Facilitator Guide

Introduction to Multimedia Design Principles

Table of Contents

Course Summary

This course is designed to train staff and subject matter experts (SMEs) with the Homeland Security Acquisition Institute (HSAI) on Mayer's (2020) multimedia learning principles for designing information presented in webinars, videos, and classes.

This training includes an overview of the basic design principles. It includes relevant, concise detail on human learning (i.e., cognitive load and mirror neurons) and how emotional and social connections may influence the learner and engagement. The course is designed for dissemination as an instructor-led course. The training is not dependent on technical jargon but more so the principles and their application to visual design. The words, phrases, and concepts demonstrated are meant to be accessible to the intended audience.

The course will cover ten of Mayer's multimedia learning design principles. The course begins with a pretest as a means of benchmarking the students' knowledge level as well as a way to inspire new learning. The content is then divided into two sections: (1) course organization and (2) visual design.

Section 1: Course organization. Segmenting is a dominant principle. It will be discussed in detail. This principle will serve as the key framework for how recorded webinars can be chunked and reused after the live event. This section also includes practice methods. The content covers why learning is reinforced when it is put into action. The focus of the practice methods is the generative activity principle as well as spaced example, worked example, and feedback principles.

Section 2: Visual design. The modality principle is the overarching principle and sets up the others discussed in this section. It focuses on exactly how to reduce large blocks of text and utilize relevant images and short phrases of text. Again, the goal is to make key lesson points easily identifiable and therefore memorable to learners. Coherence and signaling principles will be discussed in detail while contiguity principles (spatial and temporal) will be briefly explained.

Each module includes worked examples, embedded comprehension questions, and final performance tasks so learners can show the skills they have learned.

A course evaluation is provided as a means of assessing the learner experience as part of this training.

Facilitator Objectives

The included content and activities will enhance the SMEs' ability to create effective and engaging presentations for webinars. They are based on the following objectives:

- Given a course topic and a rubric, learners will be able to use Mayer's principles to produce a course outline, including when to segment content and provide worked examples and practice. Students' work will be "on the right track" or better, per the rubric.

- Given a set of poorly designed slides and a rubric, students will be able to employ Mayer's principles to redesign the slides with a balance of visual and oral content and key information highlighted. Students' work will be "on the right track" or better, per the rubric.

How is Coffee Made? Part 2

Step 5 Milling

How is Coffee Made? Part 2

Ensure that animations and visuals occur at the same time the information is being discussed rather than after.

Rubric/Checklist for Performance Tasks

People Learn	N/A	Needs Improvement	On the Right Track	Ready To Go	Principles
...better when a multimedia message is presented in user-paced segments rather than as a continuous unit.	❑	● Contains lengthy processes that may overwhelm the learner	● Contains segmented content but moves the learner through the information too quickly	● Clear and concise information, the content is chunked to support learning and segmented into manageable lessons	*Segmenting Principle*
...better by applying what they have learned.	❑	● Content cramming can lead to overload	● Content repetition is usually forgotten	● Content knowledge is distributed in multiple segments or days	*Spaced Practice Principle*

	N/A	Needs Improvement	On the Right Track	Ready To Go	Principles
...better by observing others perform a task.	❏	● Watching the instructor read example problems and expecting a result	● Watching the instructor work through an example without further instruction	● Watch the instructor as they lead the learner through a solved example with a step-by-step process	*Worked Practice Principle*
...better when they are guided in carrying out generative learning activities during learning.	❏	● Participants listen to content and make notes	● Participants listen to content and ask follow up questions	● Participants listen to content, then engage in an activity that solidifies the learning	*Generative Activity Principle*
...through feedback that is relevant to the task, the task process, or task self-monitoring.	❏	● Feedback is provided in a written format without direction or intent	● Feedback is provided verbally without application to a process or task	● Feedback is provided verbally or written, is specific to the process or task, is supportive, and encourages professional development	*Feedback Principle*

People Learn	**N/A**	**Needs Improvement**	**On the Right Track**	**Ready To Go**	**Principles**
...best when extraneous, distracting material is not included.	❏	● Includes video, images, audio, and text to explain the content	❏ Includes multiple images, text, and audio to explain the content	● Includes a video **OR** an image with audio to explain the content	*Coherence Principle*

...more deeply when cues are added to highlight the organization of the essential material	❏	● Information is provided in the form of text and images	● Information is provided in the form of text and images and includes an outline of the content	● Information is provided with highlights, bold, or arrows to direct learning	*Signaling Principle*
...better when corresponding words and pictures are presented near rather than far from each other	❏	● Images and text are on separate pages	● Images and text are on a common page or screen	● The image and text are both shown together and at the same time for improved learner processing	*Spatial Contiguity*
...better when corresponding words and pictures are presented simultaneously rather than successively.	❏	● The image description is listed after the image is shown	● The image is shown after the description	● The image and text are both shown together and at the same time for improved learner processing	*Temporal Contiguity*

Follow-on Activities for Practice

If your learners need additional practice after the course, have them try these activities.

1. Design an activity using one of the multimedia principles.

2. Start a dialog via a blog or forum that explores the do's and don'ts of multimedia principles.

3. Use social media to share content and receive feedback.

4. Create a designer "toolkit" (include tools, software, resources, etc.).

5. Read-up on technology that can enhance your practice.

6. Use visual storytelling to share your message. Create a design with free images online.

7. Practice correcting older presentations or templates for training by employing the multimedia principles as a guide of best practices.

8. Create practice storyboards in PowerPoint (this will help with visualization).

9. Use step-by-step directions for a generic concept and determine how to divide the information into chunks for optimal learning.

10. Use videos and images to inform learners instead of as a visual prop.