

Identification of Difficulties in Learning Mathematics at Secondary Level in West Bengal

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ABSTRACT

Many students find their studies in mathematics to be difficult and unrewarding. There is a tendency for students to opt out of studying mathematics as soon as possible. However, mathematics is usually seen to be important and holds a central place in the curricula in most countries.

The purpose of the study is to investigate the secondary level students' learning difficulties in mathematics. All students of 9th standard are the population of this study. The samples of 100 students are selected.

Findings of the study reveal that student is facing difficulties in learning mathematics.

Keywords: *Learning in mathematics, Difficulties.*

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1. Introduction

"Mathematics problems are really difficult; I did not know how to do it. That's why I did not finish it. I don't like maths". These statements are quite familiarly heard when students are inquired about their homework. They seem to be struggling with their homework especially on mathematics problem-solving.

Mathematics is one of the most important subjects in our day to day life. It is an integral part of the curriculum in almost all the countries of the world. Without knowledge of mathematics we can't think anything in the world. It has been accepted as an important component of formal education from ancient period to present day. In the present scenario mathematics is very important and essential subject for living. This importance is evident in school curriculum and in the importance given to mathematics education.

But most of the students fears and some bad experiences about mathematics. Such negative experiences are caused anxiety of mathematics. That anxiety is feeling of tension, helplessness and mental disorganization to solve mathematics problems. Students who are faced with mathematics anxiety is lack interest to learn this subject and may achieve poverty in the subject. Inadequate teaching, learning or content material, lack of motivation and poor attitudes by both teachers and students are some major factors for poor performance in mathematics.

2. Statement of the Problem

From above study, it is clear that students have to face many difficulties for many reasons. A test evaluates a learners understanding of a specific subject or topic

Mathematics is essential in many fields including natural science, engineering, finance, medicine and the social sciences. Mathematics plays a vital role to determine or analyse the problem of a subject or a topic. Internationally research has been done regarding identification of gap but no such work has been found in secondary school of west bengal. Keeping in view the importance of mathematics as a subject, develop the learning gap at secondary level. So the purpose of this study is to develop the learning gap in the subject mathematics. Now the title of present study is-

"Identification of Difficulties in Learning Mathematics at Secondary Level in West Bengal."

3. Operational definition of the terms

- **Identification:** Identification means the action or process of identifying someone or something or the fact being identified. But here identification means specify the problem.
- **Difficulty:** Difficulty means a situation that is difficult or dangerous.

- **Learning:** Learning means the acquisition of knowledge or skills through experience, study or by being thought.
- **Mathematics:** Mathematics means the abstract science of number, quantity and space.
- **West Bengal:** West Bengal is a state of India.

4. Objectives of the study

The objectives of the present study have been focused on the following aspects:

- a) To identify the difficulties on various topic among the students in mathematics at secondary level.
- b) To rearrange the chapter for class ix in mathematics under WBBSE.

5. Research Question

- a) What are the difficulties in various topics pertaining to 9th grade mathematics (WBBSE)?
- b) What is the arrangement of chapters for class 9th grade mathematics under WBBSE?

6. Delimitation

To make the study precise and intensive, to complete it within a reasonable time it was necessary to delimit of the study under the following areas:

- **Geographical area:** This study was conducted in all the districts of West Bengal taking large number of schools but it will be very difficult to control the work with a large number of schools. So, only three districts will be selected among twenty two districts of West Bengal for the study. The districts will be as follows:
 - 1) Purba Medinipur
 - 2) Paschim Medinipur
 - 3) Howrah
- **School:** The study was conducted in Bengali medium secondary schools of WBBSE.
- **Content:** The study was conducted by taking all the contents incorporated in the curriculum of secondary level i.e.9th standard of mathematics. But to make the study intensive, only algebra will be selected as the contents for the questioning of feedback format for making a test.
- **Population:** The study was conducted on all students of class X of secondary schools affiliated by WBBSE.

7. Significance of the study

The study narrates shedding light on the solution of the conceptual mathematics difficulties students usually face in secondary classroom in West Bengal. This study will help students to gain command over subject content at secondary level in mathematics. There seems to be a huge difference between; what is required by the students and what happens in the classroom where students learn Mathematics? This study may recommend about the in competencies of students to work through mathematical difficulties by majority of students in secondary mathematics.

8. Review of Related Literature

A literature review is an evaluation report of information found in the literature related to our selected area of study. The review should describe, summarise, evaluate and clarify this literature. It should give a theoretical base for the research and help us to determine the nature of our research. The works which are relevant with this study has been critically analysed.

Reviews:

Acharya B.R (May 2017): has studied on "The factors affecting difficulties in learning mathematics by mathematics learners". Students, teachers and parents have to play an important role as key mathematical concept and previously learned mathematics anxiety, negative feeling of mathematics, economic condition and their educational backgrounds, school management system, lack of regular assessment system of school are main cause of difficulties in learning mathematics.

Tatlah I.A, Amin M, Anwar M (Dec 2017): have studied on an investigation of students learning difficulties in mathematics at secondary level. Findings of the study revealed that teachers highlight students as feeling difficulty in learning Geometry, Arithmetic and Algebra. Similarly, students also pointed out that they face difficulty in learning Geometry, Arithmetic and Algebra.

Gafoor K.A and Kurukkan A(Dec 2015): have studied on "Learner and teacher perception on difficulties in learning and teaching mathematics: Some Implications". According to teachers, students' lack of effort and prerequisites are the major reasons for mathematics being a difficult subject for students. Reluctance to seek help from others, inattention in the classroom and students lack of motivation was also perceived to contribute toward difficulty in learning mathematics. Teachers reported also that, lack of relevant prerequisites, difficulty in speedy grasping of the concepts and more number of students in a classroom is causing difficulty in teaching mathematics. The findings

indicate the need for teachers to realise the importance of making school mathematics interesting for students to take effort in learning it. The result is discussed in relation to students' beliefs and study strategies.

Malwa E.C (2015): has studied on "Difficulties encountered by students in the learning and usage of mathematical terminology". This study's objectives were achieved through the use of document analysis. Data analysis involved document review. The findings of this study showed that students have difficulties in using mathematical terms and their related concepts. Possible ways of teaching these terms so as to generate more meaning to the learners were also suggested. It is hoped that this will assist mathematics teachers, curriculum planners and textbook authors to counter the poor performance in the subject in Kenya.

Lithner J (May 2011): has studied on "University mathematics students learning difficulties". This is especially problematic when it comes to tertiary mathematics education. This has been much less researched than primary and secondary mathematics education. It is thus far from possible to clarify all relevant issues related to university mathematics learning difficulties.

Mundia L (Aug 2010): has studied on "Problems in learning mathematics: Comparison of Brunei Junior High School students in classes with and without repeaters". Performance differences and error analyses of selected challenging items are discussed to inform and guide possible remedial interventions. Findings demonstrated that mere repetition of a class or grade was neither therapeutic nor advantageous unless factors that disable learning were identified and addressed.

Grehan M, O'shea A, Bhaird C. M (2010): has studied on "How do students deal with difficulties in mathematics"? Initial interviews were conducted with students who had failed first year. This paper gives preliminary findings from interviews with a second group of students who have passed first year. The students' mathematical backgrounds do not appear to be the only major factor in determining engagement. However, the second group had several different strategies or coping mechanisms to enable them to get through.

Tambychik T, Meerah T.S.M (2010): have studied on "Students' difficulties in mathematics problem –solving: what do they say"? Data findings showed that respondents lacked in many mathematics skills such as number fact, visual-spatial and information skills. The deficiency of these mathematics skills and also of cognitive abilities in learning inhibits the mathematics problem solving. This understanding on how the deficits influenced the problem solving is expected to give effective guide lines in preparing diagnostics instruments and learning modules in order to develop the mathematics skills.

Previous studies have found that how do students deal with difficulties in learning mathematics. Teacher highlights students as feeling difficulty in learning mathematics. The need for teachers to realize the importance of making mathematics interesting for students to take effort in learning mathematics. The test is more important in the evaluation of the curriculum of education. Teachers, students, teaching methods or any other such concerning factor is considered as meaning in the education related issues. Thus to diagnose the learning gap in mathematics to develop mathematics skills is a very important factor in the field of education.

9. Critical observation

It is noted that the major cause for mathematics being difficult for students is lack of previous knowledge. Without previous knowledge it is difficult and even impossible to learn mathematics in higher classes. As per content and structure of existing curriculum teacher cannot spend more time for renewing previous knowledge. However it is meaningless to teach 70% of students who lack the basics about newer contents. Gradually students start to believe that they are not fit to learn mathematics. But actually it was an internal controllable reason. So, teachers should spend some more time to make them aware that mathematics is not a difficult subject but an interesting subject also.

10. Conclusion

After this study we conclude that mathematics interest in secondary school students depends on teachers and their guide. So, teachers and guide should remove students' anxiety about content, learning and teaching in mathematics.

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