Meaningful Learning

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Mid-Term Check Up Example

• Peter got bit by a dog. Every time Peter sees a dog, he fears. This is an example of learning by:
  a) Assimilation
  b) Bottom-Up Processing
  c) Classical Conditioning
  d) Operant Conditioning
Learning Goals

• Distinguish between Rote Learning and Meaningful Learning
• Identify the three conditions necessary for Meaningful Learning to occur
• Describe teaching strategies to achieve Meaningful Learning
• Be able to classify learner activities according to Bloom’s taxonomy.

Process of Meaningful Learning

• **Subsumption:** New, incoming ideas are subsumed under more general and inclusive anchoring ideas already in memory.
• **Derivative subsumption:** Learning of new examples or cases that are illustrative of an established concept or previously learned proposition.
• **Correlative subsumption:** Elaboration, extension, or modification of the previously learned concept or proposition by the subsumption of the incoming idea.
Effective Learning

- There are two conditions for effective learning:
  1. **Retain:** Remember what is learned in the future
  2. **Transfer:** Use what is learned to guide thinking and behavior in a new situation

Meaningful vs. Rote Learning

**Meaningful Learning**
- Concept is fully understood by student
- New information is related to what students already know (prior knowledge)

**Rote Learning**
- Verbatim memorization of new information
- No connection between new and previous knowledge
The purpose of a fish trap is to catch fish and when the fish are caught, the trap is forgotten. The purpose of a rabbit snare is to catch rabbits. When the rabbits are caught, the snare is forgotten. The purpose of the word is to convey ideas. When the ideas are grasped, the words are forgotten. Where can I find a man who has forgotten words? He is the one I would like to talk to.

Meaningful vs. Rote Learning

• Rote learning (memorization) only achieves retention of new information
• Meaningful learning achieves both retention and transfer, and even achieves retention better than rote learning.
Teaching for Meaningful vs. Rote Learning

**Meaningful**
- Relate information to everyday experiences
- Deliberate effort to link new knowledge with prior knowledge

**Rote**
- Present definitions, formulas, and new information without explaining relationship with students’ experiences
- Random presentation of new knowledge into memory with no effort to integrate new knowledge with prior knowledge

Meaningful Learning

- Three conditions for Meaningful Learning to occur:
  
  1. **Learners**: Approach the learning task with the purpose of engaging in meaningful learning
     - If a learner only wants to memorize then meaningful learning cannot occur
  
  2. **Application**: Teach students how to engage in meaningful learning and the benefits of meaningful learning
Meaningful Learning

• Three conditions for Meaningful Learning to occur:

2. **Learners:** Must already have background knowledge that relates to the new material

• **Application:** Ensure that students have foundational knowledge for a new topic

Meaningful Learning

• Three conditions for Meaningful Learning to occur:

3. **Educators:** Lesson must be meaningful

• **Application:** Lesson must be carefully prepared and presented in a way that is:
  – Clear
  – Meaningfully related to students’ lives and prior knowledge
  – Well Organized
Summary: Meaningful vs. Rote

• Very few things need to be learned by rote (Woolfolk, 2007)

• **Point of Meaningful Learning:** Make materials meaningful to the learner

• **To achieve Meaningful Learning:** Organize instruction to make meaningful connections to what learners already know

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Teaching for Meaningful Learning

• Use analogies (similarities with ordinary concepts)

• Tell stories to demonstrate concepts

• Ask students for their relevant experiences

• Ask students questions beyond what you have directly taught to test their understanding

• Make students explain their reasons for their answers: *Why?*

• Answer questions with questions

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1. What is the definition of rote memorization?
2. What are the advantages and disadvantages of teaching for meaningful learning?
3. How can you use meaningful learning in your classroom?
4. Create your own lesson that focuses on meaningful learning.
5. What are the similarities between meaningful learning and constructivism?
6. Why should students engage in meaningful learning?