



## A STUDY ON LEARNING DIFFICULTIES IN MATHEMATICS OF HIGH SCHOOL STUDENTS IN KANCHEEPURAM DISTRICT

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### ABSTRACT

The present Study is an attempt to find out the learning difficulties in Mathematics of High school students. The Learning difficulties in Mathematics among High School Students scale, a five point scale, viz., Strongly agree, agree, undecided, disagree and strongly disagree constructed and standardized by Janakiraman B and Leo Stanly S (2017) which consisted of 60 questions with 25 Positive and 35 negative items under four problem areas viz., lack of interest, teaching methodology, syllabus and fundamentals of Mathematics was used to collect the required data. The scale was administered to 300 students selected randomly from nine high schools of Kancheepuram District. The minimum score and maximum score of the tool were 60 and 300 respectively. The findings revealed that there is significant difference in the learning difficulties in Mathematics of high school students with respect to type of school and Nature of Father's Employment and there is no significant difference in learning difficulties in Mathematics of high school students with respect to Area of Residence.

**KEYWORDS:** learning difficulties, high school students and Mathematics.

### INTRODUCTION:

Blood is one of the body fluid that plays a vital role in a crime scene investigation. Through the Mathematics is an abstract science of space, number and quantity. It was practiced by the ancient Egyptians, Sumerians, Indians and Chinese in rudimentary form notably for surveying and commercial purposes. Plato advocated the inclusion of mathematics in the curriculum because mathematical reasoning disciplines the mind. Mathematics has played a decisive role in building the civilization.

In the modern world, people have to be more and more exact, they make larger use of quantitative terms and they have to be accurate to a split second. All these require large calculations and mathematical understanding. Mathematics helps the people in solving the problems of life requiring numerous calculations. It provides the opportunity for the intellectual gymnastic of the man's inherent powers.

Pure mathematics was developed by the Greeks. The Arabs introduced the numerals in the 10th century. In the 17th century, there was a development in many fields due to the invention of logarithms, algebraic geometry and calculus. The new mathematics arose in the 20th century. The theory of set was introduced and the arrival of computers imposed disciplines of its own, as well as seeing mathematics from the drudgery of lengthy computation. Recent development in science and technology suggest a view of mathematics as empirical science.

### REVIEW OF RELATED LITERTURE

Dr.Alla AppaRao (2013) conducted a study on "Learning Difficulties in VIII class students of secondary schools in Visakhapatnam District."

The objectives of the study were 1) To identify and assess the children with learning difficulties in secondary schools. 2) To detect the discrepancy between their level of intelligence and their actual level of overcoming learning difficulties. 3) To assess the differences by gender, age, socioeconomic status in respect to overcoming learning difficulties of children in secondary schools in urban, rural and tribal areas. 4) To develop detailed strategies, plans and materials to reduce learning difficulties. 5) To assess the impact of teaching strategies on overcoming learning difficulties in the children.

The researcher collected data from 400 students studying VIII standard from difference schools of Visakhapatnam district in Andhra Pradesh.

The Major findings were: 1) There is no significant difference among the students in overcoming learning difficulties with dyslexia with respect to their age. 2) There is no significant difference between boy and girl students in overcoming learning difficulties with dyslexia. 3) There is no significant difference among the students in overcoming learning difficulties with dyslexia with respect to their Locality. 4) There is no significant difference between rural and urban area students in overcoming learning difficulties with dyslexia. 5) There is no significant difference between OC and SC and BC and SC Students in overcoming learning difficulties with dyscalculia. 6) There is no significant difference between English and Telugu medium students in overcoming learning difficulties with dyscalculia. 7) There is no significant difference among the students in overcoming learning difficulties with dyslexia with respect to their father's occupation. 8) There is no significant difference among the students in overcoming learning difficulties with dyslexia with respect to their Mother's occupation. 9) There is no significant different between Learning difficulties students of labor, business, agriculture, housewife and employed mothers in overcoming dyscalculia. 10) There is no significant difference among the students in overcoming learning difficulties with dyslexia with respect to their Parent's income. 11) There is significant difference between government and private school students with dyslexia.

**Janakiraman B and Badhri N (2017)** conducted a study on learning difficulties in Mathematics of IX standard students in Kancheepuram district. The objective of the study was to find out the learning difficulties of IX Standard students in Mathematics with respect to gender, birth order, medium of instruction and type of school. Learning difficulties in Mathematics scale developed by the researcher was administered to 200 students selected randomly from seven schools of Kancheepurma District. The tool was constructed at a five point scale with 60 items. (25 Positive and 35 negative items). The minimum score and maximum score of the tool were 60 and 300 respectively. The research findings revealed that there was no significant difference in the learning difficulties of IX standard students in mathematics with respect to Gender, birth order and medium of instruction and there was significant difference in learning difficulties in Mathematics of IX standard students with respect to type of school.

Janakiraman B and Leo Stanly S (2017) have developed a tool to measure the Learning Difficulties in Mathematics among High School Students and the same tool has been used to collect the required data for the present study.

### **SIGNIFICANCE OF THE STUDY**

Achievement in school education is a turning point in an individual's life. Students have to fight against many factors, which may retard their growth in learning. School factors and home factors go hand in hand in determining their academic achievement. Moreover, Students of secondary schools experience various difficulties in learning mathematics. They may be because of lack of fundamental knowledge in mathematics, lack of interest in learning mathematics and other socio economic variables which are otherwise called as leaning difficulties. These learning difficulties act as an obstruction for effective learning of mathematics, a subject not liked by a major number of Students for obvious reasons. These learning difficulties must be categorized and suitable solutions are to be found out. This will enable the students to understand the mathematics concepts logically and will increase their interest in learning Mathematics.

Mathematics is a subject in a school which has to be given due care as the competency of students in Mathematics decide their professional courses and subsequently their career also. Hence a study related to indentifying the learning difficulties of students in Mathematics is the need of hour.

### **TITLE OF THE STUDY**

The present study is entitled as "A STUDY ON LEARNING DIFFICULTIES IN MATHEMATICS OF HIGH SCHOOL STUDENTS IN KANCHEEPURAM DISTRICT."

### **DEFINITION OF THE TERMS**

#### **Difficulty**

Difficulty means gaps or weakness in learning any area of a subject. Here the term 'difficulty' means the overall difficulties of students in learning mathematics.

#### **Standard IX Students**

The term 'high school students' means the students studying in standard IX in high schools in Kanchipuram district.

#### **Mathematics**

Mathematics is one of the school subjects offered in the secondary school curriculum.

### **OBJECTIVES OF THE STUDY**

The following objectives are stated for present study:

1. To find out if there is any significant difference in learning difficulties in Mathematics of high school students with respect to Type of school.
2. To find out if there is any significant difference in learning difficulties in Mathematics of high school students with respect to Area of Residence.
3. To find out if there is any significant difference in learning difficulties in Mathematics of high school students with respect to Nature of Father's Employment.

### **HYPOTHESES OF THE STUDY**

The following Hypotheses are stated for present study:

1. There is no significant difference in learning difficulties in Mathematics of high school students with respect to Type of school.
2. There is no significant difference in learning difficulties in Mathematics of high school students with respect to Area of Residence.
3. There is no significant difference in learning difficulties in Mathematics of high school students with respect to Nature of Father's Employment.

### **METHODOLOGY**

#### **Population**

The students studying in various high schools in kancheepuram district formed the population.

#### **Sample**

300 students were randomly selected from nine high schools in Kancheepuram district.

#### **Tool**

The Learning difficulties in Mathematics among High School Students scale, a five point scale, viz., Strongly agree, agree, undecided, disagree and strongly disagree constructed and standardized by Janakiraman B and Leo Stanly (2017) which consisted of 60 questions under four problem areas viz., lack of interest, teaching methodology, syllabus and fundamentals of Mathematics was used to collect the required data. The scale was administered to 300 students selected randomly from nine high schools of

Kancheepuram District. The tool was constructed a five point scale with 60 items with 25 Positive and 35 negative items. The minimum score and maximum score of the tool were 60 and 300 respectively.

## HYPOTHESES TESTING

### Hypothesis – 1

There is no significant difference in learning difficulties in Mathematics of high school students with respect to Type of school.

**Table - 1**  
**Difference in the learning difficulties in Mathematics of high school students**  
**With respect to type of school.**

Source of Variation	Sum of Squares	Df	Mean Squares	F	Table Value	Remark
Between Group	399.65	2	199.83	5.861	3.54	S
Within Group	10124.05	297	34.09			
Total	10523.70	299				

### INFERENCE

From the above table, it is found that the calculated 'F' value is greater than the table value for 2,297 degrees of freedom at 5% level of significance. Hence, the null hypothesis is rejected. That is, there is significant difference in learning difficulties in Mathematics of high school students with respect to type of school.

### Hypothesis - 2

There is no significant difference in learning difficulties in Mathematics of high school students with respect to Area of Residence.

**Table - 2**  
**Difference in the learning difficulties in Mathematics of high school students**  
**with respect to Area of Residence.**

Area of Residence	N	Mean	SD	Calculated t- value	Table Value	Remark
Rural	178	155.966	26.121	1.361	1.96	N.S
Urban	122	160.479	29.535			

### INFERENCE

From the above table, it is found that the calculated t- value is less than the table for 298 degrees of freedom at 5% level of significance. Hence, the null hypothesis is accepted. That is, there is no significant difference between the high school students belonging to Rural and Urban school student in their learning difficulties in Mathematics.

### Hypothesis -3

There is no significant difference in learning difficulties in Mathematics of high school students with respect to Nature Father's Employment.

**Table - 3**  
**Difference in the learning difficulties in Mathematics of high school students**  
**With respect to Nature Father's Employment.**

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARES	F	Table Value	Remark
Between Group	394.47	2	197.235 39.270	5.023	3.54	S
Within Group	11663.23	297				
Total	12057.70	299				

### INFERENCE

From the above table, it is found that the calculated 'F' value is greater than the table value for 2,297 degrees of freedom at 5% level of significance. Hence, the null hypothesis is rejected. That is, there is significant difference in learning difficulties in Mathematics of high school students with respect to Nature Father's Employment

### MAJOR FINDINGS

The following are the Major findings of the present study:

1. There is significant difference in learning difficulties in Mathematics of high school students with respect to Type of school. This finding shows that students studying in Government, Government Aided and Private school differ significantly in their learning difficulties in Mathematics. The Government school students have more learning difficulties in Mathematics than others. Infra structure facilities in Government schools are less compared to private and Government aided school. This may be the probable reason for more degree of learning difficulties in mathematics.
2. There is no significant difference in learning difficulties in Mathematics of high school students with respect to Area of Residence.
3. There is significant difference in learning difficulties in Mathematics of high school students with respect to Nature of Father's Employment. Students of whose parents are employed in self employment have more learning difficulties in Mathematics than their counterparts in Government sector and private employment.

### RECOMMENDATIONS

The following recommendations based on the findings are recommended for the present study:

Parents have to be given proper counseling to eradicate Mathematics Phobia from the minds of students. Necessary guidance and counseling services must be provided in schools utilizing the services of Parent teacher Association. The Mathematics teachers especially in government schools should adopt a friendly attitude with the children who are backward in Mathematics thereby increasing their interest in learning Mathematics. Parents should spend more time with their children and guide them in their home works related to mathematics. Mathematics teachers must use Teaching Learning Materials and Novelty teaching strategies to simplify the complex concepts in Mathematics while teaching Mathematics.

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