Retainer of Mathematics Instead of Proficient

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Abstract— In all school subjects, mathematics is such that its status is unique - but its position is contrary. At one hand, it is considered an essential and compulsory part of school education from Class 1 to class 10th. On the other hand, it is one of the toughest subject in school, and because of this, the fear of failure in the students is pervasive, even among adult/parents. According to the ASER report in 2018, the percentage of children in the age group of 6 to 14 years who did not enroll in the school has dropped from three percent to 2.8 percent. The paradox described above produces many questions. Some of them are: What is math and why should we teach it to school? Does the problem arising with school mathematics relate to the nature of mathematics, or the way it is taught, or is there anything to do with it? Can all children read mathematics at a certain level? What kind of mathematics should we teach in school? And how should you teach? In this paper it may be ambitious to try to answer all the questions above.

Keywords— ASER, Mathematics, Education System

I. INTRODUCTION

Current education and learners

Education - Education is the one through which there is a complete development of the personality of a human. Education enhances human dignity, self-respect and fraternity, transforms into worldly hood. In fact, the purpose of education is to discover the truth. This truth helps in moving forward by bringing humanity and simplicity to any person by becoming an example in itself. This is a discovery of which if the teacher is considered to be mistaken, the teacher will not be wrong, because if he is qualified, then it cannot be doubted that he can make today's young generation strong and capable. And the need for a proper education system is always maintained for this purpose.

Education system - Education system is the name of a system by which guidance is given to give the student proper knowledge and make it useful for society. Our education system should be such that in order to strengthen the continuous quest for mind and creativity of the student or learner, as well as to challenge him according to the needs of different aspects of living in the society, to be able to face it.

II. RELATED WORK

Take a look at the current education system - There are many additional things mentioned above in our education system, but should be examined, but if examined, it shows that this education system is fully successful in achieving all the above mentioned objectives. Could not do If it is noted, the main thing emerges that the less educated people start deciding what to teach. On the contrary, those who are knowledgeable teachers, they are bound by their realm and ideologies who do not want to get out, they are also afraid to do something new in such a direction. Apart from this, if education is kept away from politics, then there may be relatively good results. But if we see the tally chart of performance of Indian student in the International Mathematical Olympiad (IMO), IMO is unarguably the toughest exam in the field of mathematics, it is also the oldest –the first IMO was held in Romania in 1959, India has never finished rank-1 with their best finish being seventh in 1997 and 2001. There is only one more occasion when India finished ninth position in 2002. On the other hand China has finished rank-1 an incredible 19 times and this is when they participated for the first time as late as 1985. So as per the performance we are far behind from other countries the charts below (Figure 1 & 2) are showing the performances:
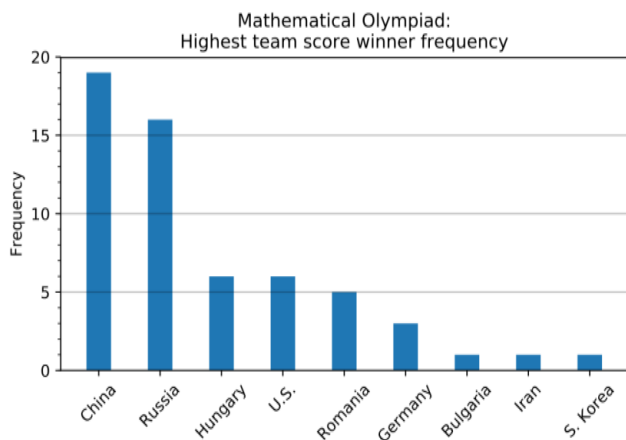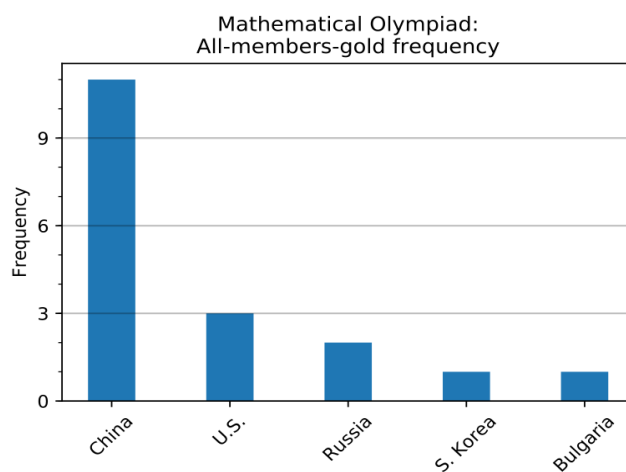
Figure:1

Mathematical Olympiad:
Highest team score winner frequency

Figure:2

Mathematical Olympiad:
All-members-gold frequency

Source:
https://en.wikipedia.org/wiki/International_Mathematical_Olympiad.

III. METHODOLOGY

Why in the discussion?
Recently released Annual Status of Education Report, 2018 [1] presented the view of the results of India's education system.

Key points
- Annual Status Report of Education, 3, 54,944 families of 596 districts has been surveyed in 2018.
- This survey included 5, 46,527 children aged 3 to 16 years of age.
- Annual Status Report of education, 15,998 rural government schools have also been observed in 2018.
- It is examined every year in the Annual Status Report of Education that how many children of rural India are

going to school and are able to read simple lessons and solve basic mathematical problems.
- Continued from 2005, 2007 and 2009, an overview of a government school of selected village is also done in this survey.

After the Right to Education Act (RTE Act), 2010, the survey included those measurable standards which are compulsory for any school in the country under this law.

Areas Inserted in ASER 2018
- School Level: Nomination and Attendance.
- Learning level: The basic skills of reading and solving mathematical questions.
- Learning level: 'Above basic education level'

Key findings of the effect (ASER) 2018
Reading position
- Class 5: More than half of the enrolled students in class 5 are able to read the lessons of class 2. This figure was 47.9% in 2016, which has risen to 50.3% in 2018. In some state government schools, class 5 children have recorded some improvement during this period. These states are: Himachal Pradesh, Uttar Pradesh, Orissa, Chhattisgarh, Karnataka, Kerala, Arunachal Pradesh and Mizoram.
- Class 8: The last stop for mandatory schooling in India is class 8. At this stage, it is expected that the students have mastered at least basic skills. But the statistics of ASER 2018 reveals that 27 percent of class 8 students are not able to read the lessons of class 2. This statistic has remained the same as in 2016.
- It has been said in the report that at national level, 50 per cent of all boys aged 14 to 16 years are able to solve the questions of Division properly, whereas only 44 per cent of the girls can do the same.

IV. RESULTS AND DISCUSSION

Suggestions for the current methodology in the education system: It is a requirement of present education to get education not only in the form of book knowledge but also as a place in the form of classical science. The nature of the examination and the nature of the education should be such that there is no scope for radical changes. Considering the importance of computer, computer education has become mandatory. Business knowledge can be a very good step by emphasizing their logical development. The learners should be given opportunities to make new discoveries and to provide them proper guidance and facilities. Efforts should be made for mental progress of the learner while reducing stress more than their requirement.

What you want to become when asked, then a student would have said that he wants to become a doctor or engineer and

serve the people while today's children often goes for the money, whatever field it is. Such thinking should be changed in the earlier thinking because there is no doubt that money is a necessity but the person has the highest quality and religion. Therefore, this quality and religion should be maintained. Its current education system should be kept away from the thumb impression and neglecting immature thinking is also good for the best education system. It is important for the learner to give such knowledge that within him there will be a fixed place for culture and its honor. There is an urgent need to improve from time to time as per the requirement of rural education level. Apart from all this, adult education can also be given importance and for this, self-help organizations can achieve success by encouraging and supporting them, and this kind of education changes all of us as the best human; there is no doubt in it.

Mathematics for all

Regarding the context of Primary Education in any contemporary discussion about school mathematics, it is important to keep in mind. Today, Primary education appears to be an achievable goal rather than a distant dream. The next stone secondary education of the mile will definitely be a major part of the academic agenda in the coming decade. So when we talk about school math, then we are talking about something which is addressed to all school children.

Can everyone learn mathematics? Fifty years ago, the answer was clearly 'no'. Even today, we can hear adult people say something about children that they will never be able to learn maths. In this regard, how the Primary/secondary expectations answer it, the position paper described above gives a clear explanation:

Our approach to excellent mathematical education is based on two beliefs that all children can learn mathematics and all children should learn math. It is therefore imperative that we provide all the best mathematical education of the children. After this the question arises, what kind of mathematical education will meet the needs of all children? To answer this, we need to gain some clarity about the objectives of mathematics education. Knowing that all children are studying mathematics up to the eighth grade (and even up to tenth), the main purpose of school math teaching cannot be to create a mathematician.

The purpose of the school's mathematical education

Knowing that all children are studying mathematics up to the eighth grade (and even up to tenth), the main purpose of school math teaching cannot be to create a mathematician. And in the same way, it cannot be helpful in generating a scientist or engineer, although mathematics is very important and special in terms of these areas. Then what is the purpose of school mathematical education? The position paper says:

Simply put, the only main goal - the mathematicalization of the child's thought processes.

In other words, the goal is to learn to think about the world in the language of mathematics, and develop such thinking which is typical mathematical. On the other hand, for the last five decades, there are some different things to look at while running courses and textbooks in the country. It appears that 'university education' or 'IIT education' has been dominated by the subject matter and style of school math. So there is no wonder that went to school in the past and there is no love for this topic in the mind of most students going to school today!

What is math?

If the main goal of mathematics education is to make mathematical thinking, then it is necessary to have a brief agreement on what is the mathematics created from the key. If you ask a common person the question "What is math?" Then it is more likely that you will get quick answers, "add, subtract, multiply, divide". (And on thinking or asking, people usually add algebra and geometry. These actions being performed on numbers are definitely an important part of mathematics, but only mathematics or mathematical thinking cannot be defined from them. I will not try to give any definition; Rather, I will give you some examples of mathematical thinking-

What is 48 divided by 1.6?
Easy way to divide numbers!
The Ancient Egyptian Method

.	1.6
32	/20
16	/10

Total = 30

Mathematicalization of thinking is not a complete or happening event at once. During and after school life, even children and adults, mathematicalization continues. On the other hand, there may be many things in our courses that students learn without any associated processes, and therefore they cannot contribute to the 'real study' of mathematics

Problems of abstraction

Little kids learn about the world playing with things. Therefore, they are introduced in mathematics as well. But with mathematics, abstraction is present even in the first grade. Look at this sentence taken from the lowest level of school math:

$$" 2+2 = 4."$$

This statement is about two and four, which are intangible elements. There is something similar in bicycle wheels,

socks and two apples: a property which we can call it 'two-water'. "Two apples and two other apples make up four apples", this is a statement about the physical world, which can actually be tested in contrast to the abstract statement given above.

Martin Hughes's 1986 book "Children and Numbers" has many conversations with children, showing that even before the children started to go to school, "there was a surprisingly good knowledge about the number" is". But this knowledge does not express in the formal language of mathematical organs. It may be that a child correctly calculates the number of bricks placed in a box, and tell that if it has eight bricks, then adding two more will total ten bricks. But this child asks this abstract question.

This kind of experiment has been done by many other people later and their results also came out similar. Their implications for the classes is that the activities performed with solid objects should be done before using the formal, abstract language commonly used to express mathematical content. Apart from this, special attention should be given to our classical activities on informal-to-formal changes.

Is mathematical knowledge unique?

Before we turn to the meanings of these ideas for classes, we have to solve this issue so that which mathematics should be taught. Should the choices of our courses be determined only by the framework of mathematical knowledge? If yes, then is this structure unique and universal? If this question is placed in front of a professional mathematician then the possible answer would be an obvious 'yes'. However, we must remember that members of the mathematical research community are a self-defined limited social group.

As has been argued earlier, the purpose of school math education cannot be for the students to get membership of this elite group.

Researchers from many countries, including India, have given a detailed account of several different mathematical traditions. Some of these are found in the tribal and other isolated communities, while some others, called 'street math', can be seen only with formal mathematics taught in schools. Misrias, plummers and other artisans can often be seen using their own forms of mathematics associated with their business.

At the deep level, the mathematics that employs the mathematician community at any place or time is sorted by those other social groups, to which those mathematicians are concerned. The effects of caste, language, nationality and religion cannot be sidelined, even if mathematicians like to believe that they are above and above these influences. From Euclid to Newton to the present time, the challenges of the picture of developed mathematics, mainly in the West, are increasing today.

Implications for teaching mathematics

The ideas given above naturally lead to some conclusions about how mathematics should be taught. Since this issue has an article on the teaching of mathematics differently, so I will briefly summarize my point-

- Children should be given such references in which mathematics can be learned. These references should be like 'real', even if they are not real.
- In elementary classes, children should be given enough opportunities to learn while playing solid objects.
- Special attention should be given towards the change towards formal, symbolic form. The methods to solve questions in the initial period should not be taught.
- It is important to learn basic skills, but it is even more important to think mathematically.
- Students should not in any way realize that mathematical knowledge is a finished product.
- Overall, the teacher should play the role of an assistant, and every child should actively engage in the process of learning mathematics.

V. CONCLUSION AND FUTURE SCOPE

It may seem that the issues related to the nature of mathematics come in the field of philosophy, and there is no much connection with the manner in which mathematics is taught in small classes. But, as has been argued earlier, there is a deep relation in it. Therefore, it is important for some people related to school math's - teachers, school administrators, teachers-trainers - they must do something about some of the issues raised here at some level. How can this be done in the best way, this is an open question.

REFERENCES

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