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Difficulties Faced by Secondary School Students in Learning Mathematics in Dwarka Sub-city (South- West Delhi)

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Abstract - The purpose of this Study to investigate the difficulties faced by secondary School Students when attempt to learn mathematics. Personal problems, Emotional problems, language problems, Problems on teacher's instruction, Problems with school facilities and infrastructure, and Problems arising from excessive workloads and extracurricular activities in schools are the categories that are used to classify the challenges and obstacles. For the purpose of the study, 250 students were chosen at random. For the purpose of collecting data, a self-administered open-ended questionnaire was utilised.

During the design of the study, it was discovered that there are a number of problems that are associated with the method of teaching and learning mathematics, and these problems require that they be remedied in an appropriate manner. Students are often discouraged from studying mathematics because they do not have sufficient motivation to do so. They were instructed in mathematics from the perspective of the examination. As a result, a smaller number of students are willing to continue studying mathematics in higher education.

Keywords - Mathematics, Self - Administered, Open Ended Questionnaire, Secondary School Students, Extra Curricular Activities

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INTRODUCTION

Mathematics integrates every aspect of our lives, from the moment we wake up until the moment we go to sleep. From the beginning of the universe to the contemporary world, from the domestic sphere to the public sphere, it is always present in our lives. Therefore, not only now but also in the past, the learning of mathematics has been essential for each and every one of us right from the start of our education in schools. Mathematics, as a subject taught in schools, takes pride of place at the apex of the academic food chain, above all other subjects. Educationists and academics in the region became interested in the topic as a result of the subject's immense significance as well as the fact that students feared mathematics the most out of all subjects. It is the ability to think critically and abstractly, be creative, solve problems, and even effectively communicate.

The'mathematization' of a child's thinking is the primary objective of mathematics teaching in schools, according to the National Curriculum Framework (NCF) 2005. The core of the mathematical activity is the pursuit of assumptions to logical conclusions with clarity of thought.

On August 4th, 2009, the Indian Parliament passed the **Right to Education Act 2009,** popularly known as the RTE Act 2009. According to Article 21(A) of the Indian Constitution, it explains the necessity of free and mandatory education for children aged 6 to 14 in India.Following the publication of the National Policy of School Education in 1968 and in accordance with the report of the 'Kothari' commission, significant changes were made to the curricula of all levels of the educational system. At the national level, a standardised curriculum spanning classes I through X was developed for the purpose of being adopted by all of the states in the country with some modifications to accommodate the specific requirements of each state. After that, the format of 10+2+3 was chosen to be used throughout the country. At the middle and secondary school levels, students are required to take core subjects such as mathematics and science.

OBJECTIVES

(i) To find out the Problems faced by Students in Learning Mathematics.

(ii) To Study Students & Teachers Perception of Mathematics as a School Subject.

(iii) To Suggest Remedial Measures for removing the Phobia of Learning Mathematics among the Student Community.

RESEARCH METHODOLOGY

Method:

The investigation was carried out utilising a methodology that was based on surveys. After the analysis was finished, the results were analysed, and then conclusions were drawn from them.

Sample Size:

The Systematic Random Sampling Technique was used to select 250 students and 12 mathematics teachers from 10 secondary schools located in Dwarka Sub-City in South West Delhi. These individuals comprised the population that was studied. Students who self-identified as both male and female and were enrolled in either Class IX or Class X were drawn from the sample.

Secondary Schools Comprised of Private (6) and Public (4), Totaling 10

Male instructors (5) and female instructors (7) for a total of 12

Students : Male (102) and Female (148) = 250

Primary data were collected from teachers at each of the participating schools; these teachers were interviewed and their responses were analysed individually.

Tools: Questionnaires with open-ended questions that were designed by the investigators.

Variables: the Kind of School, the Instructor, and the Learner

LIST OF SELECTED SCHOOLS

Government Schools

1. Gov. Co- Education Senior Secondary School (Sec. 22)
2. RajkiyaPratibhaVikas, Vidyalaya (Sec. 10)
3. Gov. Co- Ed Senior Sec. School Site II (Sec. 6)
4. Gov. Co-ed Sarvodaya, Vidyalaya (Sec. 13)

Private Schools

1. Vandana International School(Sec. 10)
2. Nirmal Bhartiya School (Sec. 14)
3. Shiksha Bharti Public School (Sec. 7)
4. Bal Bharti Public School (Sec. 12)
5. Pragati Public School (Sec. 13)
6. JM International School (Sec. 6)

DATA ANALYSIS AND FINDINGS

Table 1: Student's perception of mathematics as a school subject

Responses	% of Students Responses
Difficult Subject, Having no interest, Dull and boring topic, Separate from the topics covered by other subject.	69.45
Significant Topic, Excellent source of information, Favorite subject.	20.11
Mind Reviving, Interesting topic, and straight forward Explanations all Round.	10.44

Table 2: Teacher's perception of mathematics as a school subject

Responses	% of Teachers Responses
Interesting & Favorite Subject, Entertaining on both the teaching and learning sides.	55
Mathematics is essential to our day-to-day lives, and the development of modern technology would be unthinkable without it.	32.1
Improve the students' logical thinking and problem-solving skills.	12.9

Table 3: Sector of Mathematics liked most by the Students

Sector of Mathematics	%
Geometry	35.7
Trigonometry	10.5
Algebra	48.6
Statistics & Probability	5.2

Table 4: Problems faced by the Students in learning Mathematics

Problem's Nature	%
Technical terms used in Statistics & Probability	2.2
Trouble in Memorizing/Understanding Algebra Formulae	8.5
Problem of finding Areas , Volumes of different figures	18.4
Difficult to apply Trigonometry formulae Practically in Questions	31.9
Minor mistakes in Calculations	3.0
Geometrical Concept & Theorems of Circle / Lines & Angles / ||gm, etc.	28.0
Difficulty in Understanding of each topic	8.0

Table 5: Problems faced by Teachers in teaching Mathematics in Schools

Problem's Nature	%
Students Concept was not clear in the Previous Class	62.0
Students find difficult to Memorize Formula	32.7
Do not face any Problem while Teaching	5.3

CONCLUSION

- The majority ofstudents*did not enjoy studying mathematics* since they perceived it to be a *boring and challenging subject.*
- *Some of them* mentioned that mathematics was their *preferred* and *most interesting subject* for them to study.
- *A few numbers* of students said it was very *refreshing and easy to understand* for them.
- More than half of the teacher's choose mathematics as *favorite and interesting subject*, which was fun to teach as well as learn.
- Some of *the teacher's prefers mathematics was an essential subject* for daily life.
- *Remaining teacher's opinion* was that mathematics helps to enhance the *reasoning and aptitude ability of the students*.
- The Researcher found that *Mathematics was much complex to understand* in comparison to other subjects.
- Students found difficulty in learning *Geometry, Algebra, Trigonometry and Statistics.* Students convey that *lots of formula* to be memorized in Mathematics especially in Algebra, trigonometry and calculus.
- Teacher's opinion was that, students were *unable to memorize formulas* due to *unclear concept or low understanding.*
- *Very few teachers don't face any problem* while teaching mathematics.

SOME SUGGESTIVE MEASURES

- Child Centered and Participatory Method besides Traditional Lecture Method.
- Training, Orientation Courses and Seminar/Workshops.
- Policy Makers and Curriculum developers make the Curriculum in such a way that it should be relevant to the students and time to time it should be revised and up dated.
- Trained and Skillful Teacher could be selected without any bias.
- Flexibility in Medium of Instruction.
- Application of Mathematics to the real world should be well demonstrated while teaching.
- Problem sessionshould be arranged periodically to boost problem solving skills of the students.

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