

# Enhancing Student Learning: Applying Multimedia Principles to Videos

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## 12 Principles of Multimedia Learning

- Use evidence-based research, such as Clark and Mayer's 12 Principles of Multimedia Learning, when creating multimedia elements in your courses.
- A multimedia presentation is any type of presentation that contains both words and images.
- Multimedia presentations can encourage learners to engage in active learning by making connections between the words and graphics.



## #1 – Coherence Principle

- **Provide only the information that the learner needs to know.**
  - Do not provide extra information that does not support the learning goal.
  - Remove extraneous and unimportant words, pictures, and sounds.
    - Is this asset necessary to help understand the content?

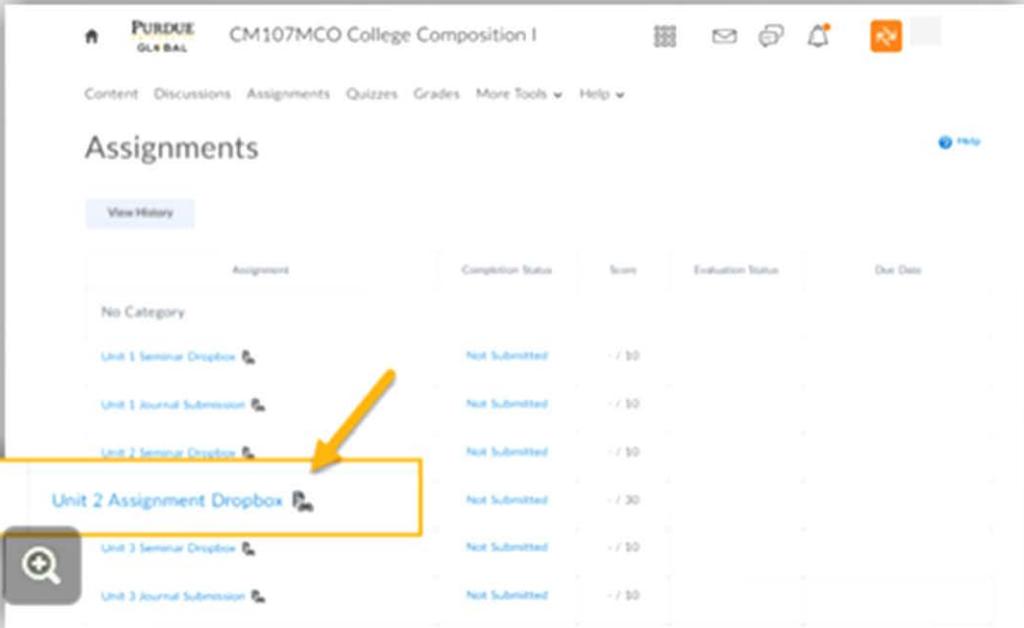


## #2 - Signaling Principle

- **Show the learner exactly what they need to pay attention to by pointing out significant information.**
  - If there is a lot of information provided, how will the learner know what is the most important information they should focus on?
    - Highlight important words
    - Use arrows to illustrate important information

## #2 - Signaling Principle

Locate the assignment you wish to start and select on the link to that assignment.



The screenshot displays the Blackboard LMS interface for the course CM107MCO College Composition I. The 'Assignments' section is active, showing a table of assignments. The 'Unit 2 Assignment Dropbox' is highlighted with a yellow box and an arrow pointing to it.

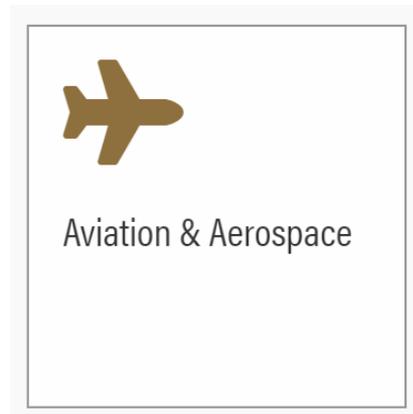
Assignment	Completion Status	Score	Evaluation Status	Due Date
No Category				
<a href="#">Unit 1 Seminar Dropbox</a>	Not Submitted	- / 30		
<a href="#">Unit 1 Journal Submission</a>	Not Submitted	- / 30		
<a href="#">Unit 2 Seminar Dropbox</a>	Not Submitted	- / 30		
<b><a href="#">Unit 2 Assignment Dropbox</a></b>	Not Submitted	- / 30		
<a href="#">Unit 3 Seminar Dropbox</a>	Not Submitted	- / 30		
<a href="#">Unit 3 Journal Submission</a>	Not Submitted	- / 30		

### #3 - Redundancy Principle

- **Students learn better from graphics and narration than from graphics, narration, and text.**
  - If you are using graphics and narration, the text becomes redundant information.
  - Learners may pay more attention to the text and less attention on the graphic.
  - When words are unfamiliar, they should be presented as text.

## #4 - Spatial Contiguity Principle

- **Position text next to the image it describes.**
  - Feedback should display next to the question and responses.
  - Directions should display on the same screen as the activity/lesson.
  - Do not force a learner to go back and forth between webpages to locate information.



## #5 - Temporal Contiguity Principle

- The graphic or animation should be displaying at the same time as the narration (voiceover audio) instead of being presented successively (one after another).



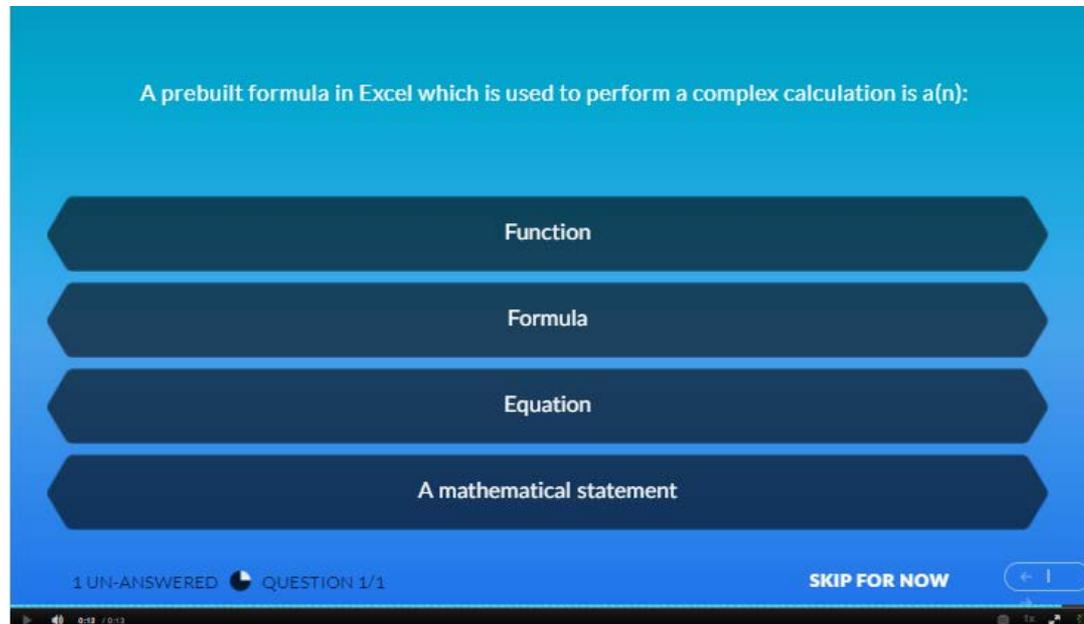
## #6 - Segmenting Principle

- **Learners need to ability to control the pace of their learning.**
  - Break a lesson into short segments
  - Provide next and previous buttons
  - Provide customizable video settings



## #7 - Pre-Training Principle

- **Learners need to understand the basics (definitions, terms, concepts) before starting the learning experience.**
  - Create an guide/glossary sheet which contain definitions, terms, and concepts.
  - Create knowledge checks before starting the lesson.



## #8 - Modality Principle

- **Students learn better from visuals and narrations than from visuals and text.**
  - Relay more on visuals
  - Limit the amount of text used
  - Use text when you need to present information to the learners that they will need as a reference, such as:
    - Glossary words
    - Directions to exercises
  - Use audio narration to explain graphics or animations



## #9 – Multimedia Principle

- **Students learn better from images and words together, than words by itself.**
  - Words include text and audio (speech).
  - Images include drawings, charts, maps, photos, animation, and video.
  - Carefully select the images. Images should be used to enhance or clarify the information.

## #10 - Personalization Principle

- **Use an informal, conversational style of writing or speaking**
  - Use first person (you, your, I, our, and we).
  - Use polite wording for feedback and advice.
  - Keep it simple and casual so learners feel comfortable.
  - Do not use professional, complex words.



## #11 - Voice Principle

- **Use a friendly human voice rather than a computer (robotic) voice.**
  - Match the tone of the voiceover to enhance the personalization.
  - Use high quality audio using a professional microphone (headset).

## #12 - Image Principle

- **The speaker's image does not need to be included on the screen.**
  - It is more effective to display the relevant visuals and animations.

## Curriculum Principles

- When creating multimedia based activities, consider the following curriculum principles:
  - Multimedia should align to the learning outcome
  - Motivate the learner by explaining the value of the learning experience
  - Authentic, real-life scenarios should be used as context for learning
  - Organize the material by integrating it with prior knowledge
  - Use different media exploiting the strengths of each
  - Include practice activities along with feedback
  - Include demonstrations (worked examples) to illustrate task performance
- Check the multimedia for spelling and grammar issues

## Check Multimedia for Accessibility

- Closed captions are needed for audio
- Images should have ALT text
- Use styles to format text (Heading1, Heading2, etc.)



## Resources

- [Video Tool Resources](#)
- [Kaltura Faculty User Guide](#)
- [Kaltura – Instructor FAQs](#)



***KALTURA***

# Questions

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## References

- Almuslamani, H. A., Nassar, I. A., & Mahdi, O. R. (2020). The Effect of Educational Videos on Increasing Student Classroom Participation: Action Research. *International Journal of Higher Education*, 9(3), 323. <https://doi.org/10.5430/ijhe.v9n3p323>
- Clark, R. C., & Mayer, R. E. (2016). E-learning and the science of instruction (Ruth Colvin Clark & R. E. Mayer, Eds.; 4th ed.). John Wiley & Sons.
- Mayer, R. E. (2017). Using multimedia for e-learning. *Journal of Computer Assisted Learning*, 33(5), 403–423. <https://doi.org/10.1111/jcal.12197>