

Two Different Types of Memory – Which One Are You Using?

There are two distinct types of memory, each storing information in a different way. Depending on which type of memory is involved, the methods for studying and learning must also differ. This article explores the two memory types and their corresponding study approaches.

1. DNA as a Memory Bank

A salmon hatches in a river, travels through the ocean, and eventually comes back to the same river to spawn. When salmon eggs are laid, they have no brain to begin with. Yet, they have all the information needed for entire life cycle. How can this be possible? The only answer to this question is DNA.

The pathway of this memory can be understood by observing the salmon's life. When a salmon successfully hunts, it experiences satisfaction; when it is being hunted, it feels fear. These experiences suggest that emotions and desires related to survival stimulate DNA-based memory — and that this memory can change rapidly.

In British Columbia, Canada, hatcheries sometimes relocate salmon from one river to another. The

information about the river must be stored while the salmon is in the river. Also, the information should last until they return to the river. In other words, the DNA-based memory of their birthplace is formed early in life and remains until they return.

Since the memories in DNA pass onto next generation, DNA-based memory is extremely powerful and expressed as an instinct. However, it has a limited capacity.

2. Brain-Based Memory

Brain-based memory, in contrast, is not passed on to next generation. When an individual dies, the memories stored in the brain also disappear. Therefore, to pass on essential knowledge stored in the brain, parents must teach, and offspring must learn — making education vital for survival.

Because the exact mechanism of brain-based information storage is not fully understood, even humans, despite their highly advanced brains, mostly rely on methods suited to DNA-based memory. Rewards for good performance, punishments for bad behavior, and exams that force students to study are all examples. These methods

motivate students to store information through emotions. But problem is that if students don't have 'desire' which is one of the key factors for DNA-based memory, this approach would not be effective.

Storing information in the brain requires a completely different approach. Students have to have interest. The interests are different from 'desire'. The interests to stimulate brain-based memory must be from curiosity. Also, translating curiosity into questions should be followed by. Students must develop genuine interest in what they are learning to use brain-based memory effectively. However, until recently, there was no systematic method to reliably stimulate curiosity.

To activate curiosity, a step-by-step thinking process is essential. These processes have been organized into what are called 'PonderEd Methods', which consist of 'conceptualization' and 'concept connection'. Here, the term 'conceptualization' is used somewhat differently than as known.

The 'PonderEd Methods' is the most effective way to store information in the brain. It doesn't simply record names or terminology. Instead, it forces the brain store

information through reasoning through a process based on causation and understanding.