Procedural Memory [1]

Assisted Self-Help [2]24.2K reads

With procedural memory, we remember how to perform everyday tasks. It helps us as we go about our daily 'procedures' and allows us to complete them without having to be consciously aware.

We have the ability to instantly retrieve these procedural memories to complete processes like reading or tying our shoes, anything that involves using motor or cognitive skills. It is a form of long-term memory [3] and can be included in the sub-category: implicit memory [4]. We create this type of memory through constant practice of a skill until our neural systems are able to perform the task on autopilot.

History

More than one hundred years have passed since psychologists were able to identify the fact that there is a marked difference between declarative and procedural memory [5]. The 1890 book, *Principles of Psychology* [6] by William James explored the fact that memory and habit were distinct entities. However, it was not until 1923 that any difference betweenimplicit [4] and explicit [7] memories were discovered.

It was really experiments in the 1960s and 1970s on amnesiac patients that blew the topic wide open. Milner's 1962 study showed that a man who suffered badly from amnesia was still able to learn a hand-eye coordination skill despite having no memory because he had previously learned the skill. Further studies showed more specifically that it was possible to perform a task through practice despite having no memory of having learned how to do it.

Automatic Actions

The whole purpose of the procedural memory system is to allow us to store instructions on how to do things. Another way of saying this is to suggest that procedural memory defines the type of person we are. The moment we learn a response or a type of behavior it gets stored in our procedural memory. This means that we no longer have to think about how to react in a certain situation because it has already been programmed and we will react accordingly.

An example of this is the ability to perform an everyday task whilst talking with someone. You could be tying your shoes and have completed the process without even realizing it because you did not have to think about it. Even learning how to walk is part of our procedural memory. No one remembers when or how they learned to walk nor do they need to because it is an

automatic response once we get to our feet.

The Difficulties of Change

It is difficult to alter our procedural memories because we have to make ourselves consciously aware. The fact that this type of memory is so resistant to change is a good thing because we do not want to relearn things like walking and reading. However, if you are doing something incorrectly and need to change, you have to pay close attention to the procedure as you perform it.

A simple example of the difficulties faced involves a golf swing. Someone who has been playing the sport for years and uses the same swing is unlikely to be able to change it by themselves. It is necessary to hire an instructor and even then, it is hard to make the requisite alterations hence the term ‘old habits die hard’.

Links
[1] https://staging.explorable.com/en/procedural-memory
[2] https://staging.explorable.com/en
[3] https://staging.explorable.com/long-term-memory
[4] https://staging.explorable.com/implicit-memory
[5] http://en.wikipedia.org/wiki/Procedural_memory
[6] http://psychclassics.yorku.ca/James/Principles/
[7] https://staging.explorable.com/explicit-memory