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 knowledge</td>
<td>Imagery (sounds, smells, pictures) (space and time) Meanings and Propositions (facts and general knowledge)</td>
</tr>
<tr>
<td>Declarative vs. Procedural</td>
<td>How things are vs. How to do things</td>
<td>“Knowing that…” How things are. “Knowing how…” How to do things.</td>
</tr>
<tr>
<td>Explicit vs. Implicit</td>
<td>Knowledge easily explained vs. Knowledge not easily explained</td>
<td>Consciously recalled (How to add and subtract) Unconscious recalled (How to speak)</td>
</tr>
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</table>
Encoding Processes

<table>
<thead>
<tr>
<th>Process</th>
<th>Definition</th>
<th>Examples/Instructional Implications</th>
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</thead>
<tbody>
<tr>
<td>Selection</td>
<td>What is stored and what is not stored.</td>
<td>Identify important information. Emphasizes the importance of adhering to course prerequisites.</td>
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<tr>
<td>Rehearsal</td>
<td>Repetition of material</td>
<td>Rote 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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<tr>
<td>Internal Organization</td>
<td>Storing information as a whole rather than as a collection of disparate parts.</td>
<td>The learning theory model.</td>
</tr>
<tr>
<td>Elaboration</td>
<td>Learning between the lines. Adding your own knowledge to new information.</td>
<td>State ideas in own words, generate own examples.</td>
</tr>
<tr>
<td>Visual Imagery</td>
<td>Mental pictures of the physical appearance.</td>
<td>Powerful, yet incomplete.</td>
</tr>
</tbody>
</table>

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.

Theories of Forgetting
1. Failure to store
2. Construction error
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 weaknesses 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.