Long Term Memory: Learning and Remembering

EDS 248
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Types of Long Term Memories

<table>
<thead>
<tr>
<th>Type of Memory</th>
<th>Type of Knowledge</th>
<th>Example</th>
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</thead>
<tbody>
<tr>
<td>Episodic vs. Semantic</td>
<td>Personal experience vs. General</td>
<td>Imagery (sounds, smells, pictures) (space and time)</td>
</tr>
<tr>
<td></td>
<td>knowledge</td>
<td>Meanings and Propositions (facts and general knowledge)</td>
</tr>
<tr>
<td>Declarative vs. Procedural</td>
<td>How things are vs. were vs. How to do things</td>
<td>“Knowing that...” How things are. “Knowing how...” How to do things.</td>
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<tr>
<td>Explicit vs. Implicit</td>
<td>Knowledge easily explained vs.</td>
<td>Consciously recalled (How to add and subtract)</td>
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<tr>
<td></td>
<td>Knowledge not easily explained</td>
<td>Unconscious recalled (How to speak)</td>
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</tbody>
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Long Term Memory Processes

- Selection
- Rehearsal
- Meaningful Learning
- Internal Organization
- Elaboration
- Visual Imagery
Encoding Processes

<table>
<thead>
<tr>
<th>Process</th>
<th>Definition</th>
<th>Examples/Instructional Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection</td>
<td>What is stored and what is not stored.</td>
<td>Consider the importance of adhering to course prerequisites.</td>
</tr>
<tr>
<td>Rehearsal</td>
<td>Repetition of material</td>
<td>Role learning is not very effective if not connected with meaningful information.</td>
</tr>
<tr>
<td>Meaningful Learning</td>
<td>Connecting new material with information already stored in long-term memory.</td>
<td>Use real world examples Allow for discussions Emphasizes the importance of adhering to course prerequisites.</td>
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</tbody>
</table>

- **Internal Organization**: Storing information as a whole rather than as a collection of disparate parts.
  - The learning theory model

- **Elaboration**: Learning between the lines. Adding your own knowledge to new information.
  - State ideas in own words
  - Generate own examples

- **Visual Imagery**: Mental pictures of the physical appearance.
  - Powerful, yet incomplete.

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Remembering (or “Retrieval”)

1. Long-term memories can be described as being both active (brought into working memory or consciousness) and inactive (stored in long-term memory).
2. What is the capacity of Working Memory relative to Long Term memory?
3. What implications does this have for remembering?
Remembering (or "Retrieval")

1. How information is stored has a lot to do with how (if) it is recalled.
2. Working memory is small, some of its capacity is already taken up by the sensory information it is attending to.
3. Successful retrieval is most likely when a number of long-term memories are closely associated with each other.
4. Meaningful, frequently used, material is going to be found quickly. Because it is used frequently it is easily remembered. You know right where to look.

Remembering (or "Retrieval")

Study these words, you will have 30 seconds.

- tulip
- pencil
- spoon
- bed
- baker
- ruby
- hat
- mountain
- doctor
- paper
- daisy
- shirt
- chair
- fork
- diamond
- canyon
- knife
- table
- hill
- soldier
- rose
- pen
- shoe
- emerald

Now write down as many words as you can remember.

Remembering (or "Retrieval")

Association cues direct you toward the relevant parts of your long term memory.
Theories of Forgetting
1. Failure to store
2. Construction errors
3. Decay
4. Obliterative subsumption
5. Interference
6. Failure to retrieve
7. Repression.

Facilitating Encoding and Remembering
1. Discuss the relative advantages of meaningful vs. rote learning.
2. Why is it important to ensure that only important/relevant information is selected?
3. What is the role of lesson organization in storage and retrieval?
4. What are the strengths and weakness of elaboration?

Metacognition
Knowledge of own learning and cognitive processes and resulting regulation of such abilities to enhance learning.
Transfer

- Using knowledge learned in one situation to solve problems in another situation.
- The bottom line of schooling.
- Students must be able to go out into the “real world” and apply the skills/knowledge taught in the classroom.

Next Week

- Read Ormrod chapter 15
- From reading write & turn-in 3 research/discussion questions.