale

- “Great training is active. E-learners, all learners, in fact, should enjoy programs that encourage them to be active” (Rossett 2-3).
- “Learning is most effective when people engage in ‘deliberate practice’ that includes active monitoring of one’s learning experiences. Monitoring involves attempts to seek and use feedback about one’s progress. Feedback has long been identified as important for successful learning” (Bransford 59).
- “Great training is active. E-learners, all learners, in fact, should enjoy programs that encourage them to be active.... The essence of action is nudging the learner to do something. What better activity than practice of the task at hand?” (Rossett 2-3).
- “Guided discovery: This architecture is predicated on the belief that learners will seek, find, and make sense of learning assets with proper guidance, background, and rich options.... ‘The authenticity of the scenarios and case materials increases the likelihood of transfer to the job.’” (Rossett 6).

Hypothesis testing (Module 1: pages 2 and 4)

I have used the deductive method of hypothesis testing in two places in this training (Halpern 141). In the activity on page 2 of Module 1 I have asked learners to form a hypothesis about the question and then test it through the activity. In the question on page 4 of Module 1, I have asked learners to take their prior knowledge (what they know about using fonts) and combine it with what they've learned (vector images) and form a hypothesis and observe how this information applies in a new context – deciding if a font is a vector image.

Relating new learning to previous knowledge (Module 1: pages 2, 4, and 7)

Because we give all our employees a basic skills test before they are hired, I can assume that almost all ESI employees have a basic understanding of Microsoft Word. For this reason, the activities use Word to get the learner thinking about how what they already know—how to use Word—is useful to the new knowledge they're gaining. Also, in the question about fonts, mentioned above, I have learners think about something they've done for years—increase the size of their fonts in a document—to see how this applies to what they've learned.

Rationale

- “Your ability to learn and remember new material depends on what you already know.... Prior knowledge about a known topic facilitates comprehension” (Halpern 26).

Authentic assessment (Capstone)

For the capstone activity, I have asked users to solve a real-life problem. I have given them a graphic that is a TIFF with no information about its features. The image will only be 150 dpi, not enough resolution for printing but too much for the Web. They will need to figure out that they cannot use this image for the third task requested of them, sending the image to print. They will also need to decrease the resolution and make the image the correct size. The case study used a vector image as an example of the various graphic features, but this capstone uses a bitmap image, causing extra challenges in terms of resolution, size, and putting it on a colored background. Since the images that we receive from clients are usually not what we need, it's an important example to see how this can affect ESI's work.

I have attempted to create a authentic assessment. Learners can use the instructions from Modules 1 and 2 to complete the capstone because its purpose is not to have students memorize the processes, but to understand and be able to apply the concepts.

I didn't want the graphics professionals in the company to be bogged down with responses to the quizzes, but I did want to give them a change to provide the learners with feedback. For this reason, I have asked for the capstone to be submitted for a graphics staff member for review and feedback.

Rationale

- “The best assessments are much like the real world for which the training is preparing students” (Rossett 7).
- “Assessment is authentic when we anchor testing in the kind of work real people do, rather than merely eliciting easy-to-score responses to simple questions” (Wiggins 21).
- “Measurement, practice, testing, and feedback are very much a part of great training” (Rossett 7).

- “The assessment is designed not merely to audit performance but to improve future performance. The student is seen as the primary ‘customer’ of information” (Wiggins 23).