



MATHEMATICS - GATEWAY OF LEVERAGING PROBLEM SOLVING SKILL

P.Udaya* and Dr. V.Jyothi **

udayapbt@gmail.com , jyothi1807pbt@gmail.com

*Lecturer in Mathematics, SGS Arts College, Tirupati, **Correspondent & Head Mistress, Prabhath High School, Tirupati.

ABSTRACT

Education is a process of human enlightenment and empowerment. Recognizing the potentiality of education in the modern technological society Universalization of education with Right to education and quality education has taken place in the society.

“Mathematics is a way to settle in the mind a habit of reasoning”. Thus Mathematics is essentially a program of education which fosters higher order mental process of questioning, reasoning, analyzing, inductive and logical thinking. Hence the teaching of Mathematics attains utmost importance in any school curriculum. Mathematics is essential for everyone and is a part of the compulsory program for school education. Mathematics learning does not instill a feeling of comfort and confidence in children and adults. It is considered to be extremely difficult and only for a few. The fear of the subject pervades not only children but our entire society. This fear has to be removed by the effort in schools, colleges and teachers should empower children and make them feel capable of learning and doing Mathematics. Learning Mathematics does not mean scoring good marks in the subject. It develops competences like thinking logically and working systematically in their daily life. The Problem solving ability is the one of the essential abilities to be developed in every student. Mathematics courses offer great scope for the development of this ability. Problem solving ability is ranked as one of the most important objectives of teaching Mathematics. It is majorly depending upon intelligence reasoning ability and mathematical ability.

Key Words: Mathematics, Problem solving ability

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INTRODUCTION

In today's era of knowledge based quality of work force is more important than Quantity. In fact having a lower head count of skilled manpower is much better than a manpower whose larger portion is unemployable. Considering the present situation is this future holds for India and this is one of the biggest conundrums that we as a nation are ever going to face. Keeping the present scenario in view this paper has a positive attitude towards development of problem solving skill that must be done through education.

A person is said to be educated when he acquires knowledge, skills, attitudes etc. which

are product of life at a great cost of time and suffering. Education becomes a product only when it is used as assimilation of culture of any society and its transmission from one generation to another. In the present day world, scientific attitude, spirits of inquiry, habit of cooperation are accepted as desirable values. So it is the duty of education to inculcate these values in minds of the students and they are the main sources of leveraging the skills in developing their knowledge. All academic subjects must be dealing in this way to leverage their skills. Especially subjects like sciences which are very

much related to their real life should develop these skills.

So this paper depicts that Mathematics focus more than leveraging problem solving ability. The Problem solving ability is not only in Mathematics but also in their real life.

PROBLEM SOLVING SKILL:

A problem-solving skill helps us to determine the source of a problem and find an effective solution. Although problem-solving is often identified as its own separate skill, there are other related skills that contribute to this ability.

Some key problem-solving skills are:

- Active listening
- Analysis
- Research
- Creativity
- Communication
- Dependability
- Decision making
- Team-building

Problem-solving skills are important in every career at every level. As a result, effective problem solving may also require industry or job-specific technical skills.

These skills should be developed from childhood at early stage of student life.

MATHEMATICS:

Mathematics is the science and study of quality, structure, space, and change. Mathematicians seek out patterns, formulate new conjectures, and establish truth by rigorous deduction from appropriately chosen axioms and definitions.

The mathematician Benjamin Peirce called mathematics "the science that draws necessary conclusions". Albert Einstein, on the other hand, stated that "as far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality."

Through abstraction and logical reasoning mathematics evolved from counting, calculation, measurement, and the systematic study of the shapes and motions of physical objects. Practical mathematics has been a human activity for as far back as written records exists.

Today, mathematics is used throughout the world as an essential tool in many fields, including natural science, engineering, medicine, and the social sciences. Applied mathematics, the branch of mathematics concerned with application of mathematical knowledge to other fields, inspires and makes use of new mathematical discoveries and sometimes leads to the development of entirely new disciplines. Mathematicians also engage in pure mathematics, or mathematics for its own sake, without having any application in mind, although practical applications for what began as pure mathematics are often discovered later.

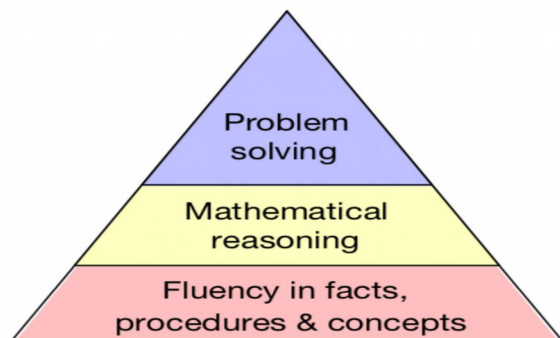
MATHEMATICS AS THE GATEWAY FOR LEVERAGING PROBLEM SOLVING SKILL:

Education is the fundamental enabler of the knowledge economy. Well educated and skilled people are essential for creating, sharing, disseminating and using knowledge effectively. The knowledge economy of the twenty first century demands a set of new competencies which includes not only ICT skills but also such soft skills as problem solving, analytical skills, group learning, working in a team-based environment, and effective communication. These skills are more important for all workers. Fostering such skills requires an education system that is flexible. Basic education should provide the foundation for learning, and secondary and tertiary education should develop core skills that encourage creative and critical thinking. In addition it is necessary to develop an effective lifelong learning system to provide continuing education and skill upgrading to persons after they have left formal education in order to provide the changing skills necessary to be competitive in the new global economy.

The importance of problem-solving in learning mathematics comes from the belief that mathematics is primarily about reasoning, not memorization. Problem-solving allows students to develop understanding and explain the processes used to arrive at solutions, rather than remembering and applying a set of procedures.

The steps we follow in Mathematics to solve a problem and the Problem solving steps are correlated. So by developing the problem solving skills in education from early student life in the subjects like Mathematics will develop individual

academic performance and life time achievement also.



CONCLUSION:

A strong education system is necessary precondition to underpinning India's efforts to enhance further the productivity and efficiency of its economy. India also possesses a large pool of highly educated and vocationally qualified people who are making their mark domestically and globally in science, engineering, IT, and research and development. But they make up only a small fraction of the population. To create a sustained cadre of "Knowledge workers," India will need to develop a more relevant educational system and reorient classroom teaching and learning objectives starting from primary school. The new system would focus on learning rather than on schooling and promote creativity. It would also improve the quality of tertiary education and provide opportunities for lifelong learning. All these will happen by focusing on sciences like Mathematics to leverage problem solving abilities.

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