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What's the secret of Mental Arithmetic for a Whizkid's brain?

The image of an abacus will appear on one's mind throughout the training of abacus mental arithmetic. This is known as "imagery memorisation."

The big abacus inside the brain

In general, people don't know much about abacus mental arithmetic. However, one can see that children who participate in competitions are just counting on their fingers to get the answers without a real abacus or electronic calculators. It's amazing that they can answer complicated addition, subtraction, multiplication and division questions with more than six digits of numbers in a few minutes. Those who calculated on electronic calculators are even slower than that.

What secret do they hold in their minds to perform this amazing mental arithmetic? Is it really through studying abacus and mental arithmetic? Could a child become smarter if he or she were to receive "serious training?" Can children whose school performance is not satisfactory improve their math significantly after receiving training in abacus mental arithmetic? Is it a miracle or is it reasonable?

If you ask children who have learned abacus mental arithmetic, "What's on your mind while performing mental arithmetic?" they might answer that they can see an abacus in their mind. When they hear questions from their teacher on addition, subtraction, multiplication and division, they can calculate on the abacus in their mind.

It sounds amazing but, according to scientific research, this is so called "imagery memorisation." That means people use visual receptors to receive an image and reflect it in the mind, and then use the "image of the object" to record abstract objects so as to achieve

the function of memory. Like taking a picture with a camera, the image is saved in their memory just like in computer storage.

Therefore, it's not really difficult to perform mental arithmetic. Everyone can strengthen his or her own brain through training and practicing. Besides, imagery memorisation is a method of memory that is highly assessed in the field of science. This memory, from a more technical point of view, is the process of message transmission, manufacturing and storage. An abacus and mental arithmetic teacher, Liu Shantang, in China said, "The features of imagery memorisation are both abstract and concrete, intuitive and formative. Forming a visible image in children's brains can be beneficial to enhancing their memory."

Tai Chiang Ching pointed out that "Repeatedly stimulating children with diagrams through learning abacus mental arithmetic" could effectively enlighten, train and enhance their memory. Thus, their brain could be developed to achieve higher levels of intelligence than others if they persist."

According to a survey on "imagery memorisation", conducted by scholars at an abacus mental arithmetic institute in China, children who learn abacus mental arithmetic can "see" an abacus in their mind clearly. One five-year-old boy said he could only see the image when he closed his eyes. When he closed his eyes and the abacus appeared in his mind, he then started to calculate the numbers while moving his fingers in the air as if he was a music conductor performing in a concert. In other words, when children learn abacus arithmetic and enter the phase of mental arithmetic, image memorisation is activated naturally and an abacus appears in their mind, which is called "image memorisation." Because of this amazing effect, we can see many whizkids in abacus mental arithmetic calculating numbers faster than electronic calculators. They can even answer 20 math questions using numbers of more than eight digits.

Tai Chiang Ching's teaching has also proved that, when children learn abacus mental arithmetic, they know how to utilise the function of imagery memorisation. Afterwards, they can also utilise the same

method of image memorisation for every subject in school, thus enhancing their concentration.

Thus, the method of image memorisation can help to enrich children's intelligence. That's the reason why children who learn abacus mental arithmetic become smarter.

Of course, they also have to learn it in through perseverance. Tai Chiang Ching said, "According to psychological study, the principle of a 'forgetting curve' means that the materials that have just been learned will be forgotten fast. It has to be learned for a while so it'll take a longer time to forget. In other words, in order to remember one thing for longer, you have to practise it consistently." Therefore, children must practise repeatedly even when they have learned how to use "image memorisation" to perform abacus mental arithmetic. Nevertheless, they need to practise more and review their progress repeatedly in order to maintain its effect.