There are three types of mental structures: The three types of knowing (know-that, know-how, and know-that-one) are all types of the cognitive mental structure, which, while essential do not define the whole of a learning experience.

Conative (the intent or desire to learn) and affective (feelings of excitement, boredom, satisfaction, etc.) mental structures are equally valuable to the learning experience. Educational events should include all three types of mental structures for optimal learning.

Many educators believe that students must be motivated and interested in order to learn, but recent research shows that motivation is just one part of the learning process. According to psychologist Robert Sternberg, there are three types of knowledge that are essential for effective learning: knowing that, knowing how, and knowing that one.

Knowing that involves the acquisition of information, such as facts or concepts. Knowing how involves the acquisition of skills, such as how to solve a problem or how to use a tool. Knowing that one involves the ability to recognize and utilize knowledge in new situations.

The ideal connected/aligned learning experience in the TIE theory, learning is defined as a process of increasing the complexity of a person's mental structure; whereas knowing is taken as cognitive mental structures that consist of beliefs that are true, right opinions, and capabilities for effective conduct. TIE theory predicts that when cognitive, conative, and affective structures are more completely connected (i.e. well-aligned), then complexity, strongnes, and wholeness are increased. When wholeness increases, flexibility is predicted to increase and vulnerability to forgetting is expected to decrease.

The three types of knowing are not mutually exclusive. We can know-that-one, know-how and know-that with respect to some object. These kinds of knowing may not be connected as illustrated. For example, a person's know-that could be disconnected from their know-how. A person could know-that-one without know-how or know-that. However, when kinds of knowing are connected as shown, then such knowing is whole, and expected to be less vulnerable to forgetting.

Although the ideal may not be reached with every complex task, it is a goal worth striving for. The challenge for education is to create conditions for each student to connect or align their individual affective, conative, and cognitive mental structures to as to strengthen these structures and make them whole. If (when) these structures are misaligned or disconnected within an individual, then such disconnectivity or conflict would weaken the mental structures that students form, leading to potentially negative consequences, such as students dropping out of school.

References


