



# Understanding the Effectiveness of Future of Mathematics towards Development of Society

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**Abstract:** Mathematics, believe it or not, is evolving. Or, at the very least, the way we use arithmetic in our daily lives is changing. The method you used to learn math will not provide your children with the mathematical abilities they will need in the twenty-first century. Mathematics is a collection of knowledge and practice derived from the contributions of intellectuals throughout the past and around the world. It enables us to comprehend patterns, quantify relationships, and forecast the future. Math helps us comprehend the world, and the world helps us understand math. The entire globe is linked. Everyday mathematics demonstrates these links and possibilities. The sooner young learners can put these talents into practise, the more probable it is that we will continue to be an innovative culture and economy.

**Index Terms** - Mathematics, Future, Effectiveness, Understanding, Research, Possibility

## 1.1 Introduction:

Mathematics, believe it or not, is evolving. Or, at the very least, the way we use arithmetic in our daily lives is changing. The method you used to learn math will not provide your children with the mathematical abilities they will need in the twenty-first century. Mathematics is a collection of knowledge and practice derived from the contributions of intellectuals throughout the past and around the world. It enables us to comprehend patterns, quantify relationships, and forecast the future. Math helps us comprehend the world, and the world helps us understand math. The entire globe is linked. Everyday mathematics demonstrates these links and possibilities. The sooner young learners can put these talents into practise, the more probable it is that we will continue to be an innovative culture and economy.

Algebra can explain how rapidly water becomes contaminated and how many individuals in a third-world country who consume that water each year may become ill. Geometry may be used to explain the science behind architecture all throughout the world. Statistics and probability may be used to estimate the death tolls from earthquakes, conflicts, and other natural disasters all over the world. It can also forecast revenues, the spread of ideas, and the repopulation of previously endangered creatures. Math is an extremely effective instrument for global knowledge and communication. Students can use it to make sense of the world and solve difficult and real-world challenges. Rethinking arithmetic in a global context provides students with a new perspective on traditional topics, making math more relevant and meaningful to them.

For students to function in a global environment, math curriculum must assist them in achieving global competence, which includes comprehending other views and world situations, recognising that issues are interconnected globally, and communicating and responding appropriately. In math, this entails rethinking traditional topics in novel ways and demonstrating to pupils how the world is made up of circumstances, events, and phenomena that can be sorted out with the correct math tools.

Any global contexts employed in math should contribute to a better understanding of both the math and the world. To accomplish this, teachers must remain focused on teaching solid, sound, rigorous, and relevant math subject while employing global examples that work. For example, students will find little value in answering a word problem in Europe using kilometres rather than miles when devices can readily translate the values. It contributes nothing to a more comprehensive understanding of the world.

## 1.2 Effectiveness of Future of Mathematics towards Society:

Math is frequently studied as a pure science, but it is commonly applied to various areas that go far beyond physics and engineering. Studying exponential growth and decay (the pace at which things develop and die) in the context of population increase, disease spread, or water contamination, for example, is important. It not only provides students with a real-world context in which to apply math, but it also helps them understand global phenomena – for example, they may hear about a disease spreading in India, but they won't be able to make the connection unless they understand how quickly something like cholera can spread in a dense population. In fact, incorporating a study of development and decay into lower level algebra – it's most commonly found in algebra II – may provide more kids with the opportunity to study it in a global context than reserving it for upper level math that not all students take.

In a similar manner, while statistics and probability are important for understanding many of the world's events, they are usually kept for students with a higher level of arithmetic, if they are studied at all in high school. A globally focused math programme, on the other hand, must consider statistics because many global events and phenomena are unpredictable and can only be comprehended through statistical models. Natural catastrophes such as earthquakes and tsunamis can be used to estimate the number of deaths, as well as the amount of aid that will be needed in the aftermath and the number of people who will be displaced, using probability and statistics.

Understanding the globe also entails respecting other civilizations' contributions. In algebra, students may benefit by learning numbers systems from various cultures, such as the Mayan and Babylonian systems, which are based on the base 20 and base 60 systems, respectively. They provided us concepts like 360 degrees in a circle and the division of the hour into 60 minute intervals that are still useful in modern math systems, and adding this type of information can help students appreciate the contributions other civilizations have made to our knowledge of math.

Students will be able to build global connections using arithmetic and create a math model that reflects the complexity and interconnectedness of global circumstances and events if they are provided the correct content and context for a globally infused math curriculum. They will be able to use arithmetic strategies to solve problems as well as develop and explain the applicability of a given math idea in a broader context. And they'll be able to utilise the appropriate math tools in the appropriate settings, as well as explain why a math model they chose is appropriate. More importantly, students will be able to analyse data to develop defensible conclusions, as well as apply mathematical knowledge and abilities in real-life situations.

By the time a student graduates from high school, he or she should be able to utilise mathematical tools and techniques to investigate problems and opportunities in the real world, as well as develop and justify conclusions and actions using mathematical models.

Human life is dependent on the cooperation of others because man is a social animal. Working in a group improves social skills.

The capacity to collaborate on things with others can help you develop a variety of social skills. Because of the give-and-take process, mathematical knowledge is required to live a social life. Business and industry also rely on mathematical understanding. It is only owing to mathematics that the social structure has changed in relation to modern facilities such as modes of transportation, methods of communication, and growth in the field of science and technology. As a result, mathematics has played a vital role in not only understanding but also developing society.

Mathematics is a natural way of conducting study and analysing problems in order to find a solution. Mathematics is a fundamental subject that is taught at all levels. It can't be skipped over. The following are some of the essential roles of mathematics in society:

1. **The significance of mathematics in scientific research:** The conduct of studies and scientific research necessitates many skills in sports that aid in the development of studies and progress, for example, the study of physics or chemistry is heavily reliant on mathematics, including mathematical skills and mathematical matters, and lies the role of mathematics in the accuracy of conducting social research through the statistics branch.
2. **The role of mathematics in the formation of social values:** It aids in the formation and refining of personality through organisation and correctness, research, investigation, and study, and it aids in the detection.
3. **The significance of mathematics in the formation of culture:** Mathematics, like other sciences, has an impact on the evolution of civilisation. The achievements of scientists and innovators, particularly athletes, are critical to Cultural Revolution. Nobody can deny the importance of Arab and Muslim scientists in the advancement of civilizations. Muhammad ibn Musa al-Khwarizmi was a renowned mathematician who developed the theory of algebra and the laws of arithmetic, which aided the development of modern science and technology.
4. **The Importance of Mathematics in Professional Development:** The primary goal of education is to assist youngsters in earning a living and becoming self-sufficient. Mathematics is the most critical subject for achieving this goal. It assists students in preparing for technical and other vocations where mathematics is used, such as engineering, architecture, accountancy, banking, business, and even agriculture, tailoring, carpentry, surveying, and office work.
5. **The Importance of Math in Moral Development:** Morality is a vital aspect of life that is influenced by time, people, situations, and places. Mathematics, as a discipline, can contribute to a student's moral growth because mathematical knowledge aids in the formation of character and personality. It cultivates all of the qualities that a person of strong character must have. Cleanliness and realism are attributes that a child acquires.
6. **The Importance of Mathematics in Economic Development:** The relevance of mathematics in modern society cannot be overstated. It serves as a crucial foundation for economic knowledge. It is required in many sectors of ICT, including physical sciences, technology, business, financial services, and many others. It is also gaining traction in biology, medicine, and a variety of social sciences. The majority of scientific and commercial research and development is based on mathematics. Many complex systems and structures in the modern world can no longer be comprehended without the use of mathematics, and much of the design and control of high-tech systems is now based on mathematical inputs and outputs.
7. **The Importance of Mathematics in the Education System's Development:** Mathematics has a significant part in moulding young people's future prospects in the educational system. Education is meant to develop an individual, to make her or him self-sufficient, wise, and a social contributor, and almost every subject we study in school and university requires us to study mathematics, such as physics, chemistry, life sciences, economics, business and accounting, geography, history,

psychology, architecture, design, computations, statistics, and commerce. Mathematical expertise is also required in occupations such as tailoring, carpeting, cooking, beauticians, sportspersons, and farming. Basic mathematical ideas are used by a variety of occupations, including conductors, shopkeepers, drivers, musicians, magicians, and cashiers.

### 1.3 Conclusion:

It's critical to consider how math helps students make sense of the world, what in a student's experience allows them to use math to contribute to the global community, and what math content students require to solve complex problems in a complex world when discussing a global curriculum through math. The next step is to locate actual, relevant, and noteworthy examples of global or cultural contexts that will help to enhance, deepen, and illustrate a mathematical understanding. These skills will be required of citizens in the global period, and the educational system should prepare pupils to be proficient in them.

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