JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

# A STUDY OF ACHIEVEMENT IN MATHEMATICS OF SECONDARY SCHOOL STUDENTS WITH REFERENCE TO ANNUAL INCOME OF THE FAMILY

**Dr. M. Mohan Reddy* and Dr. N. Kavitha****

***Academic Consultant, Department of Education, S.V.University, Tirupati-517502, malreddymohanreddy45@gmail.com.***

***Academic Consultant, Institute of Advanced Studies in Education, S.V.University, Tirupati-517502, nossam1983@gmail.com.***

**KEYWORDS:** Achievement in Mathematics, Gender, Management and Secondary school students

**ABSTRACT** Mathematics is also presented from a wrong point of view. It is presented as a matter of dead facts and techniques and not in terms of its true nature, which involves processes that demand thought and creativity. The main objective of the present study is to study the influence of management and gender on the achievement in mathematics of secondary school students The Achievement in Mathematics test constructed by **Yella Reddy, B (2020)** was adopted for this study. The Achievement in Mathematics test have 100 items, One mark is awarded for each correct answer and the total marks obtained by each student as Achievement in Mathematics. A sample of 320 Secondary school students representing different management and gender in Chittoor District is taken for the data analysis following stratified sampling technique. 'One-way ANOVA' test was employed for analysis of the data. There is significant influence of Annual income of the family at 0.01 level of significance on the achievement in mathematics of secondary school students. High income group secondary school students have high academic achievement than the low income group secondary school students. Government has to provide good amenities for low income group secondary school students.

## INTRODUCTION

Mathematics is not merely a 'product' but a process. It is not only a 'knowledge'; it is an activity also. Its 'static' part is important, its 'dynamic' part is even more vital. Not only mathematical facts are to be taught, method of arriving at these facts are also to be communicated. All these require a rethinking about the goals of mathematics education.

The progress and improvement of scientific method and mathematics are linked to the prosperity of whole human civilization. To arouse and maintain the interest of the students in mathematics, therefore,

elements of curiosity, motivation, imagination, novelty, originality and usefulness are required. Actually interest is the motivating force that arouses, sustains and regulates concentrated efforts.

One old saying is – "we can take a Horse to the water; but we can not make it drink". This old saying can suitably be changed to suit the present day technological world as – "First make a Horse feel thirsty; then it drinks"-

Therefore the mathematics teachers should make the students realize the present day importance of mathematics, motivate and inspire for learning the subject- then the students tend to learn, which reduces the burden of the teachers.

## REVIEW OF LITERATURE

**Sanandaj** and **Jouhari (2010), Siddi Raju (2010), Sujatha (2011), Sekhar, K (2012), Ravi, S (2013) Madhusudhana Reddy, P (2016), Geethadevi, Y (2020)** and **Sana Hemavathi (2020)** reported that Annual income of the family of individuals do have significant difference on achievement in mathematics. However, **Long** and **Resh (1976), Jaya Chandrama Nadiu (1998)** and **Krishna Moorthy (1999)** reported that Annual income of the family of individuals do not have significant difference on achievement in mathematics.

### Hypotheses of the study

- There would be no significant difference of 'Annual income of the family' on the achievement in mathematics of secondary school students.

### Tools for the Study

The Achievement in Mathematics test constructed by **Yella Reddy, B (2020)** was adopted for this study. The Achievement in Mathematics test have 100 items, One mark is awarded for each correct answer and the total marks obtained by each student as Achievement in Mathematics. A questionnaire is prepared to collect the necessary information about the Secondary school students regarding their personal characteristics of the student – 1. Name, 2. Annual income of the family.

### Data Collection

The sample for the investigation consisted of 320 Secondary school students in Chittoor District. The stratified random sampling technique was applied in two stages. The first stage is management i.e. Government and Private and second stage is gender i.e. male and female. It is a 2X2 factorial design with 320 sample subjects. The investigator personally visited schools with the permission of the headmasters of the schools. The Secondary school students who attended to the school on the day of collection of data are considered for the purpose of the study. The data on each variable in the study is properly coded to suit for computer analysis. The analysis was carried out on the basis of objectives of the study and hypotheses formulated by employing appropriate statistical techniques. The inferential statistical technique 'one-way ANOVA' test was employed to test hypotheses.

## RESULTS AND DISCUSSION

### 1. Annual income of the family

In the present investigation, the Secondary school students are divided into three groups; On the basis of Annual income of the family Group – I is formed with Annual income of the family up to Rs. 1,00,000/-, Group – II is formed with Annual income of the family from Rs. 1,00,001/- to Rs. 2,00,000/- and Group – III is formed with Annual income of the family from Rs. 2,00,001/- and above. The influence of 'Annual income of the family' on the Achievement in Mathematics of Secondary school students is investigated. The corresponding Achievement score in Mathematics of three groups are analysed accordingly. The influence of Annual income of the family on Achievement in Mathematics is investigated through one - way ANOVA technique. The following hypothesis is framed.

**Hypothesis –1**

Annual income of the family would not have significant influence on the Achievement in Mathematics of Secondary school students.

The above hypothesis is tested by employing one - way ANOVA technique. The results are presented in **Table – 1.**

**Table – 1: Influence of Annual income of the family on the Achievement in Mathematics of Secondary school students**

| S. No. | Annual income of the family | N | Mean | SD | 'F' – Ratio | 't' – Values |
|---|---|---|---|---|---|---|
| **1.** | Group – I | 106 | 64.05 | 16.11 | 16.527** | $t_{12}$ = 3.275** |
| **2.** | Group – II | 112 | 68.46 | 15.88 | | $t_{13}$ = 5.349** |
| **3.** | Group – III | 102 | 71.58 | 15.44 | | $t_{23}$ = 3.878** |

** Indicates significant at 0.01 level

* Indicates significant at 0.05 level

@ Indicates not significant at 0.05 level

The table value of 'F' for 2 and 317 df at 0.01 level is 4.60 and at 0.05 level is 2.99.

The table value of 't' for 1 and 318 df at 0.01 level is 2.58 and at 0.05 level is 1.96.

It is clear from the **Table – 1** that the computed value of 'F' (16.527) is greater than the critical value of 'F' (4.60) for 2 and 317 df at 0.01 level. Hence the **Hypothesis – 1 is rejected** for the variable **'Annual income of the family'** at 0.01 level of significance. It is concluded that 'Annual income of the family' has significant influence on the Achievement in Mathematics of Secondary school students.

From the **Table – 1**, it is clear that, the computed value of 't' for Annual income of the family of Group – I and Group – II is 3.275. It is greater than the critical value of 't' (2.58) for 1 and 216 df at 0.01 level

of significance. Therefore **Hypothesis – 1 is rejected** at 0.01 level, for the factor **'Annual income of the family'**. Hence it is concluded that 'Annual income of the family' of **Group – I and Group – II** has significant influence on the Achievement in Mathematics of Secondary school students.

From the **Table – 1,** it is observed that, the computed value of 't' for Annual income of the family of Group – I and Group – III is 5.349. It is greater than the critical value of 't' (2.58) for 1 and 206 df at 0.01 level of significance. Therefore **Hypothesis – 1 is rejected** at 0.01 level, for the factor **'Annual income of the family'**. Hence it is concluded that 'Annual income of the family' of **Group – I and Group – III** has significant influence on the Achievement in Mathematics of Secondary school students.

From the **Table – 1**, it is indicated that, the computed value of 't' for Annual income of the family of Group – II and Group – III is 3.878. It is greater than the critical value of 't' (2.58) for 1 and 212 df at 0.01 level of significance. Therefore **Hypothesis – 1 is rejected** at 0.01 level, for the factor **'Annual income of the family'**. Hence it is concluded that 'Annual income of the family' of **Group – II and Group – III** has significant influence on the Achievement in Mathematics of Secondary school students.

**Conclusions:** In the light of the findings, the following conclusions are drawn. Annual income of the family have significant influence on the achievement in mathematics of secondary school students.

## EDUCATIONAL IMPLICATIONS

The findings of the present research have raised some important questions related to the educational needs of the secondary school students with special reference to their achievement in mathematics of secondary school students

Annual income of the family has influence on the achievement in mathematics of Secondary school students. It is observed that performance of high income group students is better than low income group students.

Government should diagnosis the reasons behind financial imbalance among the children and support the destitute children with proper scholarships and financial awards and rewards.

The administrators should notify the poor children and initiate government officials to rectify financial imbalance.

Parents must find out their personal sources and put strenuous efforts.

## REFERENCES

**Geethadevi, Y (2020).** A study on the influence of personality factors and institutional climate on the academic achievement of B.Ed. teacher trainees in Andhra Pradesh. Ph.D. Thesis, Tamilnadu Teachers Education University, Chennai, Tamilnadu.

**Jaya Chandrarama Naidu, K (1998).** A comparative study of academic achievement of formal and non-formal education. *Indian Educational Review,* **33(1):**152-158.

**Krishna Moorthy, S (1999).** Achievement as related to academic achievement motivation and attitude towards study of history. *The Educational Review.* **42(5&6):**95-99

**Long** and **Resh (1976)** as quoted in **Padmini (2010).** Achievement of IX class students in biological sciences in relation to certain psycho - sociological variables. Ph.D. Thesis, Department of Education, S.V.University, Tirupati, 29.

**Madhusudhana Reddy, P (2016).** A study of achievement in physical sciences of IX class students in relation to intelligence, personality and other variables**.** M.Phil. Thesis, S.V. University, Tirupati.

**Ravi, S (2013).** An investigation into scientific attitude and achievement in science of 9$^{th}$ class students in relation to certain psycho – sociological factors. Ph.D.Thesis, S.V.University. Tirupati, 45.

**Sana Hemavathi (2020).** A study of achievement in mathematics of secondary school students in relation to certain factors. Ph.D. Thesis, Bharathiar University, Coimbatore, Tamil Nadu.

**Sanandaj** and **Jouhari (2010),**

**Sekhar, K (2012).** A diagnostic study of the causes for poor results in some junior colleges in Chittoor district. Ph.D. Thesis, Department of Education, S.V.University, Tirupati, 16.

**Siddi Raju (2010).** Scholastic achievement of IX class pupils in physical sciences in relation to certain psycho-sociological variables. Ph.D. Thesis, Department of Education, S.V.University, Tirupati.

**Sujatha (2011).** A study of academic achievement of B.Ed. students in relation to values, attitude towards teaching profession and other variables. Ph.D. Thesis, Department of Education, S.V.University, Tirupati.

**Yella Reddy, B (2020).** A study of achievement in mathematics of secondary school students in relation to certain factors. ICSSR Post-Doctoral Research Report, S.V.University, Tirupati.