



# The Importance of using the English Language in Physics and Mathematics

Seminar Paper\*

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**Abstract:** English has an important role in the world as an international language. English language is one tool to establish our view point. We can make use of English to promote our knowledge. Today, the role of English is considered very important in the field of Physics and Mathematics. There are many alphabets used for known and unknown quantities in Physics and Mathematics as, in the triangle ABC,  $A = 90^\circ$ ,  $B = 45^\circ$ ,  $C = ?$ . There are many alphabetic signs as, Alpha ( $\alpha$ ), Beta ( $\beta$ ), Theta ( $\theta$ ) used in Physics and Mathematics. English defines the words accurately to all the subjects. Therefore English is the most standard language in education and other subjects.

**Keywords:** English language, Physics and Mathematics, international and standard language, importance of English language.

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## 1. Introduction

English language is the most important language in present world, it is known by everyone that in our society and importance of English in daily life. English is in non spoken countries as well importance in India increases day by day. It is known that importance of English in communication is very important day by day. English language plays a major role in our social, political, economic and education system. Today English language is used in internet with the help of internet all the countries of the world are interconnected.

English is the international language, which is spoken all over the world. Today people speak English to deliver their point of view. Language is a medium in a communication system. In India several languages are used; being one of them English has got a significant place in Indian society. Gradually, it is a language in official communication. Language is a tool for every person. English is definitely a widely spoken language. English is also the key to the science world.

There are many words used in Mathematics and Physics of the English language that already familiar to students in everyday life. The language of Mathematics and Physics are the system used by mathematicians and Physicians to communicate the ideas of both subjects among themselves. These languages consist of a substrate of English language technical terms and mathematical and physical discourse supplemented by a highly specialized symbolic notation for mathematical and physical formulas. In Mathematics classroom some special symbols and expressions and terms use in technical ways. Other issues involved language factors in solving word problems, and the added challenges for Mathematics students who are learners of as an additional language.

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## 2. English as an Additional Language or Second Language

In India students learn English as a second language because English is a link language. As a link language English is related with all subjects. It has a special identity in the education. In this era of Globalization and Information and Technology; English has a special and predominant role in the communicative sphere of the world. In India, students study in both medium Hindi and English. In Hindi medium colleges, students are studied in Hindi, but Physics and Mathematical terms used in English, because English language is correctly defined every term of Physics and Mathematics.

In India, English language is used as a subject and also used as an instructional language. Teachers give the instruction to students in Mathematics and Physics classroom, because both teacher and students are used English for the terms of Mathematics and Physics. Whenever the questions of Mathematics and Physics are asked to student with the Hindi terms, sometimes they do not understand then, it is asked in English they easily understand and explain very well. That's why it is told that English is a dominant language. As an additional language English language is taught in Hindi medium schools, colleges and universities in India. English language is big factor that increased to interest area and academic performance of the students in Mathematics and Physics.

## 3. Implementation of English Language

There are many languages spoken in India, English is being one of them. English has got a significant role in the language of Computer and Internet. In Mathematics and Physics both are related with English. English is medium to communicate our ideas. There are many alphabets used for known and unknown quantities in Physics and Mathematics as, in the triangle ABC,  $A = 90^\circ$ ,  $B = 45^\circ$ ,  $C = ?$ . There are many alphabetic signs as, Alpha ( $\alpha$ ), Beta ( $\beta$ ), Theta ( $\theta$ ), Delta ( $\delta$ ) used in Physics and Mathematics. Such parameters and units are denoted by English alphabets as, cm (centimetre), m (metre), kilometre (km) for using length, l (liter), ml (millilitre) for using capacity, kg (kilogram) for using weight, T (Time), J (Joule) for using work and energy, v (velocity) etc. The grammar of language is used for Mathematical and physical discourse is essentially the grammar of English language.

Such mathematical formulas can be used as a part of speech in English language phrase. In careful speech it can be pronounced very clearly  $\geq$  as is greater than or equal than to and it is used as a verb. In Mathematics and Physics many formulas are vocalized which means speech aloud. For example, the expression  $f(x)$  is pronounced in English eff-of-eks. The expression  $dy/dt$  is pronounced in English dee-why-by-eks. The equation  $E = mc^2$  is vocalized ee-equal-em-see-square,  $F=ma$  is vocalized ef-equal-em-a. English as a standard language, it enhances the understanding of Mathematics and Physics. Mathematically we usually use three dimensional vectors over the three Cartesian axes x, y and z. this three alphabets are written on a sheet of graph paper, x is across as usual and y up the paper. Positive z then comes out of the paper. In plotting graphs, x, y, z are used as three cartisan axes. The retionship between two variables x and y is a straight line, a linear relationship, as  $y = mx + c$ . The variable m is the gradient and c is a constant which gives the intercept.

English language represents a significant milestone in the development of the education in India with reference to the implementation of teaching English in Science and Mathematics from level primary to University level would be beneficial to some extent for students that wish to pursue the education. It would be especially useful to those that wish to pursue area of study in the Mathematics and Science. Mostly mathematicians and physicists are the foreigners, so they give their ideas and theories in English language. And also their textbooks are available in English language. Therefore, it is need that the teacher should have the proficiency in English. Thus Teacher can easily teach Mathematics and Physics to the students.

## 4. Conclusion

To sum up, English is a standard language is spoken all over the world. Therefore, it is become a part of our social, political, economic and education system. Language is a tool for our communication system. All the standard textbooks are available in English language. English is also predominant language in Hindi medium schools and colleges in India. English is used as a second language and as an instructional language in India. Therefore, it can be said that English language is very important for every student, whether is primary level or secondary or higher level of education system. In this globalized era English plays a significant role in the world. Mathematicians also need the knowledge of English in their work. There are a lot of formulas and mathematical expressions which are related to English. English is often called the language of the universe; mathematics is fundamental to our understanding of the world and, as such, is vitally important in a modern society such as ours. There are many alphabets and terms of English used for symbols, variables, vectors etc. of Mathematics and Physics. The result of the study shows that English language is very important for Mathematics and Physics.

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