

# Review of Research

International Online Multidisciplinary Journal

ISSN : 2249-894X

Impact Factor 3.1402 (UIF)

Volume -5 | Issue - 6 | March - 2016



**A CO-RELATIONAL STUDY OF ACHIEVEMENT IN GEOMETRY AND REASONING ABILITY OF THE IX STANDARDS STUDENTS IN SOLAPUR CITY**



**Dr. Kisan Jijaba Shinde**

**Assistant Professor, D.P.B. Dayanand College of Education, Solapur.**

## **INTRODUCTION:**

Mathematics had given important place in the new education policy. Government of India had declare its own view about mathematics in 1986, according to that, "Mathematics should be visualized as the vehicle to train a child to think logically and apart from seeing a specific subject it should be treated as a science subject which contain practical."

## **NEED OF RESEARCH:**

Euclidian geometry is based on reasoning ability. This knowledge gives rise to the questions like how for the reasoning ability is related to achievement in geometry, how for the reasoning ability is developed among the students of IX standard. To find out the logical answers, to these questions there is need have research.

### **SIGNIFICANCE OF RESEARCH:**

The present research will create new attitude towards mathematics among the Government society, the educationalist, the college of education viz. D. Ed., B. Ed., M. Ed. The council of curriculum text book, teachers at different levels, professors, headmasters, principals and the education officers.

### **STATEMENT OF PROBLEM:**

“A co relational study of achievement in Geometry and reasoning ability of the IX standards students in Solapur city.”

### **OBJECTIVES:**

1. To verify achievement in geometry of IX standard boys and girls
2. To verify achievement in reasoning ability of IX standard boys and girls
3. To study the correlation between achievement in geometry and reasoning ability of IX standard boys.
4. To study the correlation between achievement in geometry and reasoning ability of IX standard girls.

### **1.6 Hypotheses:**

The hypotheses of the present study were:

1. There is no significant difference in achievement in geometry between boys and girls..
2. There is no significant difference in the reasoning ability between boys and girls.

### **Scope and Limitations of Research:**

**Scope:** Main scope of present problem is as follows:

Present research is study of correlation between geometry achievement and reasoning ability of IX standard in Solapur city. This study is related to all grantable Marathi medium secondary schools. Scope of present study research is bound to mathematics achievement and its correlation with reasoning ability but indirectly its scope is wide.

### **LIMITATIONS:**

1. Only Marathi medium and grantable secondary schools shall be selected in the present research study.
2. The curriculum is limited only for the standard IX prescribed by revised secondary school curriculum 2005 in Maharashtra.
3. The standard IX geometry textbook which is prepared by Maharashtra state board of Secondary and Higher Secondary revised curriculum 2005 is proved authentic.

### **METHODS OF RESEARCH, TOOLS AND SAMPLING**

#### **Selection of Method of Research:**

The researcher has conducted present research works using descriptive method. As in the present research, correlation between achievement in mathematics and reasoning ability is to be study the researches has used co relational method which is one of the types of descriptive method. Also the achievement in geometry, reasoning ability of girls and boys of IX standard has been studied by descriptive methods of research.

#### **Tools of Research:**

The present research is mainly based on descriptive method of research the tools for collecting different types of data and statistical information are selected according to the objective of the research.

**Selection of tools for the present research:** According to objectives of the present researcher, the researcher as selected the tools as follow:

1. A standardized reasoning ability test by Dr. Miss. Sadhana Bhatnagar.
2. Achievement test of geometry for IX standard.

**Sampling:**

The researcher has collected the list of all aided Marathi medium schools in Solapur city from department of secondary education of Z. P. Solapur. Then first division selected randomly then others division is selected keeping the difference of ten. The number of respondents is given following table 3.1.

No. of Divisions	Achievement Test Geometry		Reasoning ability test		Student present in all three tests		
	Boys	Girls	Boys	Girls	Boys	Girls	Total
19	444	504	497	548	395	471	866

**Table No. 3.1**  
**ANALYSIS AND INTERPRETATION OF DATA**

The scores of 395 girls and boys in achievement test of algebra, geometry and mathematics and reasoning ability test have been converted into percentage form.

Achievement test	Mean		Median		S.D.		Skewness	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Geometry	26.05	36.79	23.07	34.13	16.01	21.00	0.55	0.38
Reasoning ability	38.58	39.62	39.2	39.83	13.14	14.6	- 0.21	- 0.04

**Table No. 4.1**  
**Hypothesis testing:** Researcher has used t-test for testing hypothesis:

Hypothesis No.	t value	Sample t value		Relation between t value and sample t	Decision
		<b>0.05</b>	<b>0.01</b>		
2	8.17	2.58	1.96	t value > sample t	Rejecting hypothesis
6	1.11	2.58	1.96	t value < sample t	Accepting hypothesis

**Table No. 4.2**

**Correlation between different variables:** The most widely used measures of correlation are the Pearson’s product moment correlation coefficient (r). Researcher used this method for present data analysis. Correlation coefficients between different variables in present research are as follow:

	Achievement in Geometry	Achievement in Geometry
Reasoning ability	Boys	Girls
	0.35	0.6

**Table No. 4.3**

**MAIN CONCLUSIONS:**

- Proportion of girls and boys with high achievement in Geometry is very less.
- 1. Proportion of girls and boys with high achievement in Geometry is very less.
- 2. The means of achievement in Geometry of boys and girls is of lower standards.
- 3. There is significant difference in the means of achievement in Geometry of boys and girls.
- 4. The achievement in algebra of girls and boys is good as compared to that in geometry.

**CONCLUSIONS OF CORRELATION STUDY:**

- 1. The proportion of very high reasoning ability among boys is 0%.
- 2. The proportion of boys with high reasoning ability is very low i.e. 0.25%.

3. The proportion of boys with low and very low reasoning ability is 86.08%. This means reasoning ability is of low standard
4. The proportion of very high reasoning ability among girls is 0%.
5. The proportion of girls with high reasoning ability is very low i.e. 2.12%.
6. The proportion of girls with low and very low reasoning ability is 81.53%. This means reasoning ability is of low standard
7. The average standard of reasoning ability of girls is 39.62.
8. There is not significant difference between means of boys and girls in reasoning ability.
9. The correlation between achievement in geometry and reasoning ability of boys is positive and low. It means there is some impact of reasoning ability on achievement in geometry of boys.
10. The coefficient of correlation (0.6) between achievement in geometry and reasoning ability of girls indicates the positive and moderately related to each other. It means there is impact of reasoning ability on achievement in geometry of girls.

#### BIBLIOGRAPHY

1. Agrawal S. M. (2001). *A Course in teaching of modern mathematics*. Dhanpat Rai Publishing Co. New Delhi Reprint 2001. Page 403.
2. Best, J. W. & Khan, J. V. (2007). *Research in Education. (9<sup>th</sup> Ed.)*. Prentice hall of India Private Limited New Delhi Page 498.
3. Bhatia and Bhatia (1996). *A textbook of educational Psychology*. Doaba house, Booksellers & Publishers Delhi. P. 623.
4. Garret, H. E. & Woodworth, R. S. (1981). *Statistics in Psychology and education*. (Tenth Indian Reprint). Vakils, Feffer and simons Ltd., Bombay P. 491.
5. Buch, M. B. (Ed.) *Fifth Survey of Research in Education*. NCERT 1997 Vol. I and II P. 2004.
6. Buch, M. B. *Sixth Survey of Research in Education*. (1992-97) Devi Ahilya Vishvavidyalaya, Indore.