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What is the actual role of memory in learning?

Memory is our ability to encode, store, store and then recall information and past experiences. How important is it in learning?

How does the memory work?

Memory is a complex cognitive process that defines our mental organization and allows us to reflect by reusing past and present experiences. It certainly is a process linked to learning, but the two things are not the same. Memory works according to three processes:

1. Encoding

The information received is transformed into a code that can be stored in memory.

2. Memorization

The encoded information is retained in memory.

3. Recovery

At the time of need, you can access the information stored in memory.

Usually, learning efficiency depends on the efficiency of the coding process. It is an active and selective process that depends on a number of factors:

1. Content factors

Related to the type of material to be encoded. For example?

- the volume of the material (the greater the volume, the more difficult the coding);
- the degree of organization of the material (the more organized, the easier it is to encode);
- the degree of familiarity with the contents;
- the place occupied by information in the content structure (at the beginning, in the middle or at the end of the material: the information placed at the beginning and at the end tend to be stored more easily than those at the centre);
- the nature of the material.

2. Environmental factors

Relating to the conditions external to the subject in which the encoding occurs (eg noise, temperatures ... that can stimulate or inhibit the coding process).

3. Subjective factors

Correlated to personal variables at the time of coding (eg emotions, state of rest, state of health, motivation ...).

Memorizing, on the other hand, is the process of preserving the encoded information. It too is an active and selective process: when information is stored, it is unknowingly transformed and reorganized. Depending on the duration of storage of information in memory we can distinguish:

1. Short-term memory
2. Long-term memory

Both act as a filter between our brain and the incredible amount of information we are exposed to at any moment. The more information is repeated or used, the more likely it is stored in long-term memory (therefore, when designing a learning program, the consolidation of the concepts learned is crucial).

Recovery is the process of accessing stored information. It occurs through:

1. **recognition**: involves a process of comparing external information with those in memory (for example, recognizing a known face, answering true / false or multiple choice questions);
2. **the reference**: involves recalling memories of lived or learned facts (for example, remembering a person's name, answering open questions).

Recognition is the simplest process because it requires a simple decision on familiarity, while the recall requires two phases: the recovery of different elements from the memory and the choice of the correct information among the various elements.

According to the Endel Tulving Encoding Specificity theory, the recall process uses information from both the memory and the environment in which it is retrieved. As a result, the recall is better when the encoding and recovery environments are similar.

The most effective way to combat oblivion is repetition. Some suggestions?

1. Optimal amount of repetitions

Oblivion can be due to a few or too many repetitions.

2. Breaks between repetitions

The optimal number and duration of the pauses depend on the volume and complexity of the material.

3. Appropriate repetition "formulas"

It is preferable the logical repetition (with a sense) to the mechanical repetition and the active repetition to the passive one.

Memory is essential for learning, but it also depends on learning because the information already present in memory serves as a basis for placing new knowledge.

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