

# Do You Use Media, or Does Media Use You?

Gwen Essex, RDH, EdD  
HS Clinical Professor

▶ Why Use Media?

- Interest?
- Excitement?
- Complex Concepts?
- Fun?



▶ Improve Learning Outcomes

Anesthetic Agent (Generic Name)	Proprietary Name	Chemical Structure	Duration of Anesthesia	Pulpal Anesthetic Duration (minutes)
Lidocaine 2%	Xylocaine Octocaine	Amide	Short	5 - 10
Prilocaine 4% (infiltration)	Alphacaine Citanest	Amide	Short	20 - 40
Mepivacaine 3%	Polocaine Carbocaine	Amide	Intermediate	45
Articaine 4%, epinephrine 1:200,000	Septocaine Ultracaine	Amide	Intermediate	60
Mepivacaine 2%, levonordefrin 1:20,000	Polocaine Carbocaine	Amide	Intermediate	30 - 60
Procaine 2%, propoxycaine 0.4%, levonordefrin 1:20,000	Novocain	Ester	Intermediate	60
Lidocaine 2%, epinephrine 1:50,000	Xylocaine Octocaine	Amide	Intermediate	60
Lidocaine 2%, epinephrine 1:100,000	Xylocaine Octocaine	Amide	Intermediate	60
Prilocaine 4% (block)	Alphacaine Citanest	Amide	Intermediate	75
Articaine 4%, epinephrine 1:100,000	Septocaine Ultracaine	Amide	Intermediate	60 - 90
Prilocaine 4%, epinephrine 1:200,000	Citanest Forte	Amide	Intermediate	

OVER

LOAD



# Where is Media Use Important?

# Foundational Paradigm

Learner-Centered Approach

## Cognitive Assumptions of Effective Multimedia

- ▶ Dual Channels
- ▶ Limited Capacity
- ▶ Active Processing

# Visual Channel

Images  
&  
Text



# Auditory Channel

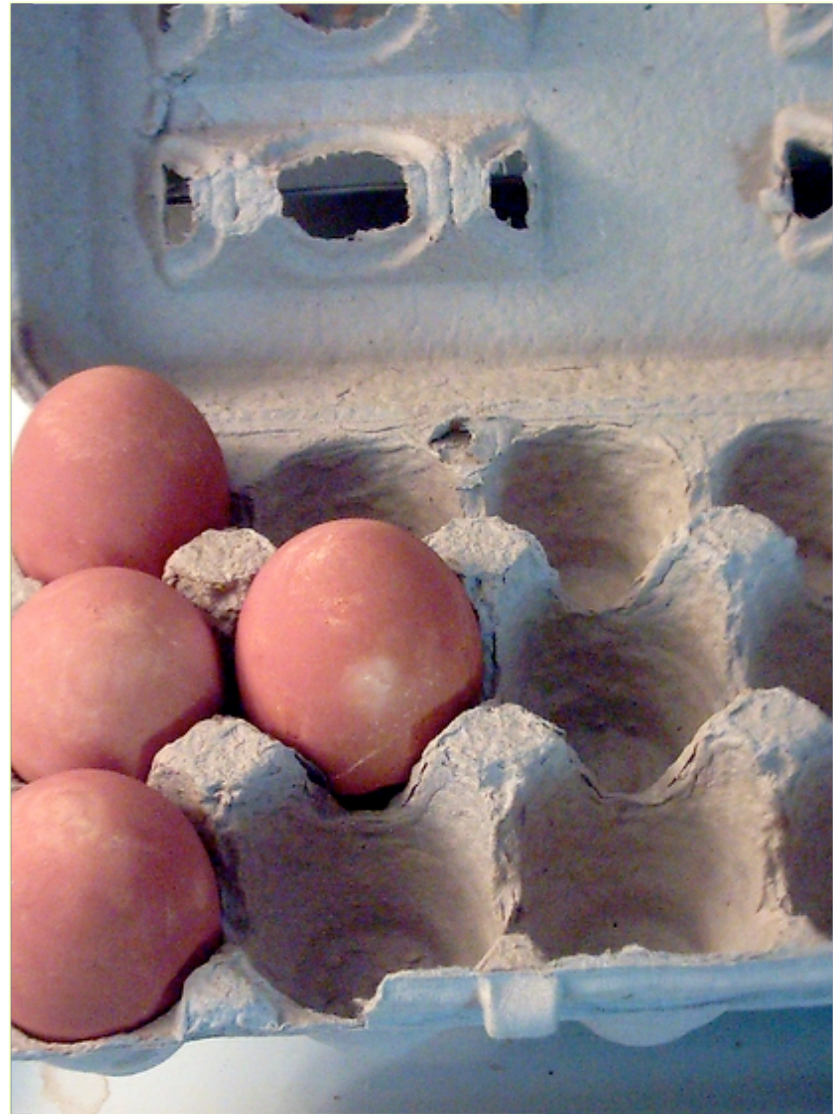
Narration  
&  
Music





# Limited Capacity

Working Memory Limitations



# Active Processing

Mental Scheme  
&  
Models





# Principles of Multimedia

# Multimedia Principle

- ▶ Words + Pictures are Better than Words Alone



# Spatial Contiguity Principle

- ▶ Present Related Items Close Together



## LANDMARKS

Coronoid notch  
Internal oblique ridge  
Pterygomandibular raphe

# Temporal Contiguity Principle

- ▶ Present Related Items Close in Time





# Coherence Principle

- ▶ Maintain Effectiveness by Eliminating the Unnecessary



# Modality Principle

- ▶ Use the Available Processing Channels Wisely





# Redundancy Principle

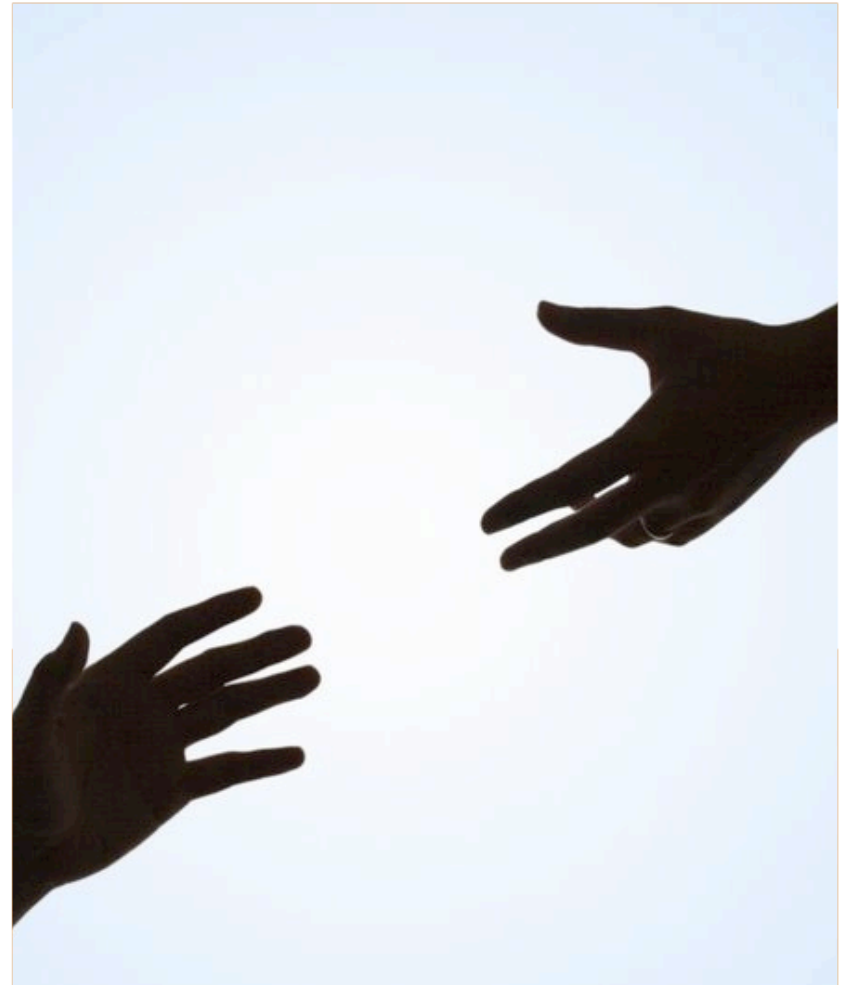
- ▶ Competition for Processors  
Reduces Learning

## This Is Some Important Point

- ✓ One amazing fact that you didn't realize
- ✓ Another amazing fact that maybe you knew
- ✓ A third fact that you might have know, but didn't realize was relevant
- ✓ And, of course, a fourth fact that needs to be stated because you can't just say it and expect them to remember
- ✓ And a fifth point, just for luck
- ✓ Oh, and did I mention point #6 too?
- ✓ And there's an important conclusion too

# Individual Differences

- ▶ Learning Design Supports Lower-Level Learners More



# References

- ▶ Mayer, R. (2005). *The Cambridge Handbook of Multimedia Learning*. Cambridge University Press.
- ▶ Mayer, R. (2001). *Multimedia Learning*. Cambridge University Press.