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“ACHIEVEMENT OF 9TH STANDARD STUDENTS IN MATHEMATICS IN RELATION TO THEIR SCHOOL ENVIRONMENT ”

Dr. Praveen R.¹ and Padmavathi H. M.²

¹ Research scholar, Banaras Hindu University, Varanasi.

² Research Scholar, Indian Institute of Dalit Studies, New Delhi.

ABSTRACT:

The present study aims to find out the achievement of 9th standard students in mathematics in relation to their school environment. Survey method was adopted. A stratified random sample of 569 students studying 9th standard was selected in Bangalore urban district. Achievement Test in Mathematics constructed and developed by the researcher and School Environment Inventory by K.S. Misra (2002) were used for data collection. Data was analyzed using r-value. Results

found that creative stimulation, cognitive encouragement, permissiveness, acceptance and control dimensions of school environment and school environment in total have positive relationship with achievement in mathematics of 9th standard students.

KEYWORDS: Achievement Test in Mathematics, School Environment.

INTRODUCTION:

Achievement means one's learning attainments, accomplishments, and proficiencies in the particular school subject. In secondary school level students achieving low in various subjects, but this variation in achievement found much side in some special subjects like mathematics. Achievement in mathematics depends upon the intellectual ability, one's aptitude and interest, SES, teaching methods, health, medium of instructions, study habits, anxiety, test anxiety, defensiveness and test defensiveness etc. Gay (1990), points out that

achievement test measures the current status of individuals with respect to proficiency in given area of knowledge or skill.

School is considered with the development of the whole child in respect of the physical, social, and emotional qualities. School is centre of teaching-learning process. It plays an important role in shaping good citizens of the nation. Education Commission (1964-66) has aptly points out, "Future citizens of the nation are being shaped in their class rooms".

At the secondary stage, the pupil is in the adolescence period of development. He is confronted with many strains and stresses because of certain physiological changes.

He also becomes conscious of his

future occupational status. Intellectual development of the pupil at this stage is of 'formal operational stage'. Therefore, he is in a position to think logically and perform mathematical deductions. People are constantly submerged in a social environment which not just changes the very structure of the individual or just propels him to perceive truths additionally gives him a readymade arrangement of signs. It forces on him a progression of commitments. Two environments home and school share a powerful space in youngster's life and there exists a remarkable combination among the two (Tucker and Bernstein, 1979). For the overall development of students, for realizing desirable changes in conduct of students and making school as a method

for development of community and society, good and favorable environment plays an important role.

School environment plays an important role in creating interest in mathematics, problem solving ability in mathematics and also on achievement of ninth standard students in mathematics. Better is the school environment, better will be the achievement of students in mathematics. The quality of the school-good or bad is reflected by the environment of the school.

School environment contains the following components - physical, social, psychological and academic environment. If all these components in environment are given properly to the students in school then their quality of problem-solving ability, interest and achievement in mathematics will be very good. It gives motivation, develops discipline, develops democratic attitude, develop interest and also good values to students.

OBJECTIVES OF THE STUDY

1. To study the relationship between achievement in mathematics and school environment (creative stimulation dimension) among 9th standard students.
2. To study the relationship between achievement in mathematics and school environment (cognitive encouragement dimension) among 9th standard students.
3. To study the relationship between achievement in mathematics and school environment (permissiveness dimension) among 9th standard students.
4. To study the relationship between achievement in mathematics and school environment (acceptance dimension) among 9th standard students.
5. To study the relationship between achievement in mathematics and school environment (rejection dimension) among 9th standard students.
6. To study the relationship between achievement in mathematics and school environment (control dimension) among 9th standard students.
7. To study the relationship between achievement in mathematics and school environment (total) among 9th standard students.

HYPOTHESES

1. There is no relationship between achievement in mathematics and school environment (creative stimulation dimension) among 9th standard students.
2. There is no relationship between achievement in mathematics and school environment (cognitive encouragement dimension) among 9th standard students.
3. There is no relationship between achievement in mathematics and school environment (permissiveness dimension) among 9th standard students.
4. There is no relationship between achievement in mathematics and school environment (acceptance dimension) among 9th standard students.
5. There is no relationship between achievement in mathematics and school environment (rejection dimension) among 9th standard students.
6. There is no relationship between achievement in mathematics and school environment (control dimension) among 9th standard students.
7. There is no relationship between achievement in mathematics and school environment (total) among 9th standard students.

METHODOLOGY

Survey method was used for the present study. The stratified random sample consisted of 569 students studying 9th standard from private, aided & government schools in Bangalore urban district. Achievement Test in Mathematics constructed and developed by the researcher and School Environment Inventory by K.S. Misra (2002) were used to collect the data. r-value was used for data analysis.

DATA ANALYSIS

Table 1: r-value between Achievement in Mathematics and School Environment (Creative Stimulation) among 9th Standard Students

Achievement in Mathematics vs. School Environment (Creative Stimulation)	N	df	r-value	Level of Significance
	569	567	0.202**	0.01

Table-1 reveals that the obtained r-value 0.202 is significant at 0.01 level. Hence, the hypothesis-1 is rejected. Thus there exists a relationship between the achievement in mathematics and school environment (creative stimulation dimension) among 9th standard students.

Table 2: r-value between Achievement in Mathematics and School Environment (Cognitive Encouragement) among 9th Standard Students

Achievement in Mathematics vs. School Environment (Cognitive Encouragement)	N	df	r-value	Level of Significance
	569	567	0.250**	0.01

Table-2 shows that the obtained r-value 0.250 is significant at 0.01 level. Hence, the hypothesis-2 is rejected. Thus there exists a relationship between achievement in mathematics and school environment (cognitive encouragement dimension) among 9th standard students.

Table 3: r-value between Achievement in Mathematics and School Environment (Permissiveness) among 9th Standard Students

Achievement in Mathematics vs. School Environment (Permissiveness)	N	df	r-value	Level of Significance
	569	567	0.132**	0.01

Table-3 depicts that the obtained r-value 0.132 is significant at 0.01 level. Hence, the hypothesis-3 is rejected. Thus there exists a relationship between achievement in mathematics and school environment (permissiveness dimension) of 9th standard students.

Table 4: r-value between Achievement in Mathematics and School Environment (Acceptance) among 9th Standard Students

Achievement in Mathematics vs. School Environment (Acceptance)	N	df	r-value	Level of Significance
	569	567	0.122**	0.01

Table-4 indicates that the obtained r-value 0.122 is significant at 0.01 level. Hence, the hypothesis-4 is rejected. Thus there exists a relationship between achievement in mathematics and school environment (acceptance dimension) of 9th standard students of Bangalore urban district.

Table 5: r-value between Achievement in Mathematics and School Environment (Rejection) among 9th Standard Students

Achievement in Mathematics vs. School Environment (Rejection)	N	df	r-value	Level of Significance
	569	567	- 0.219**	0.01

Table-5 shows that the obtained r-value - 0.219 is significant at 0.01 level. Hence, the hypothesis-5 is rejected. Thus there exists a relationship between achievement in mathematics and school environment (rejection dimension) of 9th standard students.

Table 6: r-value between Achievement in Mathematics and School Environment (Control) among 9th Standard Students

Achievement in Mathematics vs. School Environment (Control)	N	df	r-value	Level of Significance
	569	567	0.228**	0.01

Table-6 depicts that the obtained r-value 0.228 is significant at 0.01 level. Hence, the hypothesis-6 is rejected. Thus there exists a relationship between achievement in mathematics and school environment (control dimension) of 9th standard students.

Table 7: r-value between Achievement in Mathematics and School Environment (Total) among 9th Standard Students

Achievement in Mathematics vs. School Environment (Total)	N	df	r-value	Level of Significance
	569	567	0.177**	0.01

Table-7 indicates that the obtained r-value 0.177 is significant at 0.01 level. Hence, the hypothesis-7 is rejected. Thus there exists a relationship between achievement in mathematics and school environment (total) of 9th standard students.

FINDINGS

- The achievement in mathematics and school environment (creative stimulation dimension) have positive and low relationship.
- The achievement in mathematics and school environment (cognitive encouragement dimension) have positive and low relationship.
- The achievement in mathematics and school environment (permissiveness dimension) have positive and negligible relationship.
- The achievement in mathematics and school environment (cognitive encouragement dimension) have positive and low relationship.
- The achievement in mathematics and school environment (permissiveness dimension) have positive and negligible relationship.
- The achievement in mathematics and school environment (acceptance dimension) have positive and negligible relationship.
- The achievement in mathematics and school environment (rejection dimension) have negative and low relationship.
- The achievement in mathematics and school environment (control dimension) have positive and moderate (low) relationship.
- The achievement in mathematics and school environment (total) have positive and negligible relationship.

CONCLUSION

School environment is necessary to help the students in good academic achievement. Creative stimulation, cognitive encouragement, permissiveness, acceptance and control dimensions of school environment and school environment in total have a positive relationship with achievement in mathematics of 9th standard students. Rejection dimension of school environment has a negative relationship with achievement in mathematics of 9th standard students. In the school we provide maximum study material and other facilities to the students. The teachers also use different methods of teaching in the classroom.

LIMITATIONS OF THE STUDY

The study has following limitations:

1. The present study is confined to 9th standard students studying in government, aided and unaided English medium schools of Bangalore urban district.
2. Only achievement in mathematics is considered as dependent variable in the present study.
3. Only school environment is considered as independent variable in the present study.

SUGGESTIONS FOR FURTHER STUDY:

In view of the limitations, the following suggestions are offered for further study. They are as follows

1. The study may be extendable to larger sample.
2. The study of achievement in mathematics may be undertaken by incorporating other variables like constructivism, creativity, style of thinking and learning, emotional intelligence etc.
3. A comparative study can be undertaken to study the rural and urban students of 9th standard with different standard and medium of instruction.
4. Experimental study can be undertaken to improve the achievement in mathematics among 9th standard students in specific and students studying in other standards in general.

EDUCATIONAL IMPLICATIONS

From the statistical analysis and findings of the study, it can be observed that school environment have a positive relationship with achievement in mathematics.

More importance's should be given to students for comprehension of a specific idea, directing students in dynamic learning, giving chances to discourse and elaboration and urging them to work with peers and teachers. Teacher should apply instructional approach in teaching to improve the problem solving ability to get good achievement in mathematics through good school environment.

In teaching and learning of mathematics all the problems faced by teachers and students cannot be solved through Co-operative learning. It may serve as an substitute to traditional method of teaching and learning. Teachers personally as well as expertise in the subject mathematics, quality instruction, learning opportunities given, quality learning material, reflection formsby students and learning activities given to the students leads to achievement in mathematics.

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