

启发儿童智慧的奥秘29

As a result, experts think using the abacus as a tool for enlightening children yields twice the result with half the effort, shortening the amount of time required to get a good grasp of numbers. Moreover, the formation and development of the concept of numbers and arithmetic ability are important for the development of children's thinking ability. Plenty of evidences suggest that learning abacus and mental arithmetic is effective for enhancing children's thinking ability.

Iconic memory lasts longer during childhood

Su Wan Ting's motto:

The successful person looks for methods. The unsuccessful person looks for excuses.

Laziness is the root of all evil.

"Mind mapping," or in other words iconic memory is an important concept in abacus and mental arithmetic. "Iconic memory" is like taking photographs with sensory organs and mapping them in the brain--recording abstract matters using the special characteristics of the subjects or objects of the photographs and in turn build a strong memory. Generally speaking, iconic memory lasts longer during childhood and is rare in adulthood.

According to psychological research, this so-called memory is a person's ability to extract stored knowledge and experience under related circumstances. In other words, a person's ability to form new communication between temporal nerves in the left and right cerebral hemispheres under objective influence and bring about communication activities when stimulated accordingly. From a message theory perspective, the so-called memory is the process of input, processing, storage, and extraction and output of messages when needed.

The human brain is divided into left and right hemispheres; the left brain stores language-related information while the right brain stores pictorial images. Psychologists think that by memorizing information or concepts through language only, a person utilizes only half of his or her brain capacity. However, if the same information is memorized not just through the left brain's language, but also stored through the right brain's pictorial images, then a strong collocation is formed in the memory, making it easy to extract when needed in the future.

CMA founder Tai Chiang Ching points out every child who learns abacus and mental arithmetic has an abacus in his or her mind. By closing the eyes, the abacus appears. Upon hearing the numbers to be calculated, whether they are to be multiplied or divided, the abacus in the brain starts to calculate with the movement of the hands. From the surface, each child

looks much like a little pianist playing an imaginary piano, and not at all like he or she is manipulating the abacus.

The characteristic of iconic memory is that it is abstract and concrete at the same time, visual yet figural. The formation of clear images in children's brains is beneficial for strengthening memory image, especially since children's brains are like blank sheets of paper, capable of quickly and accurately absorbing new material. With longterm training, images become engraved in the brain to a point where they nearly turn into instinctive "habits." By that time, it is as though the abacus in the brain is portable and hence can be used anytime and anywhere.

According to psychological research, there are three types of memories-- instantaneous memory, short-term memory and long-term memory. For instantaneous memory and short-term memory, neurons are formed in the cerebrum in the course of memorization; in other words, related nerves are stimulated, building temporary connections. For long-term memory, repeated stimulation form secure connections between neurons.

Iconic memory effectively strengthens memory, especially during childhood, thus greatly increasing the brain's potential. Children's abacus and mental arithmetic training has this benefit.