

# Influence of mathematics in our daily lives

## Abstract

Life always demands the contemporary requirement for a good mathematical knowledge. Mathematics is the very important tool for our life and in every research perspective that supports all-round for the personal growth and development. Mathematics importantly plays a role where pupils influenced and get better results in education sector but for the high moral education they must know about the knowledge in special branch of mathematics. Mathematics makes life easier and in orderly to prevent from chaos and confusions. Certain things, qualities and abilities promoted by mathematics are problem solving, creativity, critical thinking and power of reasoning and to communicate effectively are also the special skills. Many applications of mathematics we can see in the nature, industries, banking sectors, technology especially in research fields etc. Mathematics also used in genetics and in statistical analysis we used hypothesis test in genetics. To maintain the quality of education we developed the interest in mathematics. Because mathematics is the key to success in every field and we always used in daily routine in our life. In this article we focused for the sake of humans the importance and use of mathematics. We set the questionnaires to know the skills of pupils and from a short survey we conclude that how people get interest in mathematics.

**Keywords:** mathematics, applications of mathematics, mathematical research, daily routine, importance of mathematics, statistical analysis

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## Introduction

Since 1995, the international survey which already has taken place by the international TIMSS (Trends in International Mathematics and Science Study) in every four years investigates the outcomes of the educational mathematics and in the education of natural science from schooling to university levels from different peoples. Many countries take part in the field of research. There are some mathematics teachers as well as basic sciences teachers used the outcomes of these surveys in the field of education for the sake of students. The Czech Republic participated in these types of surveys in different years like 1995, 2007 and 2011.<sup>1,2</sup> A survey was organized in the past years from 2005 to 2007 at selected schools. As they examined the relationship of the students towards the individual subject and also investigated that the popularity of the subject, mathematics, by this survey. By the ranking based on the terms of popularity among students and also in terms of marks they obtained, the mathematics was on the last number. Also in ranking of most difficult subject, mathematics was assigned as second place. However, it was designated third position in terms of its importance.<sup>3</sup> Also in the year from 2006 to 2007 in Olomouc, under the study of a grant STM-Morava at Palacký University, elementary level to influence the interest of the students about mathematics.<sup>4</sup>

## People's association to mathematics (a short survey)

For finding some clues or reasoning about taking interest in mathematics, you have to use some methodology to conclude your results or statement in the favor or opposing thing on the basis of your outcomings. Here I used some short surveys to get the opinions of people around me whether they like mathematics or dislikes. Below is the some sample questions I used in my short survey to get the outcomes to conclude the answer arrived in my mind that why mathematics is so important in our daily life.

Few of my survey question are:

- I like mathematics
- I think learning mathematics will help me in my daily life
- I need mathematics to learn other subjects
- I usually do well in mathematics
- Mathematics is needed in designing practically everything.
- In mathematics you can be creative and discover things by yourself.
- Mathematics is not important in everyday life.
- Mathematics makes me feel uneasy and confused.
- I have never liked mathematics, and it is my most dreaded subject.

Education is a beacon light, which throws light even in the darkness. To lead the life of a liberally educated person it is essential to think in mathematical terms. Mathematics is very functional in all aspects and those people who do not get it and fear from it always left behind in the screen of world's achievement and development.

For this, Ibn Khaldun said:

*"Education should be started with maths. For it forms well-designed brains that are able to reason right. It is even admitted that those who have studied maths during their childhood should be trusted, for they have acquired solid bases for arguing which become to them a sort of second nature" (Ibn Khaldun).<sup>5</sup>*

What is mathematics really like?

The literal meaning of maths is to bring things in numerical order.

- It is a numeric distribution of things according to needs.

- ii. It is an accountability of what we have done in our life.
- iii. It is a judgment of relations in a numeric way.

Mathematics helps us to understand the order and relation of structures that includes measurements and counting and describes all the different shapes and motion of things. It tells us how to manage anything with the help of numbers. Mathematics also generates emotions in you for various situations by receiving numbers as a result in your life's ups and downs. All in the form of numbers, it enhances our feelings for the achievements of goals, sometimes to be happy and give us motivation towards target if we get lesser values. It teaches us right or wrong, good or bad, more or less, high or depth, gain or loss etc. And yes, mathematics is a Science. Science of behavior, Science of motivations, Science of outcomes and Science of numbers.

***"Math is the door and key to the sciences" (Bacon, Roger known as Doctor Mirabilis).<sup>5</sup>***

Mathematics deals with mechanism full of logics, reasons and quantitative calculations by the use of numbers and symbols.

***"Maths is the science that draws necessary conclusions" (Benjamin Pierce).<sup>6</sup>***

Mathematics is that kind of subject in which we never understand the phenomenon that what we are informing about or the information we have, is true or false.

***"A mathematician is a blind man in a dark room looking for a black cat which isn't there" (Darwin, Charles Robert).<sup>5</sup>***

We make our information reliable for different fields of calculations by the suppositions and testing. Actually, it gives us the solutions for how to get rid of the critical or unfavorable situations. Mathematics generally includes arithmetic, algebra, geometry, trigonometry, calculus, statistics, topology, geodesy, fourier analysis, game theory, set theory, number theory, systems analysis, quadratics etc,<sup>7</sup> a good knowledge of all these are required for the degrees in the following areas:

- i. The physical sciences (like Physics, Chemistry, Engineering)
- ii. The life and health sciences (like Biology, Medicine & Pharmacy, Psychology, Nursing) etc.
- iii. The social sciences (like Economics, Business and Commerce, Anthropology, Communications, Geography & Geology).
- iv. The technological sciences (like Computer sciences, Networking, Software development).

***"As long as mathematical law reflects the reality, it is not accurate. As soon as it is accurate, it does not reflect the reality" (Albert Einstein).<sup>5</sup>***

## Mathematical influential

In our daily lives, we always use mathematics but we never even think about it. It is as important to study as ***"salt is important in our daily meals"***. Mathematics is all around us. It exists in various forms. Whenever we make a phone call, change the channels, travel from one place to another, manage money, play games, cook something, etc, in all those work mathematics is involved unintentionally. I can testify the presence of math in everything such as:

- i. In cooking, we take the idea of proportion. For cookies: 4 eggs,

1 cup sugar, 1 spoon baking powder, etc.

- ii. We find percentage in shops during summer or winter sales (summer sale 10-50% off on all items), on different labels (cream of 20% fat content), in different contents of medicines and so on.
- iii. We manage the growth of money with some knowledge of simple and compound interest. As bank charges interest on our savings and credits.
- iv. We use the concept of probability while calculating genetics. Probability is also used when playing games in casino.
- v. When we watch our gas mileage change with improvements we make, we use calculus because change in velocity or acceleration or finding the rate at which one variable quantity changes with respect to the others is called derivative.
- vi. While purchasing the items for wall or floor we need to calculate its area.
- vii. We use geometry in designing clothes, arts, architecture, logos for brands and in decorating houses.
- viii. While studying nature like a flower, paw of a peacock, we find symmetry.

Besides this, most domestic as well as professional jobs require at least basic knowledge of Mathematics. A few examples that illustrate the importance of math are given below:

- i. A student gives test while keeping in mind the time duration. Student estimates how much time he has for each question.
- ii. A teacher judges his students on the basis of the marks obtained in exams.
- iii. A consumer decides what to purchase by converting the cost of products in terms of (weight, volume, size, etc) and then make cost comparisons.
- iv. A producer decides what to produce by comparing profits, which he can get from his products.
- v. A husband makes algebraic calculations to give proper answer to his wife.
- vi. A wife has to use mathematical skills to control their budgets, managing time for different task at home and especially for their children's schoolwork.
- vii. Cashiers & Accountants require understanding mathematics for the job task.
- viii. Janitorial staff needs to be able to calculate time and resources allotted to them.
- ix. Electricians use math (ohm's law) as an integral part of his job.
- x. A sportsman makes his score in numbers like in cricket; we need to calculate their runs & wickets of all matches for the record and also use math to calculate the average run rate at every end of the over and speed of a baller for each ball in an over during the match. Use of graph to show the statistics of the match off & on.
- xi. In Banks, without mathematics a Banker cannot run the bank successfully.

- xii. Moreover, a Stock market is totally based on mathematics.
- xiii. In Aviation industry, every inch of an aircraft is well calculated through mathematics.
- xiv. For the health issue, we use BMI (body mass index) chart that can help to maintain our body weight according to height.
- xv. You can see in the medical side where every test report result give the conclusion in numeric values as for cholesterol, red & white cell counts, Platelets counts, sugar, blood pressure (B.P.) etc. so that we can control our body from the disease.

Mathematics is used everywhere as an essential tool.

***“God used beautiful mathematics in creating the world” (Paul Dirac).<sup>4</sup>***

The knowledge of mathematical things is innate in us and no one's brain can reject it. It proves laws, observations and certifies all experiments. Thus, it is known as Queen of all sciences. It makes everyone more able minded and its importance for potential careers cannot be neglected.

***“Mathematics reveals its secrets only to those who approach it with pure love, for its own beauty” (Archimedes).<sup>4</sup>***

However, we can say in conclusion that without mathematics no task can be completed with accuracy for the present & future benefits.

***“Mathematics is the key required to unlock the brains”, (Salman Bin Sami Khan). And yes, it is I!***

## Conclusion

In order to conclude our study, we must say that it is necessary to guide and train all kinds of people and students too for technical approaches. The basic knowledge about the mathematical skills and for the study of technical fields will empower the students and peoples

to get the relevant jobs and to be a part of the market of success. Those peoples who take part and get involved in the competitions and learning process have a sound knowledge and skills of mathematics and that's the requirements and basis for the education of technical studies. My suggestion is for the betterment of your skills and for the improvement in your study, get participation in the challenges about mathematical work and do not stop learning mathematics in your whole life.

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## Conflicts of interest

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