ORIGINAL RESEARCH PAPER

Education

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A STUDY OF MATHEMATICAL ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS

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ABSTRACT

Mathematical Achievement is the competency shown by the student in the subject mathematics. Its measure is the score on an achievement test in mathematics. The present study is based on the mathematical achievement of X class students of Secondary School of Bageshwar District. A sample comprised of 200 students studying in class X was selected randomly from Secondary schools of Bageshwar district. The research tool developed and standardized by Dr. Ali Imam and Dr, Tahira Khatoon was administered to the students. A descriptive research method was used in the present research. Statistical techniques Mean, S.D. and t-test were used to analyze the data. The result of the study 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 however it is interesting to know that rural male and urban male students are almost similar in there mathematical achievement scores.

Introduction:-

In 21st century, mathematics has become the backbone for the prosperity in each and every field of life. Mathematics is well known as a father of all sciences. It is impossible to think about any scientific study without mathematics. Mathematics is the knowledge of 3R's i.e. reading, writing and arithmetic. Each student in his day to day life has to achieve certain vital goals and objectives. Mathematics works as a base-camp to achieve these objectives.

Every stage of education has its own importance. Secondary education lays the basic foundation to all type of higher education. Successful achievement in mathematics at Secondary stage especially X grade is prerequisite for better academic achievement in higher stage.

Mathematics achievement is an essential part of the academic achievement in modern era. It is the key to success in many professions.

Operational Definition of Mathematics achievement:-

Mangal (2008) defined that "An achievement test is essentially a tool or device of measurement that helps in ascertaining quantity and quality of learning attained in a subject of study or group of subject after a period of instruction by measuring the present ability of the individual concerned."

Mathematical achievement is the competency shown by the student in mathematics. It is the result of acquired knowledge or information, understanding, skills and techniques developed in the subject of mathematics in a particular stage. Its measure is the score on the achievement test in mathematics.

Statement of the Problem:-

"A study of mathematical achievement of Secondary School Students of Bageshwar District."

Objective of the study:-

To study the mathematical achievement of class X students of Secondary Schools on the basis of their sex, social belongingness.

Research hypotheses: -

(1) There is no significance difference in mathematical achievement of class X students on the basis of sex.

(2) There is no significance difference in mathematical achievement of class X students on the basis of their social belongingness.

2 (I) There is no significance difference in mathematical achievement of class X male students on the basis of social belongingness.

2 (ii) There is no significance difference in mathematical achievement of class X female students on the basis of their social-belongingness.

Method:-

The descriptive or survey research method was used for present research work.

Population of the study:-

All the students studying in class X of government and private Secondary schools of Bageshwar District.

Sample and sampling method:-

For the present study a representative sample of 243 students of class X from government and private Secondary Schools of Bageshwar district were selected randomly.

Research tool:-

The research tool developed and standardized by Dr. Ali Imam and Dr. Tahira khatoon was administered to the students in the present study.

Statistical methods:-

In order to attain the objectives of the study the investigators used Mean, S.D. and 't-test' technique.

Analysis and interpretations of data:-

Table 1: Comparison of mean mathematical achievement scores of class X from government and private Secondary Schools of Bageshwar district on the basis of sex.

Sex	N	M	S.D	t-ratio	d.f.	Level Sig.
Male	116	38.95	6.26	3.45	241	.01 significant
Female	127	36.35	5.4			

Data presented in Table 1 reveal that there exists statistically significant difference between mathematical achievement mean scores of male and female students class X from government and private Secondary Schools of Bageshwar district. It means that male students have better achievement in mathematics than female students.

Table 2:- Comparison of mean mathematical achievement scores of class X from government and private Secondary Schools of Bageshwar district on the basis of their social belongingness.

Social belongingness	N	Mn	S.D	t-ratio	d.f.	Level of significance
Rural	180	36.86	5.21	2.22	241	0.05 Significant
Urban	63	39.05	7.18			

Data represented in the Table 2 reveals that there exist statistically significant difference (t=2.22) between rural and urban students mathematical achievement mean scores of class X from

government and private Secondary Schools of Bageshwar district. It means that urban students have more or less similar achievement in mathematics than rural students. However the mathematical achievement mean scores of urban students (M=39.05) was found higher than rural students (M=36.86).

Table 2.1 Comparison of mean mathematical achievement scores of male students of class X from government and private Secondary Schools of Bageshwar district on the basis of their social belongingness.

Social Belongingness	N	M	S.D.	t-ratio	d.f.	Level of significance
Rural male	89	38.24	5.54	1.21	114	Not significant
Urban male	27	41.15	7.84			

Data represented in the Table 2.1 reveals that there exist no significant difference between the mathematical achievement mean scores of rural male and urban male (t-=1.21). It means that rural male and urban male students class X from government and private Secondary Schools of Bageshwar district have more or less similar in their mathematical achievement. However the mathematical achievement mean scores of urban male students (M=41.15) was found higher than rural male students (M=38.24).

Table 2.2:- Comparison of mean mathematical achievement scores of class X female students on the basis of their social belongingness.

Social Belongingness	N	M	S.D.	t-test	d.f..	Level of significance
Rural females	91	35.47	4.47	2.104	125	0.05
Urban females	36	37.78	5.95			Not Significant

Data presented in the Table 2.2 revels statistically no significant difference between the mathematical achievement mean scores of rural female and urban female students of class X from government and private Secondary Schools of Bageshwar district. It means that rural female and urban female students of class X from government and private Secondary Schools of Bageshwar district have more or less similar in their mathematical achievement. However the mathematical achievement mean scores of urban female students (M=37.78) was found higher than rural female students (M=35.47).

Discussion:-

As a conclusion to this research, it can be said that since the female students, rural students and rural female students of class X have low mathematical achievement than their counterparts. It shows that there are still possible rooms for improvement in achievement level of female students by changing the attitude of parents and teachers towards female student's mathematical learning. This can be done by abolishing gender discrimination at school and home environment and to aware both teachers and parents about their female student's performance in the subject of mathematics. It is recommended that rural parents should provide more or equal learning opportunities to their girl students as they were providing to their boys so that they can learn mathematics at their fullest capacities. However, it is interesting to know that social belongingness of urban male and rural male students is almost similar in there mathematical achievement scores in Bageshwar District. However this study cannot be conclusive as the size of the sample is small.

Findings and Conclusions:-

The present study shows that:

(1) There exists a significant difference at 0.01 level of significant between mathematical achievement of male and female students of class X from government and private Secondary Schools of Bageshwar district. Male students of class X standard were found better in their mathematical achievement than female students of X class. **This finding is similar to the finding of Pattison and Grieve (1984), Thomas (1991), Wajiha (2000), Patel (2002), Patel (2012) and Olof et al. (2003) that** male students are significantly better in their mathematical achievement than female students. **But it contradicts the finding of Roach (1979)** that girls scored significantly higher than boys on a mathematics achievement test. **However, Mehra (2004) found** no sex wise difference in achievement of students in mathematics **and Sood (1999)** found that girls achieved somewhat higher than boys, still no significant (insignificant) differences exist in their mathematical achievement.

(2) There exists a significant difference at 0.05 level of significant between mathematical achievement of rural and urban students of class X standard. This finding is in agreement with the finding of . **Mehra (2004), Baskaran (1991), Prakash(2000) and Dr. Sunil Sumar Singh, Shaheen Malik, Dr.A.K.Singh (2003) who found** that urban students were better in their mathematical achievement in compared to the rural students. However, this finding is not in the line with the finding of **Patel (2012)**, **Balasubramanian and feroze (1966) who found that there was no significant difference in achievement of boys and girls of urban locality. However Balasubramanian and feroze (1966)** found that there exist a noticeable significant difference in the achievement of rural boys and girls.

(3) There was found no significant difference between the mathematical achievement of rural male and urban male.

(4) There was found a significant difference at 0.05 level of significant between between the mathematical achievement of rural females & urban females.

Suggestions:-

1. The present study focuses on only government and private schools. It can be done in government, government-aided, government-unaided, private, missionary and charitable schools of Bageshwar district.
2. Similar type of study can be done in higher secondary level of education.
3. An experimental study can also be done in this area.
4. A co relational and comparitative study can also be done between the student's mathematical achievement and other independent variables.

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