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A Study Of Achievement In Mathematics Of Secondary School Students With Reference To Gender And Management

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ABSTRACT Achievement is of paramount importance, particularly, in the present socio-economic and cultural contexts. Obviously in the school/college level, great emphasis is placed on the academic achievement, right from the beginning of formal education. The main objective of the present study is to study the influence of gender and management 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 gender and management in Chittoor District is taken for the data analysis following stratified sampling technique. 't' test was employed for analysis of the data. There is significant influence of gender and management at 0.01 level of significance on the achievement in mathematics of secondary school students. Girls and Private secondary school students have high academic achievement than the Boys and Government secondary school students. Government has to provide good amenities for Boys and Government secondary school students.

INTRODUCTION

The school performs the function of selection and differentiation among pupils on the basis of their academic achievement and other attainments, which open out avenues for advancement in life. It is the performance of the students in achieving mathematical knowledge, developing numerical ability, numerical reasoning, problem solving, positive mathematical attitude and applying these in different mathematical activities. The achievement of the students in mathematics is not common in all. It is different due to individual differences. It is measured or assessed through different teacher made standardized tests.

The central aim of all formal educational efforts is academic achievement on the part of the students. Even though, it is desirable to have all-round development, as the goal of educational process, where academic achievement would be just one of the dimensions; but in most of the educational institutions, academic achievement continues to be the exclusive concern, narrowing down the very concept of educational process. Nevertheless, it is important to note that academic achievement in curricular subjects is not an independent phenomenon; rather it is influenced by a number of factors, some of which are personal to the individual, while many others are located in the environment, in which learning takes place.

Mathematics is one of the subjects included in the school curriculum, the academic achievement in which is the main concern of the investigator. The investigator wants to know various socio-demographic and Psychological factors which influence the academic achievement in mathematics, which is considered to be one of the most important subjects in the school study. In this context, the investigator presents some of earlier studies made in this direction.

REVIEW OF LITERATURE

Geethadevi, Y (2020), Geethadevi, Y and **Hemalatha Kalaimathi, D (2020 a**) and **Sana Hemavathi (2020)** reported that gender of individuals do have significant difference on achievement in mathematics. However, **Subramanyam** and **Srinivasa Rao (2008), Ali Imam** and **Ruchi Srivastav (2015)** and **Manpreet Kaur, Ram Niwas** and **Rai, V.K (2015)** reported that gender of individuals do not have significant difference on achievement in mathematics.

Sujatha (2011), Sekhar, K (2012), Ravi, S (2014), Shaik Khadar Valli (2015), Vijaya, S and **Vijaya, R (2015), Madhusudhana Reddy, P (2016), Sana Hemavathi** and **Dayakara Reddy, V (2016)** and **Sana Hemavathi (2020)** reported that management of individuals do have significant difference on achievement in mathematics. However, **Gnanasundaratharasu** and **Vincent De Paul (2002), Manjuvani** and **Mohan (2002), Anice James** and **Marice (2004), Laxmidhar Behera** and **Sushant Kumar Roul (2004), Shahpur Nagappa** and **Panchalingappa (2004)** reported that management of individuals do not have significant difference on achievement in mathematics.

Hypotheses of the study

- There would be no significant difference of ‘gender’ on the achievement in mathematics of secondary school students.
- There would be no significant difference of ‘management’ 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. Gender, 3. Management.

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 't' test was employed to test hypotheses.

RESULTS AND DISCUSSION

1. Gender

The relationship of achievement in mathematics of secondary school students with their gender is studied. On the basis of gender, the Secondary school students are divided into two groups. The Boys form with the Group – I and Group – II forms with the Girls. The achievement in mathematics of secondary school students of the two groups were analyzed accordingly. The achievement in mathematics of secondary school students for the two groups were tested for significance by employing 't' - test.

Hypothesis – 1

There would be no significant difference of 'gender' on the achievement in mathematics of secondary school students.

The obtain results are presented in **Table – 1.**

Table – 1: Influence of gender on the achievement in mathematics of secondary school students

Gender	N	Mean	S.D.	't' - Test
Boys	160	67.24	16.25	4.217**
Girls	160	70.88	15.34	

** Indicates significant at 0.01 level

It is found from the **Table – 1** that the obtained value of 't' 4.217 is greater than the critical value of 't' 2.59 at 0.01 level of significance. Hence the formulated Hypothesis is **rejected** at 0.01 level. Therefore, it is concluded that significant difference exists in the achievement in mathematics of secondary school students in science in relation to gender.

2. Management

The relationship of achievement in mathematics of secondary school students with their management is studied. On the basis of management, the Secondary school students are divided into two groups. The Government secondary school students form with the Group – I and Group – II forms with the Private secondary school students. The corresponding achievement in mathematics of secondary school students of the two groups were analyzed accordingly. The mean values of achievement in mathematics of secondary school students for the two groups were tested for significance by employing 't' - test.

Hypothesis – 2

There would be no significant difference of 'management' on the achievement in mathematics of secondary school students.

The obtain results are presented in **Table – 2.**

Table – 2: Influence of management on the achievement in mathematics of secondary school students

Management	N	Mean	S.D.	't' – Test
Government	160	68.28	15.40	3.257**
Private	160	69.84	16.36	

** Indicates significant at 0.01 level

It is found from the **Table – 2** that the obtained value of 't' 3.257 is greater than the critical value of 't' 2.59 at 0.01 level of significance. Hence the formulated Hypothesis is **rejected**. Therefore, it is concluded that significant difference exists in the achievement in mathematics of secondary school students in science in relation to management.

Conclusions: In the light of the findings, the following conclusions are drawn. Gender and Management 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

1. Gender has influence on the achievement in mathematics of Secondary school students. Girls performed better than the boys.

   The government should take initiative step to reduce progressive aspects gaps between the girls and boys. To fix this issue awards and rewards progrmmes are highly appreciated to implement.

   The heads of the institutions must check frequently the reasons behind performance gaps in between boys and girls and conduct awareness programmes to shoot the trouble

   Parents must identify the children in effective progress and must encourage with proper approach without gender bias.

2. Management has influence on the achievement in mathematics of Secondary school students. Private school students performed better than the Government school students.

Government should take necessary steps to establish sophisticated facilities at Government schools as well as intellectual infrastructure.

Heads of the Government schools must take initiative steps to improve their teaching staff and teaching learning experiences.

Parents must involve in monitoring their children while learning with frequent visits with the teachers to find updates of the children progress besides that they have to contribute monitors matters.

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