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Mathematics and its Educational Value

Ravinder, Lecturer in Mathematics, GGSSS, Naguran

Mathematics is very important like other subjects to the extant to which it supports and contributes to the purpose of general education. The mathematics referred to in this paper designates that subject matter and training which is important to entire school population as distinguished from the special mathematics needed for professional and technical education.

India has contributed a lot in the field of mathematics. Aryabhatt, Bhasakarcharya, Srinivasan Ramanujan are most prominent mathematicians in Indian history. Their contribution is immortal. If we reflect on the history of curriculum in general than mathematics (geometry and algebra) were two of the seven liberal arts in Greek as well as in medieval times. This historic roll supports the notion that mathematics has provided the mental discipline required for other disciplines.

From many years mathematics teacher has included frequent articles devoted to role of mathematics in general education. Mathematical literacy is a crucial attribute of individuals living more effective lives as constructive, concern and reflective citizens. Mathematical literacy is taken to include basic computational skills, quantitative reasoning etc.

Mathematics is applied in various fields and disciplines i.e. mathematical concepts and procedures are used to solve problems in science, engineering, economics. (For example, the understanding of complex numbers is a perquisite to learn many concepts in electronics). The complexity of those deserved to be addressed. In some curricula, mathematics is offered independently to support the study of other school subjects as an' instrumental subject, and in other curricula, integrated courses which combine mathematics and other field are offered. From the beginning of the American high school to the present time, the teachers of mathematics have insisted that the learner may be benefited greatly by the study of their subjects. However, the pupil population of the early high school differed from the present day one in that its members belonged to a either small and select group. The boys came to school to prepare themselves for leadership in the community. They planned to be ministers, doctors or engineers, which naturally made mathematics an important part of their education. The girls, not to be outdone, preferred the same kind of education. Pupils took school work seriously. Neither pupils nor parents were critical about the courses prepared and recommended by the teachers.

With the growth of the schools, the high school population kept on increasing and toward the end of the nineteenth century approximately half a million pupils were enrolled. Now they formed no longer a select group, and different widely in interest, industry and ability. Many "took" mathematics who were not interested and considered it a useless study. Many others were not above to do the work prescribed in the mathematical courses. This part of the school population kept on increasing and created serious problems for the teachers and administrators. The question was raised whether schools should insist that these pupils take the mathematics presented in the courses in algebra and demonstrative geometry. If not, the

teachers faced the problem of formulating a more suitable curriculum, one more attractive and more profitable.

Effective way of building mental discipline and encourages logical reasoning and mental rigor. In addition, mathematical knowledge plays a crucial role in understanding the contents of other school subjects such as science, social studies and even music and art.

The purpose of this TSG is to investigate the role of mathematics in the overall curriculum. Due to the wide range of possible issues that could be addressed in this TSG, we plan-to organize the papers and accompanying discussions into three key stands.

Firstly, we ask the question: why does mathematics hold such an important and unique place among other subjects? That is, what is .the significance of mathematics in the overall school curriculum? As a point of departure we offer a few thoughts on why mathematics should be treated as an important subject in overall curriculum.

Thirdly, we may wish to reflect on the number of hours (proportion of hours) and/or courses allocated to mathematics when compared to the other school subject in the curriculum of each country. In addition to this quantitative analysis, information about the qualitative description of school mathematics in relation to other subject also needs to be gathered. Although this comparison won't show us the whole picture of why different countries attach the importance that they do not mathematics, the comparison may nonetheless provoke further discussion.

In contemporary education, mathematics education is the practice of teaching and learning mathematics, alongwith the associated scholarly research.

Researchers in mathematics education are primarily concerned with the tools, methods and approaches that facilitate practice or the study of practice; however, mathematics education research, known on the continent of Europe as the didactics or pedagogy of mathematics, has developed into an extensive field of study, with its own concepts, theories, methods, national and international organizations, conferences and literature. This article describes some of the history, Elementary mathematics was part of the education system in most ancient civilizations, including Ancient Greece, the Roman empire, Vedic society and ancient Egypt. In most cases, a formal education was only available to male children with a sufficiently high status, wealth or caste.

The first mathematics text books to be written in English and French were published by Robert Recorder, beginning with the Ground of Arts in 1540. However, there are many different writings or mathematics and mathematics methodology that date back to 1800 BCE. These were mostly located in Mesopotamia where the Sumerians were practicing multiplication and division. There are also artifacts demonstrating their own methodology for solving equations like the quadratic equation.

In the Renaissance, the academic status of mathematics declined, because it was strongly associated with trade and commerce. Although it continued to be taught in European universities, it was seen as subservient to the study of Natural, Metaphysical and Moral Philosophy.

This trend was somewhat reversed in the seventeenth century, with the University of Aberdeen creating a Mathematics Chair in 1613 followed by the Chair in Geometry being revolution led to an enormous increase in urban populations. Basic numeracy skills, such as the ability to tell the time, court money and out simple arithmetic, became essential in this new urban lifestyle. Within the new public education systems, mathematics became a central part of the curriculum from clearly age.

By the twentieth century, mathematics was part of the core curriculum in all developed countries.

During the twentieth century, mathematics education was established as an independent field of research. Here are some of the main events in this development.

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs and habits. Educational methods include storytelling, discussion, education teaching, training and directed research. Education frequently takes place under the guidance of educators, but learner may also educate themselves. Education can take place in formal or informal setting and any experience that has a formative effect on the way one thinks, feels, or acts may be considered educational. The methodology of teaching is called pedagogy.

Education is commonly divided formally into such stages as preschool or kindergarten, primary school, secondary school and then college, university, or apprenticeship sequences in different countries. Sometimes a class may be taught at an earlier age than typical as a special or honors class.

Elementary mathematics in most countries is taught in a similar fashion, though there are differences. In the United States fractions are typically taught starting from 1st grade, where as in other countries they are usually taught later, since the metric system does not require young children familiar with them. Most countries tend to cover fewer topics in greater depth than in the United States. K-12 topics include elementary arithmetic (addition, subtraction, multiplication, and division) and pre-algebra.

In most of the U.S., algebra, geometry and analysis (pre-calculus and calculus) are integrated, with topics from all branches of mathematics studies every year. Students in many countries choose an option or predefined course of study rather than choosing a la carte as in the United States. Students in science-oriented curricula typically study differential calculus and trigonometry at age 16-17 and integral calculus, complex numbers, analytic geometry, exponential and logarithmic functions and infinite series in their final year of secondary school. Probability and statistics may be taught in secondary education classes.

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