No Disclosures

Learning vs. Retention: Implications for Educators
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Objectives
By the end of the lecture, the audience will be able to:
• define learning and retention.
• differentiate between rote and elaborative rehearsal.
• apply the principles of Primacy-Recency to his/her teaching episode.
**Primacy-Recency Effect**

Remember best = 1st part  
Remember 2nd best = Last part  
Remember least = Middle part

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**Sense and Meaning**

To retain information, it has to make sense and have meaning.

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**Elaborative Rehearsal is the KEY**

Helps us to come up with new ideas, solutions, and concepts.

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**Primacy-Recency Effect**

1st items in working memory – reach functional capacity
Primacy-Recency Effect
Later info exceeds capacity and is lost

http://newsbite.it/index-id-news-zk-14648.html

Primacy-Recency Effect
At end of learning episode, items in learning memory are sorted or chunked


Primacy-Recency Effect
Additional processing of arriving final items

http://www.bbbpress.com/2014/01/drama-game-bucket-of-water/

Primacy-Recency Effect
Retention During a Learning Episode
New Information should be taught first

Practice or review during down-time

Closure: For the next 30 seconds try to recall the important findings of a lateral patellar dislocation. I'll ask you how those findings relate to the mechanism of injury.
Primacy-Recency Effect

Closure does not necessarily mean review.

Prime Time Misused

- Making announcements
- Asking questions where wrong answers may be given
- Review of old material
- Asking people to introduce themselves

Learning
Learning
206-555-1234
23-44-67
The customer’s name is Mary Smith

Learning
Differential Diagnosis for an MRI finding
Causes of Nephrocalcinosis
Muscles that make up the quadriceps mechanism

http://www.getyourbreakthrough.com/blog/bid/250447/Short-Term-Memory-The-Missing-Link
https://www.linkedin.com/pulse/framework-tools-libraries-chitra-r
Retention: Factors

Retention factor: Rehearsal

Rehearsal

Repeat again what you hear; for by often hearing and saying the same things, what you have learned comes complete into your memory

- from the Dialexeis

Rote Rehearsal

Rote Rehearsal = store information EXACTLY as it is entered into working memory

- Multiplication tables
- Telephone numbers
- Procedural steps
Elaborative Rehearsal

Elaborative Rehearsal = Associate new learning with prior knowledge via relationships

More complex process that assigns meaning to the new information

Rote and Elaborative Rehearsal

A student uses rote rehearsal to memorize the various tendons that attach to the ischial tuberosity. She uses elaborative rehearsal to correctly interpret a hamstring avulsion injury.

Rote and Elaborative Rehearsal

If a student receive insufficient training in elaborative rehearsal, he will resort to rote rehearsal for nearly all processing.

Rote and Elaborative Rehearsal

DDx for child with limp.
Foot, ankle, knee, hip, back, etc.

Does that help a child who comes into the ER with multiple bruises and refusal to bear weight.
Primacy-Recency Effect

Retention vs. Teaching Episode Length

Retention vs. Teaching Episode Length

How The Brain Learns
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References
• Thomas, E. 1972. The variation of memory with time for information appearing during a lecture. Studies in Adult Education. 17 62.