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ACHIEVEMENT IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS

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Abstract:

This paper aims at finding the Achievement in Mathematics of secondary school Students. A simple random sampling technique was followed to select 1000 IX class students from Guntur district of Andhra Pradesh. The scores of the students in final examinations of Class IX have been used as mathematics achievement scores using. Mean, SD and 't' values were calculated. The study revealed that there is no significant difference in Achievement in Mathematics of secondary school Students w.r.t the variables – Locality and Type of School.

Key Words : Mathematics, Achievement, Secondary school and Students

INTRODUCTION

Mathematics achievement plays a vital role in attaining harmonious development. Mathematics achievement refers to the degree or level of success or proficiency earned in mathematics. Mathematics achievement is the outcome of the general and specific learning experience, the competency shown by a student in the subjects he has learned in educational institutions. Mathematics is not just for the gifted and talented. Every pupil needs to work for mathematics achievement. In mathematics, the achievement is essentially cognitive, i.e. it refers to the understanding of mathematical concepts and knowledge attained in the subject. It is also the level of skill developed and application of knowledge to new situations. It includes pupils' problem-solving ability, clear expression of thoughts, logical reasoning, etc. it helps in attainment of the following skills or abilities: Number Power, Logical Power, Spatial ability, Numerical ability, Problem Solving Ability, Reorganization, Abstract Reasoning, Pattern Power, Computer Power, Measurement Ability, Arithmetic Ability, Visualization, Judgment and Number Fluency

Students' achievement in mathematics in high school has a significant effect on their performance in college (Ismail and Awang, 2008). Several factors affect academic achievement in mathematics; some of these factors are cognitive ability, problem-solving ability (Bhat, 2014), teaching strategy, involvement of parents, pupil's selfconcept, motivation, sex difference, pupil's attitude towards mathematics (Kaur, 2011 & Rao, 2015), study habits, anxiety etc. It is also influenced by the factors such as evaluation, the sufficiency of textbooks, adequacy of mathematics teachers, and time adequacy. Factors for students' mathematical achievement are classified under two categories:

Need of the Study:

Mathematical achievement is an important topic in the field of education. Research in mathematical achievement is of paramount importance all over the world. All the educators are very much concerned with the enhancement of achievement in mathematics on the part of the learners. We saw in our lives a visibly nervous person, mismanaging, or constantly apologising are less attractive than an attentive person who speaks, answer efficiently, and admit their mistake.

All scientific education is based on mathematics. Mathematics is an exact science and involves high cognitive abilities and powers. Mathematics helps us to develop our intellectual powers like power of imagination, memorization, logical thinking and reasoning. Student's flexibility, interest, curiosity, intelligence affect in the acquisition of mathematical achievement. Sometimes parents, due to their over enthusiasm and own ambition force their child to opt for mathematics without knowing the different intelligence. The child gradually develops hatred for the subject and becomes backward in mathematics.

Bindia Rani, Sarla Rani (2024) the problem of mathematical anxiety and to earn mathematical achievement, students should be taught by the teacher with improved teaching and learning methods so that they may feel encouragement towards mathematics **Rashid and Singh (2021)** found that there is no significant difference between students of government and private schools. **Bhairab Datt Pandey (2017)** shows that there is a significant difference between the mathematical achievements of class X students of secondary schools on the basis of their sex and social belongingness

Title of the Study:

Achievement in Mathematics of Students at Secondary Level.

Operational Definitions of Key Terms:

Achievement in Mathematics: Achievement is viewed basically as the competence a person has in an area of content. In the present study the investigator took only the achievement in Mathematics

Secondary School Level: Secondary school level refers to level of students who are studying at VIII,IX and X Standards of Andhra Pradesh schools. In the present study the investigator took the sample from standard IX.

Objectives of the Study :

1. To find out the Achievement in Mathematics of Secondary School students and to classify them.
2. To find out the influence of the following variables on Achievement in Mathematics of Secondary School students
   (a) Gender (b) Locality (c) Type of Institution

Hypotheses of the study:

1) There would be no significant difference between boys and girls in their achievement in mathematics.
2) There would be no significant difference between rural and urban area school students in their achievement in mathematics.
3) There would be no significant difference between government and private school students in their achievement in mathematics.

Demographic Variables: (a) Gender (b) Locality (c) Type of Institution

Delimitations of the Study:

- The study is limited to 1000 IX class students in Guntur district only.

METHODOLOGY:

The present study employed Normative survey method.

Sample of the Study:

In the present study, simple random sampling technique was followed to select 1000 IX class students from Guntur district of Andhra Pradesh.

Research Tool :

The scores of the students in final examinations of Class IX have been used as mathematics achievement scores.

Statistical techniques used: Mean; SD; % of mean and 't' values were calculated

ANALYSIS AND INTERPRETATION OF DATA:

Objective – 1: To find out the Achievement in Mathematics of Secondary School students and to classify them.

Table 1- Achievement in mathematics of secondary school students.

Whole	Mean	SD	% of mean
1000	61.73	8.97	61.73

Interpretation and Finding:

It can be interpreted as follows the achievement in mathematics of secondary school students is found to be 61.73% which shows that the secondary school students are having moderately achievement in mathematics.

Classification:

Table.2- Classification of secondary school students on the basis of their achievement in mathematics

S.No	Level of Achievement	No.of Students	Percentage
1	Low level of achievement in mathematics	120	12.00%
2	Moderate level of achievement in mathematics	690	69.00%
3	High level of achievement in mathematics	190	19.00%

Interpretation and Findings:

Achievement in mathematics scores were based on the marks obtained in annual examinations, 69% (690) of students are classified as moderate achievers group, 19% (190) of students are classified as high achievers group, 12% (120) of students are classified as low achievers group.

Objective – 5: To find out the influence of the following variables on achievement in mathematics of Secondary School students - (a) Gender (b) Locality (c) Type of School

Hypothesis – 1: **There would be no significant difference between boys and girls in their achievement of mathematics.**

Table -3: Mean, S.D. and 't' values of boys and girls

Demographic Variable	Category	No	Mean	% of mean	SD	S.Ed	't'
Gender	Boys	500	54.28	54.28	8.14	0.50	3.54**
	Girls	500	56.05	56.05	8.11		

**-Significant at 0.01 level

. The obtained 't' value 3.54 is greater than the table value 2.57 at 0.01 level . Therefore, it is significant at 0.01 level. Hence the hypothesis – 1 is rejected.

It may be inferred that the Gender of the secondary school students have significant influence in their Achievement in Mathematics..

Hypothesis – 2: There would be no significant difference between rural and urban area school students in their achievement in mathematics..

Table -4 : Mean, S.D. and 't' values of rural and urban school students

Demographic Variable	Category	No	Mean	% of mean	SD	S.Ed	't'
Locality	Rural	500	58.60	58.60	8.20	0.52	0.714 NS
	Urban	500	58.95	58.95	8.10		

NS- Not Significant at 0.01 level

The obtained 't' value 0.714 is less than the table value 1.96 at 0.05 level . Therefore, it is not significant at 0.05 level. Hence the hypothesis – 2 is accepted.

It may be inferred that the locality of secondary school students did not have any significant influence on their Achievement in Mathematics.

Hypothesis – 3: There would be no significant difference between government and private school students in their achievement of mathematics.

Table -5: Mean, S.D. and 't' values of government and private school students

Demographic Variable	Category	No	Mean	% of mean	SD	S.Ed	't'
Type of School	Government	500	58.03	58.03	8.18	0.51	0.946 NS
	Private	500	58.50	58.50	8.17		

NS- Not Significant at 0.01 level

The obtained 't' value 0.946 is less than the table value 1.96 at 0.05 level . Hence the hypothesis-3 is accepted.

It may be inferred that the type of school of the secondary school students did not have any significant influence on their achievement in mathematics.

FINDINGS:

1. The academic achievement of secondary school students is found to be 61.73% which shows that the secondary school students are having moderately high achievement in Mathematics.
2. Achievement scores were based on the marks obtained in annual examinations, 69% (690) of students are classified as moderate achievers group, 19% (190) of students are classified as high achievers group, 12% (120) of students are classified as low achievers group.
3. The variable Gender was significantly influencing the academic achievement of secondary school students. Girls possessing greater and significant achievement in Mathematics scores when compared with boys.
4. The variable Locality was not significantly influenced the achievement in mathematics. of secondary school students..
5. The variable Type of school was not significantly influenced the achievement in mathematics of secondary school students.

EDUCATIONAL IMPLICATIONS:

- Educators and researchers can draw upon the insights gleaned from this study to inform instructional decision-making and curriculum development efforts aimed at promoting student success and engagement in mathematics learning
- To learn mathematics, students must be engaged in exploring, conjecturing and thinking rather than, engaged only in rote learning of rules and procedure.
- The most important thing is that there should be daily practices by pupils in expressing immediately what they are taught and learnt.

CONCLUSION:

The study found that the variable Gender are significantly influenced the achievement in Mathematics of secondary school students.There is no significantly influenced the achievement in Mathematics of secondary school students with respect to the variable Locality and Type of School.

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