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According to researchers' observations, those talented children all had special features, such as sensitive perception and observation; strong cognitive interest and curiosity to explore knowledge; broad but focused concentration, and excellent memory; creativity and quick thinking; self-confidence and strong willpower.

However, these intelligent children were not born that way. They fostered these abilities through learning abacus mental arithmetic. Thus, the learning of abacus mental arithmetic can enlighten children's intelligence, memory and potential, in addition to enhancing the development of abstract thinking. In general, abacus mental arithmetic teachers believe that the subject can help children's skills in terms of calculation and sensitivity in math, in addition to concentration, memory, patience, learning attitude, ability to work, adaptability, responsibility, creativity and thinking, etc.

We already know that most people are good with their right hands, so only the left-brain is fully developed. That means there is still 75% of the brain that has not been developed. The right brain is in charge of image, including the functions of painting, intuition, music, and space, etc. The left-brain, on the other hand, is in charge of language, text and logical thinking.

The concept of so-called "potential development" is that "if we can enhance our right brain's function and stimulate the interaction between the left and right brain, we can effectively develop the potentially uncultivated part of our brain." According to the "Theory of Right Brain Development" introduced by the Japanese medical professor Zenno Konpyuta in 1986, children utilise the function of "image" to calculate numbers on the abacus through images in their brains, and in this way their right brain, which controls image processing, is enhanced.

Another Japanese scholar, Hatta, studied the brains of children who were proficient in abacus mental arithmetic in 1985. In his conclusion, he stated that, while practicing abacus mental arithmetic, children's right brains play a major role. This has proven again that

practicing abacus mental arithmetic utilises the function of “image”, as controlled by the right brain. Another study from 1987 states that, besides learning mental arithmetic, this analogous effect also has a role in other scenarios. For example, two groups of children (one set who are proficient in abacus mental arithmetic and the other who are not) participated in an experiment with the same study conditions for a vocabulary test. The experimental result showed that the group of children who were proficient in abacus mental arithmetic used their left-brain. Later research showed that the left-brain plays a role in the function of image interpretation. On the other hand, the right brain plays a role in manipulating images. This study proved that the children who are proficient in abacus mental arithmetic can utilise the function of “image” using their right brain and the ability to interpret using their left-brain.

In 1989, Hatta conducted another related study that showed that children who are proficient in abacus mental arithmetic take a shorter time in numeral stimulation and manipulation, proving that their reactions are faster. Besides, he believed that children who are able to practise abacus using the function of image interpretation will pass at least a level 1 exam. Also, if they learn the improved method of “Two-handed Abacus Manipulation” created by Tai Chiang Ching, they can use both hands to manipulate the abacus to reach the effect of interaction and stimulation between the left and right sides of the brain.

When children begin to learn, parents or teachers shouldn’t force them, otherwise they will see negative effects. Thus, we must not consider the abacus as being “just an abacus” and deny its amazing benefits.

Learning abacus mental arithmetic helps children in school performance, because an abacus is not only a tool to children, but also an amazing toy like a “Rubik's cube.” Children can learn from the process of “playing with it,” in order to achieve their goals more effectively. Moreover, children can come to understand the concept of numbers in a faster, more flexible and increasingly effective way.

References:

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