

Session TH205TI e-Learning vs Face to Face: How to Design for the Differences



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Learning Objectives

By the end of the session, you will be able to:

- Create abstract visuals that help your students learn
- Create e-learning interactions for your learners

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Cognitive Processes

Process	Description	Supporting Methods
Attention	Selection of subsets of all data available to working memory	Cueing to focus attention Layouts to avoid divided attention
Cognitive Load	The amount of information that working memory can hold is very limited. When working memory is overloaded, processing bogs down.	Segmenting to avoid too much content at once Less is more
Encoding	Process whereby new data entering working memory gets stored into long-term memory	Visuals Practice exercises
Retrieval	Process whereby new mental models stored in LTM are activated back into WM when needed after training	Visuals that emulate the workplace
Metacognition	Mental processes involved in setting goals, determining learning strategy, monitoring progress, and adjusting as needed	Learning objectives Assessments
Motivation	Any factor that increases the probability of initiating and persisting to achieve an instructional goal	Making relevance explicit Supporting learning

Media Principles

Principle	Description	Example
Multimedia	Learning is better from words and pictures than from words alone!"	Visuals of equipment that will be used or repaired Explanatory visuals to encourage deeper learning
Coherence	Learning is better when extraneous materials are omitted.	Airplanes struck by lightning in a lesson on how lightning works
Modality	Learning is better when visuals are accompanied by narration than by text.	A demonstration of a new computer application explains the animations with audio
Redundancy	Learning is better when animation is accompanied by narration alone than by narration and text.	Do not explain a self-explanatory visuals with words Do not explain a visual with words in audio and text

Communication Functions of Visuals

Function	Description	When to Use
Decorative	For aesthetic purposes; to add humor	Use sparingly; avoid distractions of seductive details
Representational	To show what something looks like	To illustrate forms, screens, objects relevant to your goal
Mnemonic	To provide a memory cue	To recall factual information
Organizational	To illustrate qualitative relationships among program concepts	To give previews, overviews among concepts
Relational	To show quantitative relationships	To show relationships among numeric data
Transformational	To show changes in time or space	To illustrate procedures and process changes
Interpretive	To illustrate principles or abstract concepts	To build deeper understanding of content



Draw an Abstract Term

- Break into pairs.
- Look at the word given to you. Do not let your partner see it.
- The person with the smallest feet starts first.
- Make a drawing of your word.
- Your partner should try to guess the word you are drawing.
- You, the artist are not allowed to talk. You may only shake your head yes or no.
- Keep re-drawing the term until your partner guesses it or time is up.
- Now it's your partner's turn.

Types of Interactions for e-Learning

Function	Description
Dichotomous (Yes/No; True/False; A/B)	Learner responds by choosing 1 of 2 possibilities.
Multiple Choice	Learner selects one choice from several possible answers (usually four).
Multiple Select (check boxes; drag & drop)	Learner selects all that apply, usually identifying all possibilities that match a criterion. More than one correct answer
Order (drag & drop, multiple field fill in the blank)	Learner identifies the correct order or arrangement for steps, components, or objects.
Short Answer or Essay	Learner completes a free-form "form" in answer to a question posed by the system and submits it.
Software Simulation	Learner practices completing a task in a simulation of the software.
Process or Procedure Simulation	Learner practices completing steps in simulation of a procedure or identifies the phases of a process.
Tour	Learner links to another site which appears with in a frame or another instance of the browser. Instructions on how to "interact" are contained within the course page.
Treasure/ Scavenger Hunt	Learner searches for either a specific piece of data (treasure hunt) or is instructed to locate several pieces that together provide the correct answer. Links and/or second instances of the browser to the search engine.



Design an Interaction

Think of an activity/instructional method that you have used or are considering using for classroom training. Write a description of the activity in the space provided below. Also list the topic of the lesson, the audience and how you provide feedback.

Element	Description
Activity	
Topic	
Audience	
How provide feedback	

Work with your team to select one of the team member's activities and re-imagine it as an e-learning interaction. Work as a group. Draw it on flip chart paper. Make sure you have a way to provide feedback. Be prepared to describe your e-learning activity and how you will give directions to the student.