

Reading Passage (211 words): Memory

In physiological or neurological terms, memory is, at its simplest, a set of encoded neural connections in the brain. It is the re-creation or reconstruction of past experiences by the synchronous firing of neurons that were involved in the original experience. As we will see, though, because of the way in which memory is encoded, it is perhaps better thought of as a kind of collage or jigsaw puzzle, rather than in the traditional manner as a collection of recordings or pictures or video clips, stored as discrete wholes. Our memories are not stored in our brains like books on library shelves, but are actually on-the-fly reconstructions from elements scattered throughout various areas of our brains. There are three considerations regarding memory.

First, since we see, hear, and feel the images we remember, it is assumed that the brain remembers things as images. Second, the best type of memory is the visual memory, which is why teachers so often focus their teaching on using visual aids. Finally, many insist that the best way to remember things is not only to link the memory with an image but to link it to a bizarre one. This popular mnemonic device is a particularly effective way to remember complex hard-to-remember concepts.

Writing Prompt: How does the information in the lecture cast doubt on the information in the reading passage?

Lecture (475 words): False Assumptions about Memory

The reading passage no doubt explains the scientific aspects of memory flawlessly. However, after defining memory, the author makes three incorrect assumptions about memory.

First of all, in our minds we can see, hear, or feel images of things we are recalling, so it's natural to think that we remember things *as images*. But we don't. The images are reconstructed from facts we memorized, rather like a computer generates two dimensional images from a three dimensional model expressing facts mathematically. (If you've seen Toy Story, Shrek, or any of those computer animated films, you were seeing images generated from a factual model.) There have been some clever experiments to demonstrate this but to save time consider this question. If you recall something you have seen, can you imagine it from an angle you did not actually see it from originally? If your mind had created a memory that was a literal recording of the original images you witnessed, then your memory would be like a videotape, and you would not be able to imagine something you had not seen. But you can.

Second of all, the powerful myth that the best memory is the visual memory probably comes from two sources. Firstly, a lot of advice on memory improvement is based on using images that combine two ideas into one. Secondly, experiments by Ralph Haber and colleagues in the late 1960s seemed to show that human visual memory was amazingly capable. When I first tried memorizing a list of unrelated words by linking them using visual images, it worked brilliantly straight away. I, like most people, was blown away by this incredible experience and for a while tried to find ways to make use of it in my studies. The experience is so powerful it is easy to think that the *visual* aspect of the linking is important, but it seems it is not. If you make up a sentence that links the two words into one idea, that is just as effective. Imagery is not the active ingredient

Finally, nearly every website on the Internet that gives advice on memory gives prominence to mnemonics based on linking things with visual images. The majority say that bizarre images are better than mundane ones. Linking information using made up connections rather than real reasons should be a last resort, not your main memory technique. It risks confusing your understanding with a lot of alien and irrelevant associations. Use it only with totally meaningless, patternless material, and that is very hard to find. Bear in mind that the initial effectiveness of association using bizarre images is not a reliable guide to later effectiveness. Once you've been using wacky images for a while, the bizarre starts to become commonplace. It all becomes a jumble and now you have no way to use logic to distinguish right from wrong.