

## TEACHING AND LEARNING MATHEMATICS THROUGH ENGLISH

PADMA RAGAM S<sup>1\*</sup>, RADHIKA V<sup>2</sup>, SADAVEL K<sup>1</sup> AND LAKSHMINARAYANA V<sup>3</sup>

<sup>1</sup>Assistant Professor, Gr-I, Aarupadai Veedu Institute of Technology, Chennai, India

<sup>2</sup>Assistant Professor, Gr-II, Aarupadai Veedu Institute of Technology, India

<sup>3</sup>Principal, Aarupadai Veedu Institute of Technology, Chennai, India

(Received 17 June, 2017; accepted 22 August, 2017)

**Key words:** Mathematics, Problems, Calculations, Language, Difficulties in learning

### ABSTRACT

---

---

“Mathematics is the queen of the sciences” – Carl Fiedrich Gauss

This paper mainly focuses on problems in understanding Mathematics through English for the learners from rural areas to pursue programmes in engineering. Mathematics is the mother of all subjects. It is considered as an important subject in all the professional colleges. It is very difficult to understand engineering Mathematics. When students get the Maths question paper in English, instruction is not the problem.. But if it comes with the combination of syntax and technical vocabulary, it creates problem. Word problems involving implication in English are the hardest for the students. This paper confines the difficulties of the students in learning engineering Mathematics.

---

---

### INTRODUCTION

In the process, communicating in English is difficult for the learning community owing to their inveterate habit of speaking in their respective mother tongue. Mathematics discourses as a whole causing difficulties and experienced with understanding. The grammar topics like prepositions and word order in English causing problems in learning process. The State Board syllabus is not framed for the learner's real talent. Educational system has applied no real intelligence in Mathematic subject even at school level. Engineering Mathematics is difficult for the students coming from rural areas (Agnihotri and Khanna, 1998). They lose their fluency, because of vocabulary in English.

Students are given better chance to enter into engineering college. But the syllabus of State Board is unpleasant in quality and the Mathematics is not designed up to the engineering level. If the curriculum in State Board also designed in quality like central board, then everyone will benefit and get engineering education qualitatively. Otherwise, Students from rural and state board cannot

understand Mathematics subject in English. The Mathematical symbols and figures are used by everyone in their lives (Bloomfield, 1914).

Most of the engineers use Mathematics to design and calculate. So it is mandatory to know Mathematical calculations and formulas in English. Communication and calculations are two sides of learning Mathematics. The students assume that learning Mathematics is enough only for securing good marks. It is not so. Communicating in English gives preference for getting jobs and confidence for solving the problems. But communication only can take them to highest positions even if they have sufficient knowledge in Mathematics (Noam, 1975).

#### The reasons for difficulties in Mathematics

1. Opportunities are less to use English while learning Maths.
2. Lack of self confidence in learning.
3. Education system and syllabus and curriculum are only result oriented.
4. Lack of communication skill.

5. Lack of English knowledge.
6. Lack of knowledge in technical terms.
7. The curriculum should be well designed and updated regularly.
8. Orientation programmes should be conducted now and then.

### Importance of English in Mathematics

Albert Einstein stated, "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 the reality".

Students belonging to umpteen communities have started pursuing higher studies with optimistic outlook. The process of globalization is paving way for the educated to see the outside world. English being a global language becomes a necessary language in learning process. Learning English language is not merely to communicate. In English medium schools, the students are supposed to learn all subjects in English except their regional languages (Radhika, 2014). The students should score the highest marks in English as well as the other subjects such as Mathematics, Physics and Chemistry (PCM) to enter into the professional colleges. For example Mathematical calculations help the Mechanical engineers to design their project material or machines, the civil engineers to plan for slopes, retaining walls, and tunnels and the structural engineers to design and assess major projects such as bridges or dams. Having knowledge in their core subjects is not only enough to achieve their goals but also to develop communication skill.

Learning English language dispels ignorance and helps to get scientific temper. All higher education requires fluency in English only. It is a key factor for professional success and to be placed in good organizations with handsome salaries. The students should be motivated to face the competitive examinations (Stein and Smith, 2011; [www.scholastic.com/teachers/article](http://www.scholastic.com/teachers/article); [www.google.com](http://www.google.com)).

### SUGGESTIONS

1. Practicable opportunities should be provided to learn engineering Mathematics interestingly.
2. Placement training, attitude and aptitude training, group discussions and Soft skills training must be introduced.

3. The government and the management should encourage the faculty members to teach Mathematical terms in English.

4. Aptitude tests should be conducted now and then.

5. Strenuous practice should be given in calculations through English.

6. Learners should be compelled to use English while calculating.

7. Eminent speakers must be invited to give motivational lectures.

### CONCLUSION

The subjects like Maths, Physics and Chemistry are given priority, when they take admission in engineering colleges. The Mathematics subject is given higher preference in all the engineering colleges. The marks in Physics and Chemistry subjects are divided by four but the marks in Mathematics are divided by two only. Since the medium of instruction is English in most of the colleges and English is considered as an International language, it becomes mandatory for the students to learn English. As Mathematics is taught through English in professional colleges, English must be given importance. The Calculations, Trigonometry and Algorithm can be understood easily through English. So English should be given priority in the professional colleges to learn Mathematics and the other core subjects. The teacher should be updated his knowledge in current trends and Mathematical terms to teach effectively.

### REFERENCES

- Agnihotri, R.K. and Khanna, A.L. (1998). English language teaching in India: Issues and Innovations. New Delhi: Atlantic Publisher.
- Bloomfield, L. (1914). An introduction to the study of language, Benjamin, Amsterdam, The Netherlands .
- Noam, C. (1975). Reflections of language. Pantheon Book Publishers, New York, USA.
- Radhika, V. (2014). Interference of mother tongue in learning English as second language.
- Stein, M.K. and Smith, M.S. (2011). Practices for orchestrating productive mathematics discussions, National Council of Teachers of Mathematics, Reston, VA.
- [www.scholastic.com/teachers/article](http://www.scholastic.com/teachers/article)
- [www.google.com](http://www.google.com)