



## MATHS EDUCATION REVOLUTION

**Dr. Shilpa Mathapathi<sup>1</sup>**

*<sup>1</sup>Principal, Sri.Murugha Rajendra Swamiji M.Ed. College, Sarswatipur, Kusnoor Road,  
Gulbarga,*



---

### ABSTRACT

Mathematics as a subject is indispensable in the development of any nation in respect to science, technology and also philosophy. The emerging trends like different method of teaching math for the attainment of effective teaching learning would make the process of mathematics education more effective to the learner. The present paper focuses on the basic concepts of math entrepreneurs like Abacus and Vedic Maths which are rapidly spreading in our country.

**KEYWORDS:** Abacus, Vedic Maths, Learning, Children, Learning Skills, Mind. 

---

### INTRODUCTION

In recent days we are confronted with information that must be organized systematically and interpreted to take decisions. Our routine life includes marketing, bill payment, banking etc. in which we need to be mathematically competent. To have all these done at ease and for a promising career, students must master the basic skills at an early age in math, science and technology. Today's parents have become aware of the need, importance and future scope of math learning. As a result, this has led to the revolution of supplementary math education entrepreneurs like ABACUS and VEDIC MATHS. Math

education entrepreneurs are rapidly spreading country wide and are multiplying in number at a high speed. The basic principle of this supplementary math education is to remove the math phobia from children's mind and make them enjoy solving problems.

Math entrepreneurs not only focus on the knowledge of mathematics but also in upgrading mental abilities of the child. They make the child able to think, reason out, solve and come to a conclusion aptly. Mathematics is not only useful academically but also in the personal development, as mathematics is used in our daily life. We can see its applications

either directly or indirectly in almost all the professions. Mathematics basically helps to be able to develop the ability to imagine various issues, so that we can think more clearly and our thought process becomes more logic based rather than just a hunch. Mathematics to be very simple, in our daily life helps us to think more with our mind, than with our heart.

### **ABACUS**

It is difficult to imagine counting without numbers, but there was a time when written numbers did not exist. The earliest counting device was the human hand and its fingers. Then, as larger quantities (larger than ten human-fingers could represent) were counted, various natural items like pebbles and twigs were used to help count. Merchants in those days not only needed a way to count goods they bought and sold, but also to calculate its costs. Until numbers were invented, counting devices were used to make everyday calculations. The abacus is one of many counting devices invented to help count large numbers.

Abacus math method of calculations is considered to be one of the fastest ways of calculations. An abacus has beads that slide on rods. It can be used to count, add, subtract, multiply and more. The most common abacus is split into two basic rows: the top row for the "5"s, and the bottom row for the "ones". There are two beads in the top row, and five beads in the bottom one. For example, 7 can be made by using one bead on the top row, and 2 beads from the bottom row, because  $5 + 2 = 7$ . Every column represents a different digit, such as Units, Tens, Hundreds, etc. Expert abacus users can sometimes do calculations faster than on a calculator, and can even use them to find the square root of whole numbers. The abacus has been around for thousands of years, and is still used in some parts of the world.

Usually, the left-side of the brain is used by an everyday human being. Science has proved that continuous use of abacus is able to develop the unused right-side of brain, and arouse the dormant or underutilized learning skills of children. In addition, math learning the abacus way improves concentration, listening ability, analysis and visulation skills thus enhancing children's general ability to learn, retain and recall. Motivation is something that pushes everyone to their endless limits. Once you have something to look upto, let your life take you up the toll. Abacus gives you motivation, self confidence and even better, makes you much more active, attentive and brilliant.

### **VEDIC MATHS**

Although abacus pedagogies seem to be riding the crest of the supplementary math education boom, Vedic mathematics which has its origin in ancient India, is also becoming increasingly popular. **Vedic Mathematics** is the name given to a supposedly ancient system of calculation which was "rediscovered" from the Vedas between 1911 and 1918 by Sri Bharati Krushna Tirthaji Maharaj (1884-1960). According to Tirthaji, all of Vedic mathematics is based on sixteen Sutras, or word-formulae. For example, "Vertically and Crosswise" is one of these Sutras. "Vedic Mathematics" refers to a technique of calculation based on a set of 16 Sutras, or aphorisms, as algorithms and their upa-sutras or corollaries derived from these Sutras. Its enthusiast's advance the claim that any mathematical problem can be solved mentally with these sutras. These formulae are intended to describe the way the mind naturally works, and are therefore supposed to be a great help in directing the student to the appropriate method of solution.

Perhaps the most striking feature of the Tirthaji system is its coherence. The whole system is interrelated and unified: the general multiplication method, for example, is easily reversed to allow one-line divisions, and the simple squaring method can be reversed to give one-line square roots. And, these are all easily understood. This unifying quality is very satisfying, it makes arithmetic easy and enjoyable, and it encourages innovation. Difficult arithmetic problems and huge sums can often be solved immediately by Tirthaji's methods. If you want to find the square of 45, you can employ the *Ekadhikena Purvena sutra* ("By one more than the one before"). The rule says since the first digit is 4 and the second one is 5, you will first have to multiply 4 (4 +1), that is 4 X 5, which is equal to 20 and then multiply 5 with 5, which is 25. Viola! The answer is 2025. Now, you can employ this method to multiply all numbers ending with 5. If you want to subtract 4679 from 10000, you can easily apply the *Nikhilam Navatashcaramam Dashatah sutra* ("All from 9 and the last from 10"). Each figure in 4679 is subtracted from 9 and the last figure is subtracted from 10, yielding 5321. Similarly, other *sutras* lay down such simple rules of calculation.

These striking and beautiful methods are a part of a system of arithmetic which Tirthaji claims to be far more methodical than the modern system. "Vedic" Mathematics is said to manifest the coherent and unified structure of arithmetic, and its methods are complementary, direct and easy. The simplicity

of the Tirthaji system means that calculations can be carried out mentally, though the methods can also be written down. There are many advantages in using a flexible, mental system. Pupils can invent their own methods; they are not limited to one method. This leads to more creative, interested and intelligent pupils.

Practitioners of this striking method of mathematical problem-solving opine that Vedic math is far more systematic, coherent and unified than the conventional system. It is a mental tool for calculation that encourages the development and use of intuition and innovation, while giving the student a lot of flexibility, fun and satisfaction.

## **CONCLUSION**

Teachers and Parents therefore need to be more enthusiastic and realistic to understand their role in motivating the children towards the importance of math and math education. We must ensure that, children should feel very comfortable at the entry point of learning supplementary math education, so that at ease children can learn, achieve and command over math. Whatever, child chooses to do in life; we can be certain that having a strong understanding of mathematics will open doors to a productive future.

## **REFERENCES**

1. <http://www.mathsisfun.com/numbers/abacus.html>
2. <http://www.abacusmaster.com/MyPage.aspx?p=why-abacus.htm>
3. [http://en.wikibooks.org/wiki/Vedic\\_Mathematics/What\\_is\\_Vedic\\_Mathematics%3F](http://en.wikibooks.org/wiki/Vedic_Mathematics/What_is_Vedic_Mathematics%3F)
4. [http://hinduism.about.com/od/vedicmaths/a/vedicmath\\_history\\_future.htm](http://hinduism.about.com/od/vedicmaths/a/vedicmath_history_future.htm)

