

Curiosity changes the brain to boost memory and learning

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Image 1. A curious child in Vietnam in 2010. Being curious means wanting to know more. People who are curious are also better at remembering things. Photo by: Wagner T. Cassimiro/Flickr

What happens inside our brains when something makes us curious? A science study came out in 2014 that might give us some answers.

The study asked people how curious they were to know the answer to a specific trivia question. One question that was asked was: "What does the term 'dinosaur' actually mean?"

After they heard the question, people were put in a magnetic resonance imaging (MRI) machine. An MRI machine measures brain activity. The participants saw the trivia question again, and were then shown the image of a person's face. After that, they were shown the answer to the trivia question, which was "terrible lizard" in the case of the dinosaur.

After the MRI scan, participants were given a pop quiz. They got quizzed about the answers to the trivia questions. They were also tested on how well they could recognize the faces shown during the scan.

The Curious Mind Is A Vortex For Information

We can learn a few things from this study. People who were curious about a question were better at learning the answer. They were even better at remembering the face, which had nothing to do with the question. So, the more curious you are, the better you are at remembering information, no matter the topic.

The MRI scan showed which parts of the brain were extra active when people got curious. One part of the brain that showed activity was the hippocampus, which helps the brain with memory. The study also found another part of the brain that becomes active. It was the part that makes people feel rewarded.

Motivations Matter

It can be hard to learn new things, especially if the topic is boring. That's why students need the right motivation. Jee Hyun Kim is a scientist who studies how different levels of curiosity and different motivations can affect memory and learning.

There are two types of motivation. Extrinsic motivation is when a person does something in order to get an outside reward or avoid a punishment. In this case, the motivation is coming from the outside. Intrinsic motivation is when a person does something because it is satisfying for them. In other words, this motivation comes from inside the person. Curiosity is one example of intrinsic motivation.

Fiona Kumfor is a scientist who studies how emotions affect memory. She said that when people are already self-motivated, they don't always need extrinsic motivation. But extrinsic motivation could work on people who are trying to learn something that they don't feel self-motivated about.

Stimulating Curiosity

Amy Reichelt is a psychology expert. She said that "stimulating curiosity is really important across all ages, from schools to the workplace and to elderly care." She said that curiosity is especially helpful to children who struggle at school.

Quiz

- 1 What effect does curiosity have on a person's memory?
- (A) It helps people remember what happened long ago.
 - (B) It makes it easier to remember information.
 - (C) It helps a person's short-term memory.
 - (D) It makes it easier to remember trivia.
- 2 According to the introduction [paragraphs 1-4], HOW did scientists learn about curiosity and the human brain?
- (A) They asked people to remember important events while they were in an MRI machine.
 - (B) They asked people questions while an MRI machine measured their brain activity.
 - (C) They gave people quizzes and used an MRI machine to score each of the tests.
 - (D) They gave people tests using an MRI machine that showed brain activity.

- 3 Read the selection from the section "The Curious Mind Is A Vortex For Information."

The study also found another part of the brain that becomes active. It was the part that makes people feel rewarded.

Which of the following words, if it replaced the word "rewarded" in the selection above, would CHANGE the meaning of the sentence?

- (A) satisfied
- (B) content
- (C) pleased
- (D) valued

- 4 Read the selection from the section "Motivations Matter."

Extrinsic motivation is when a person does something in order to get an outside reward or avoid a punishment. In this case, the motivation is coming from the outside.

Which word helps the reader understand the meaning of "extrinsic"?

- (A) punishment
- (B) outside
- (C) reward
- (D) avoid