**11.2 Teaching of Mathematics Deserves a Systematic Approach**

Math helps us in developing better problem solving skills and built analytical and reasoning abilities. Analytical thinking refers to the ability of thinking critically about the world around us. Analytical and reasoning skills are important because they help us solve problems and look for solutions.

* Mathematics helps children make sense of the world around them and find logical meaning in the physical world.
* Through Mathematics children learn to understand their world in terms of numbers, shape and patterns.
* They learn to reason, connect ideas, and think logically with mathematical concepts.
* It is about connecting to and understanding the relationship in every aspect of life.

**Therefore teaching of Mathematics deserves a systematic approach.**

* The goal is to literate the students in Mathematics, so that they can be prepared for a world where the subject is growing fast and applied to a diverse number of fields.
* The teaching of the subject is truly effective when the teaching of it makes a major difference to the students’ outcome in the classroom. Therefore its teaching should be closely monitored.
* Re-orientation of the existing teacher/s in order to make them aware of pedagogy effective for the successful learning for his/her students.
* Persistent motivation through innovative ideas.
* Deterioration is maximum from class VI to VIII. It requires monitoring, guidance and motivation at this level.
* When these students are promoted to higher classes and appear in Board exams, usually fail to perform properly. Therefore, parents’ involvement is imperative if we intend to raise their performance bar.
* Students should be made aware that the practice is the ultimate key for success. It requires a daily routine practice for 2 hours at home. Thus, there arises a need for guidance to parents, an un-deniable fact that we usually fail to strive.
* Mathematics is a scoring subject. An average student with a little extra effort will be able to score more than 60% marks, and those perching at a higher level will have a better leap.
* Inception of Mathematics lab can be a good approach for motivational activities in lower classes for making the subject easy through practical work.
* Use of audio-visual CDs/DVDs (available in the market) at the time of teaching will improve the quality of teaching.
* In a Math lab use of internet by students and teachers will, for sure, enhance the power of understanding and learning of the subject.
* Two continuous periods club together twice a week.
* Allocate one more period for students of class XI and XII.
* Daily remedial classes for XI and XII class students.
* Conduct Math test every week in order to gauge the level of comprehension of every student and try to motivate everyone for a better performance next time.
* Make sure the participation of students in various inter-school competitions, such an exposure shall promote the competitive skills.
* Citation certificate to every student who scores 98% or more marks in weekly test.
* Citation certificate and clapping by students inside the class-room for those who score 100% in weekly tests. Introduce some better awards who score 100% in half-yearly and final exams. Distribution of awards, in assembly for excellent performance shall be a perfect motivational activity.
* Yearly academic performance of each student is required to be maintained for comparative study monitored by a core group of teachers, including the Math teacher/s.

**An effective Math teacher**

* An effective Math teacher is well aware of the capability of his/her students and motivates them at their existing level to learn more and acquire improved knowledge through persistent practice.
* An effective teacher is knowledgeable in the theory of learning of the subject.
* An effective teacher knows how the students learn the subject and its extent.
* An effective teacher has the understanding of concepts and utilizes multiple ways to represent and explain them.
* An effective teacher guides his students to adopt procedures those are easy and fluent in successfully solving the problems.
* An effective teacher encourages persistent practice for a purposeful learning experience.
* Effective teaching promotes the deep conceptual understanding and promotes the application of mathematical skills and concepts.
* Effective teaching is based on the previous knowledge of the subject.
* Effective teaching is a continuous learning process that enables the teacher develops through research.
* Different students have a different level of understanding. Misconceptions of different students can be judged through their class work/home work or through assessment and re-teach the material at their level of comprehension.
* The teaching of the subject is truly effective when the teaching of it makes a major difference to the students’ outcome in the classroom.