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## Step Up to the Plate! Using Multimedia Content and Game Winning Strategies for Implementation

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# Step Up to the Plate!

Using Multimedia Content & Game  
Winning Strategies for Implementation



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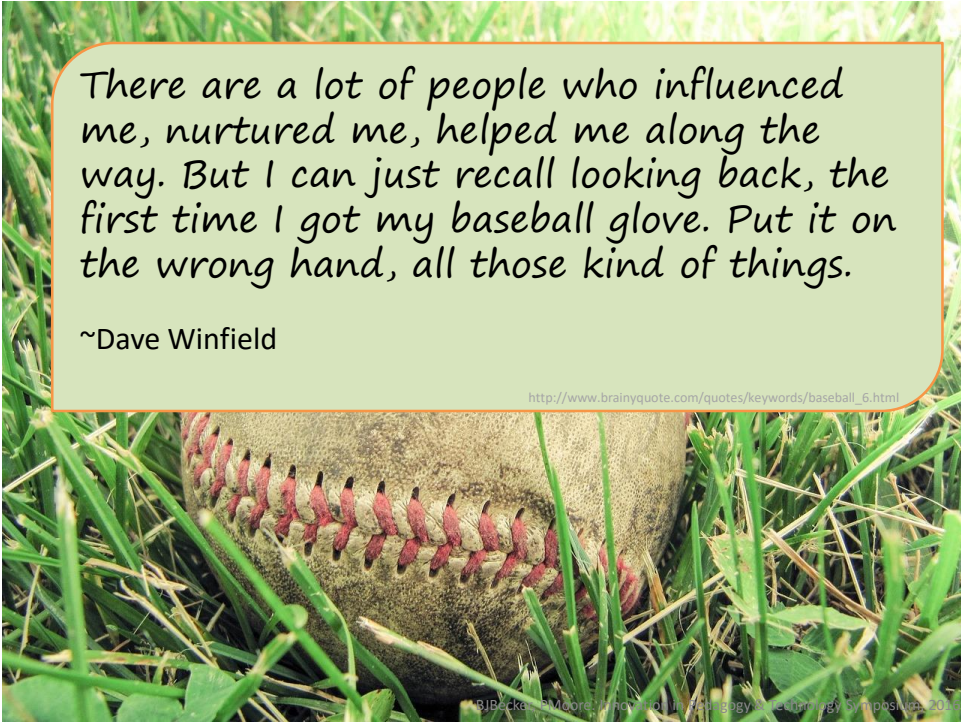
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The presenters have no financial disclosures that would be a potential conflict of interest with this presentation.





*There are a lot of people who influenced me, nurtured me, helped me along the way. But I can just recall looking back, the first time I got my baseball glove. Put it on the wrong hand, all those kind of things.*

~Dave Winfield

[http://www.brainyquote.com/quotes/keywords/baseball\\_6.html](http://www.brainyquote.com/quotes/keywords/baseball_6.html)

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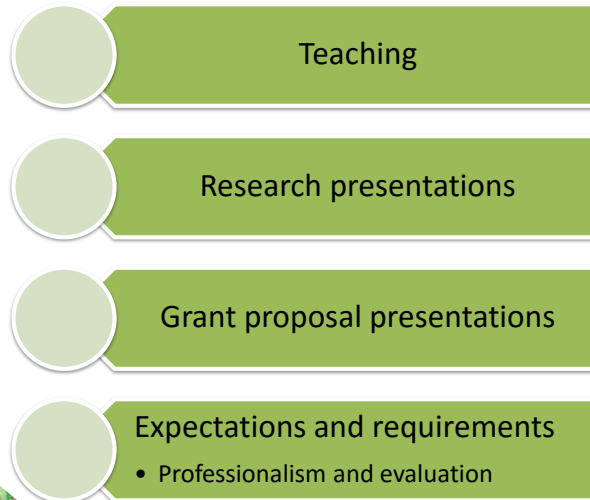
## Objectives

1. Apply Mayer's Multimedia Principles (with consideration of the Cognitive Load Theory) to presentation content.
2. Review decision making strategies for using educational technology.



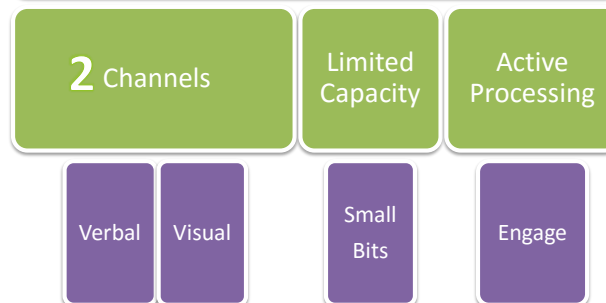
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# Why?



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## How Does Multimedia Learning Work?



Mayer, R. E. (Ed.). (2014). *The Cambridge handbook of multimedia learning (2nd ed)*. New York: Cambridge University Press.



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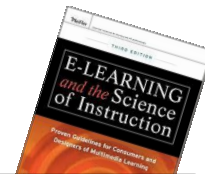
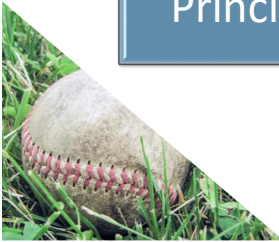
## 4 Mayer's Multimedia Principles To Consider

Coherence  
Principle

Segmenting  
Principle

Redundancy  
Principle

Spatial  
Contiguity



Find all of Mayer's  
principles in this book

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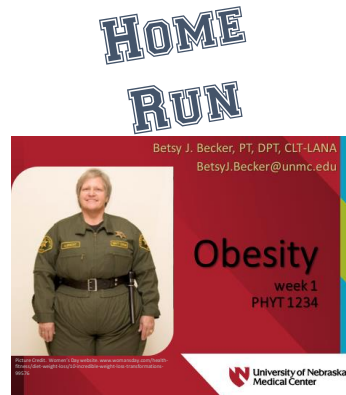
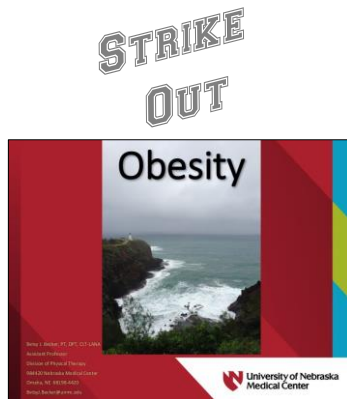
Before and After  
*What happened in the  
off-season?*





## Coherence Principle

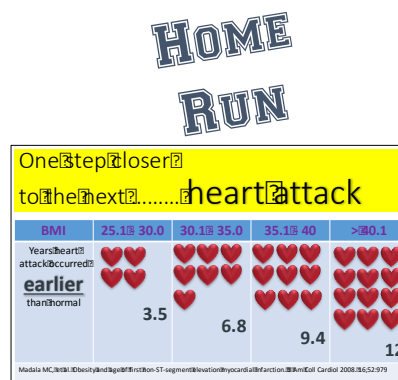
*Omit extraneous words, visuals or elements add purely for interest. Less is more.*



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## Redundancy Principle

*Explain graphic with words OR text, not both*



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# Fair Use Images from Google Images

1 Search for term in images category

2 Search Tools (expand)

3 Select

The screenshot shows a Google Images search for 'brain'. The search bar contains 'brain'. Below the search bar, tabs for 'All', 'Images', 'News', 'Videos', 'Books', and 'More' are visible, with 'Images' selected. A 'Search tools' button is to the right. Below the tabs, filters for 'Size', 'Color', 'Type', and 'Time' are shown. A 'Labeled for noncommercial reuse' dropdown menu is open, showing options: 'Not filtered by license', 'Labeled for reuse with modification', 'Labeled for reuse', 'Labeled for noncommercial reuse with modification', and 'Labeled for noncommercial reuse' (which is checked). A 'Select' button is next to the checked option. The search results show several brain images, including a sagittal section and a 3D model.

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## Signaling Principle

*highlight important elements with cues*

STRIKE  
OUT

HOME  
RUN

How to take a radial pulse.

- Turn your left hand so that your palm is face up.
- Wash your index and middle fingers of your right hand. Draw a line from the base of your thumb to just below the crease in your wrist. Your fingers should rest just to the left of the line.
- Don't press too hard; your wrist will make the pulse go away. Use gentle pressure.
- Count. I can take 15 seconds and count 30 beats in the placement of my two fingers on your wrist. So, for your pulse, just keep timing your fingers (don't stop) and counting (and taking for a few seconds) until you feel the pulse. Note whether your pulse is regular (beats come in regular intervals), fast (too fast), slow (too slow), or a fast/slow age of 40 or other heart rhythm disorder.

**HOW TO TAKE A RADIAL PULSE (CONTINUED)**

- Find a watch with a second hand and place it on your left wrist or on the table next to your left hand.
- After finding your pulse, count the number of beats for 30 seconds.
- Multiply by 2 to get your heart rate, or beats per minute. Do not count for an interval of 15 minutes.
- Normal resting heart rate is about 60-100 beats per minute.

The diagram shows a person's left hand with the palm facing up. The right hand's index and middle fingers are placed on the left wrist, just below the crease. A line is drawn from the base of the thumb to the crease. A watch is shown next to the wrist, and a person is shown counting beats.

**TAKE RADIAL PULSE**

**CALCULATE**  
Beats Per Min (bpm)

30 beats in 20 seconds

$30 \times 3 = 90 \text{ bpm}$

Count beats for 20 seconds

**Normal Resting Heart Rate 60-100 bpm**

The diagram shows a person's left hand with the palm facing up. The right hand's index and middle fingers are placed on the left wrist, just below the crease. A line is drawn from the base of the thumb to the crease. A watch is shown next to the wrist, and a person is shown counting beats.



# Redundancy Principle

*Explain graphic with words OR text, not both.*

STRIKE  
OUT

**How to determine exercise intensity from the pulse**

The **Karvonen Formula** is a mathematical formula that helps you determine your target heart rate (HR) training zone. The formula uses maximum and resting heart rate with the desired training intensity to get a target heart rate.

Target Heart Rate =  $(\text{max HR} - \text{resting HR}) \times \text{Intensity} + \text{resting HR}$

HR example: Sample:  $= (180 - 60 \times .5) + (60)$   
 $= 120 \text{ bpm}$

HOME  
RUN

**Karvonen Formula**  
Target Heart Rate Training Zone

$$[(\text{HR}_{\text{max}} - \text{HR}_{\text{rest}}) \times \text{Intensity}] + \text{HR}_{\text{rest}}$$

Example 1	Example 2
HR <sub>max</sub> = 180 beats/min	HR <sub>max</sub> = 180 beats/min
HR <sub>rest</sub> = 60 beats/min	HR <sub>rest</sub> = 60 beats/min
Intensity = 50%	Intensity = 70%
$= (180 - 60 \times .5) + (60)$	$= (180 - 60 \times .7) + (60)$
$= 120 \text{ bpm}$	$= 144 \text{ bpm}$

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# Signaling Principle

*highlight important elements with cues*

STRIKE  
OUT

**How to determine exercise intensity from the pulse**

The **Karvonen Formula** is a mathematical formula that helps you determine your target heart rate (HR) training zone. The formula uses maximum and resting heart rate with the desired training intensity to get a target heart rate.

Target Heart Rate =  $(\text{max HR} - \text{resting HR}) \times \text{Intensity} + \text{resting HR}$

HR example: Sample:  $= (180 - 60 \times .5) + (60)$   
 $= 120 \text{ bpm}$

HOME  
RUN

**Karvonen Formula**

$$[(\text{HR}_{\text{max}} - \text{HR}_{\text{rest}}) \times \text{Intensity}] + \text{HR}_{\text{rest}}$$

**EXAMPLE**

HR<sub>max</sub> = 180 beats/min  
 HR<sub>rest</sub> = 60 beats/min  
 Intensity = 50%

$$[(180 - 60) \times .50] + 60 = 120 \text{ bpm}$$

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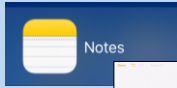
How to screen capture (record) what happens on an iPad or iPhone

- 1**

**Connect**  
iPad to Mac with USB cord



- 2**

on iPad  
**OPEN Notes**  
(app)



- 3**

On Computer  
**OPEN QuickTime** Player  
Select New Movie Recording

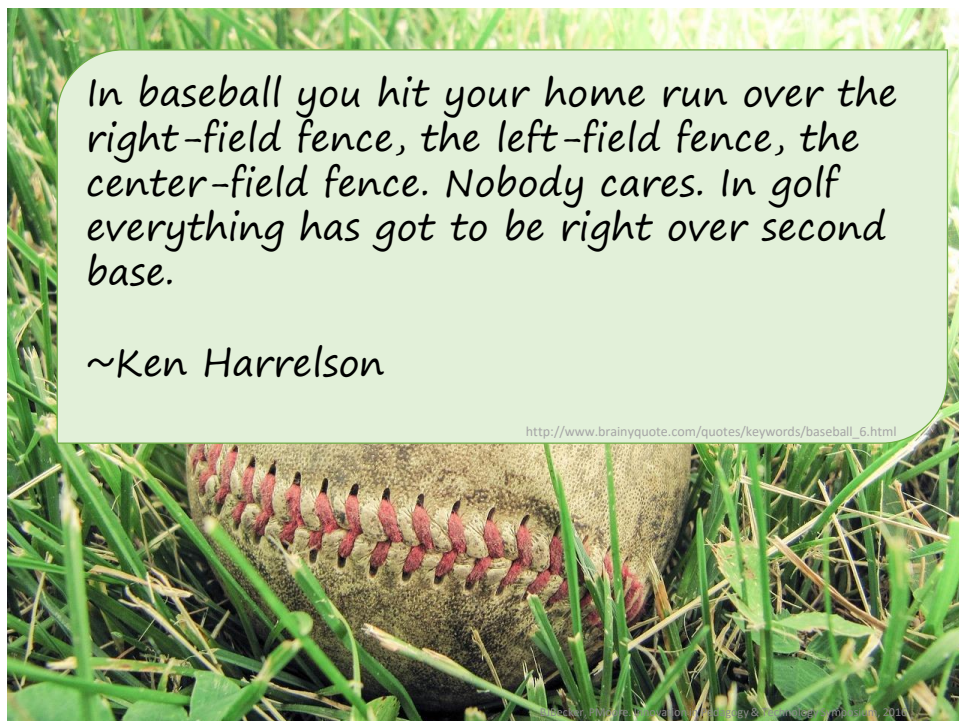


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*In baseball you hit your home run over the right-field fence, the left-field fence, the center-field fence. Nobody cares. In golf everything has got to be right over second base.*

*~Ken Harrelson*

[http://www.brainyquote.com/quotes/keywords/baseball\\_6.html](http://www.brainyquote.com/quotes/keywords/baseball_6.html)



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## Summary

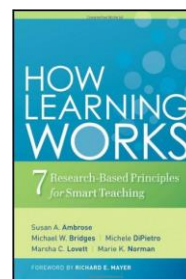
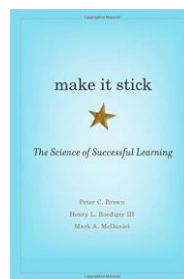
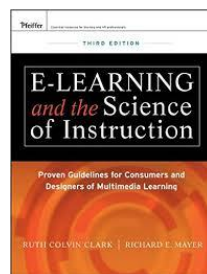
Demonstrated examples of content design (including decision making strategies) utilizing the Cognitive Load Theory to maximize deeper learning by applying Mayer's Multimedia Principles.



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## Educational Resources

Click on a cover for a link to online bookseller.



# University Resources

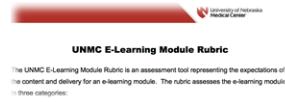
(we know there are many more – here is a start!)



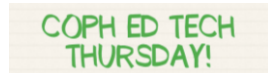
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[Connect Ed](#)



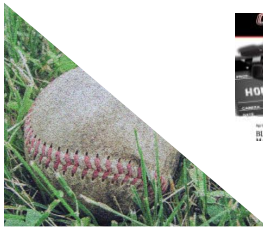
[Rubric \(checklist\)](#)



[UNMC CPH Ed Tech Tips Thursday](#)



[UNL Office of Online & Distance Education](#)



[UNO API Faculty Portal](#)



[UNK Faculty Resources](#)

## Best Practices

Cardinal Rule: Keep It Simple



[http://storage.ted.com/tedx/manuals/tedx\\_speaker\\_guide.pdf](http://storage.ted.com/tedx/manuals/tedx_speaker_guide.pdf)

<http://www.amstat.org/meetings/jsm/2014/effectivepresentations.cfm>



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