JOURNAL OF CRITICAL REVIEWS

ISSN- 2394-5125 VOL 09, ISSUE 05, 2022

A Study on Influence of Parents' Education on Achievement in Mathematics

Dr. S.K.Panneer Selvam
Associate Professor, Department of Education,
Bharathidasan University, Tiruchirappalli-T.N
Email: skpskpbdu@gmail.com

Abstract

Achievement testing plays a significant role in the teaching learning program in school. A class teacher constructs tests to work out the student's performance in a subject but majority of people in India are not in favor of present system of examination. Parents should understand the child's problem "It is much more important for parents to learn how to promote normal development than to master techniques for correcting distortions in the growth process"- Schunk Dale H, Zimmerman Barry J (1997). A recent study exploring the relationships between level of parent's education, parent self-efficiency, children's academic abilities, and participation in a Head Start program found that level of parent education and program participation was significantly related to parental self-efficiency.

Key words: *classification, environment, resources, performance, achievement, Influence.*

INTRODUCTION

The term "parent education" was defined as "instruction on how to parent". Parent education, as we will be using the term, refers to a systematic and conceptually based program, intended to impart information, awareness, or skill to the participants on aspects of parenting (Aruna NS, 1981). Achievement testing plays a significant role in the teaching learning program in school. A class teacher constructs tests to work out the student's performance in a subject but majority of people in India are not in favor of present system of examination. Reason begin, these tests lack objectivity reliability and validity. Involvement of parent education have been shown to be very important postured force in a child's life, one would expect that during such a critical and demanding phase the two more important in child development. Parent education often deals with values classification and the resolution of values and conflicts (McCartney, Kathleen, 1983). For example, a parent who is resistant to offering a child certain freedoms may be acting from out dated belief system. Some group discussion and experimental activities might help parents to become aware of the source of the belief and to rich and understanding that certain belief needs to be updated.

REVIEW OF LITERATURE ON PARENT INVOLVEMENT

"Parent involvement" and "Parent participation" are nebulous terms because there is an array of parent behaviors that these could include. To define parent involvement more operationally, theorized a two-way breakdown into home-based activities (e.g., parent home tutoring) and school based parent involvement activities parents' play an important role in their children's learning. Aside from being actively involved in their children's education, parents also provide a home environment that can affect learning. Parents serve as a model for learning,

determine the educational resources available in the home and hold particular attitudes and values towards education. Given the wide range of student performance within each group, it is clear that the success of many students appears to be dependent on factors other than their parents' level of education.

It is important for teachers to keep the lines of communication open. This involves not only sending regular newsletters and notes, but also obtaining information from parents. Teachers need to consider families' lifestyles and cultural backgrounds when planning home activities. Teachers can suggest appropriate programs and send home questions for families to discuss. This discussion can be carried over into class.

NEED OF THE STUDY

As the investigator is a mathematics teacher she got interested to find out the possible reasons among the XI standard pupils, if there excise any gender differences in influences of parents' education level achievement in mathematics. The research is restricted the secondary level, XI standard pupils, because it is crazier stage: After completion of this class, they will be ready to write the public examination, there by paving the way to their future career. At this stage, the gender differences in Mathematics achievement and Influence of parents' education are to be analyzed. Hence the apt title "Influence of Parents' Education on Achievement in Mathematics" is chosen for investigation.

STATEMENT OF THE PROBLEM

The research is restricted the secondary level, XI standard pupils, because it is crucial stage: After completion of this class, they will ready to write the public examination, there by paving the way to their future career. At this stage, the gender differences in Mathematics achievement and Influence of parents' education are to be analyzed. Hence the apt title *"Influence of Parents' Education on Achievement in Mathematics"* is chosen for investigation.

OBJECTIVES

The following are the objectives of the present study:

1. To find out the level of influence of parental education of higher secondary students.
2. To find out the significance difference between Influence of parents' education and achievement in Mathematics of higher secondary students.

HYPOTHESES

1. There is no significant difference between **male** and **female** higher secondary students with respect to Influence of parents' education.
2. There is no significant difference between **rural** and **urban** higher secondary students with respect to Influence of parents' education.
3. There is no significant difference among **government, aided** and **private** higher secondary students with respect to Influence of parents' education.
4. There is no significant difference between **literate** and **illiterate** parents of higher secondary students with respect to Influence of parents' education.

ISSN- 2394-5125 VOL 09, ISSUE 05, 2022

LIMITATION OF THE STUDY

Broadly speaking any study is impossible without limitation. Research studies in general will have limitation due to many factors. This study too has some limitations. The following limitations were unavoidable in the present study.

This study adopted survey method using questionnaires to collect data from respondents.

In this study, sample was confined to higher secondary students of various schools. The sample respondents belong to age group between 15+ and 16+.

The generalizations of the study are to be viewed in the light of the above limitations that are Inherent in academic research.

ANALOGIES OF DATA

Most of the studies followed random sampling technique in the collection of data and the size of the selected samples ranges from 40 to 600 samples. In majority of the studies data was collected from the school students and in few of the studies data was collected from the teachers and parents. In majority of the students the questionnaire, Oppionnarrie Rating Scale developed by the investigator was utilized as a tool. Since all the reviewed studies were selected to influence of parent education, parent involvement, achievement in Mathematics among higher secondary students. In majority of the studies data was collected only from the school students. Mean, Standard deviation, t-test were the statistical technique followed in the majority of the students.

METHODOLOGY

A research design however, is not a highly specific plan to be followed without direction. Rather, it is a series of guideposts to keep right direction. Thus, research design is the process of planning a research, choosing methods and procedures that can be expected to yield meaningful and most interpretable results.

Table 1: Schematic Representation of the Research Design

S.No.	Type	Sources
1	Nature of the Research	Survey research
2	Tool Developed	Influence on Parental Education on Achievement in Mathematics
3	Demographic variables	Students
4	Variables	Boys, Girls (Gender) Rural, Urban (Locality) Government, Aided and Private (Type of the School) Literate, Illiterate (Parent's educational qualification)
5	Sampling Technique	Stratified Random sampling Technique
6	Size of the sample	Students – 150 (Boys-75, Girls-75)
7	Statistical Techniques used	Mean, Standard Deviation and 't' test

The present study belongs to survey stay Research. The Demographic variables used are Gender, Locality and Type of the school, Parent's educational qualification. Random sampling

technique was followed in this study. Data were collected from 150 students and the statistical techniques mean, SD, 't' test and Average were used.

BLUEPRINT

Table 2: Blueprint for Achievement Test

Objectives	**Knowledge**			**Under standing**			**Application**			**Skill**			**Total**
Forms of questions /Content Unit	E	S.A	O	E	S.A	O	E	S.A	O	E	S.A	O	
Matrices	-	-	9	-	-	6	-	-	5	-	-	5	25
Vector Algebra	-	-	7	-	-	5	-	-	10	-	-	3	25
Sub total			16			11			15			8	50
Total (in %)	32			22			30			16			**100**

PILOT STUDY

Before administering the questionnaire to the actual sample, pilot study was conducted. The aim of pilot study is not only to test and refine the tools of research but also to force the nature of analysis and processing that may be needed at a later stage after a questionnaire was prepared. It was given a trial on small sample. This is necessary to know XI standard students whether they are meaningful and whether there is any ambiguity in thought or in the wording of questions.

RESEARCH METHODS

The investigator followed Survey method as this study aims of eliciting the opinions of the XI standard students on achievement in Mathematics.

TOOLS

A questionnaire was prepared to get the information about matrix and vector Analysis in XI std students. Test method – Achievement test of 50 marks was conducted

SAMPLE

A sample is a small proposition of a population selected for observation and analysis. By considering here the research which proposes to ascertain what is the normal or typical condition or practice at the present time". It is the only means through which opinions, attitudes and suggestions for improvement and such other data can be obtained. Survey studies help in contributing to other types of investigations and cover a large number of traits and characteristics of the group. A sample of 150 students of Higher Secondary level was selected from the following. Five difference higher secondary schools in Taluk of Namakkal district.

Table 3: Distribution of Samples

S.No.	**Variables**	**Category**	**No.of Samples**
1	Gender	Male	75
		Female	75
2	Locality	Rural	79
		Urban	71

3	Type of the School	Government	51
		Aided	50
		Private	49
4	Parents' Educational Qualification	Literate	91
		Illiterate	59

PERSONAL DATA SHEET

The personal data sheet servers to collect personal information. Students were asked to write their name, gender, locality, age, name the school, type of the school, father's and mother's educational qualification.

PROCEDURE

The questionnaire was prepared which included questions in XI standard Mathematics given to the students during extra periods. The students wrote the truthful answers. Further the classification and analysis of the results was carried out.

QUESTIONNAIRE

A Questionnaire usually contains a series of well-planned and well-framed questions on the chosen topic. Which the subjects were asked to answer? "In general the word questionnaire refers to a device for securing answer questions by using a form which the responded fills himself". Barn, David and Johnson define questionnaire "A systematic computation of question that are submitted to a sampling of population from which information is desired"

SCORING KEY

The three types of oppionnarrie consist of questions. The total maximum scores 1 and minimum scores 0.

STATISTICAL TECHNIQUES

For the analysis of data following statistical technique were adopted. They were,

1. Arithmetic Mean
2. Standard Deviation
3. 't'- test
4. 'f'- test

DELIMITATIONS OF THE STUDY

However, the following delimitations were unavoidable in the present study. The present investigation is confined to the students studying in Taluk, Namakkal District in Tamil Nadu. The study is confined only to a sample of 150 students from higher secondary schools located in rural and urban area. In this present study the investigator analyzed about the variables such as gender, locality, types of the school, father's educational qualification and mother's educational qualification.

DATA ANALYSIS

The purpose of present investigation is to study the influence of parental education on achievement in mathematics. The data for the study were collected from the students by means of a questionnaire. The analysis of data was attempted as per the objectives of the study. In the present study the data was anglicized using mainly the following techniques.

Hypothesis: 1

There is no significant difference between **male** and **female** higher secondary students with respect to influence of parents' education.

Table 4: ***Significant Difference between Male and Female Higher Secondary Students with Respect to Influence of Parents' Education***

Category	N	Mean	S.D.	't' value	Significance at 0.05 level
Male	75	44.83	17.62	4.51	No Significant
Female	75	57.5	16.73		

Table 4 examines the mean, standard deviation, 't' value and level of significance of male and female student's towards parents' education. The mean scores of male and female shows that there is significant difference in their influence of parents' education. The scores indicate that the two groups have difference. The 't' value of the group is 4.51 at 0.05 level. The calculated 't' value exceeds the tabulated value (1.98) at 0.05 level. Hence the null hypothesis is accepted.

Hypothesis: 2

There is no significant difference between **rural** and **urban** higher secondary students with respect to influence of parents' education.

Table 5: Significant Difference between Rural and Urban Higher Secondary Students with Respect to Influence of Parents' Education

Category	N	Mean	S.D.	't' value	Significance at 0.05 level
Rural	79	43.72	14.64	5.86	No Significant
Urban	71	59.44	17.8		

Table 5 examines the mean, standard deviation, 't' value and level of significance of rural and urban student's towards parents' education. The mean scores of male and female shows that there is significant difference in their influence of parents' education. The scores indicate that the two groups have difference. The 't' value of the group is 5.86 at 0.05 level. The calculated 't' value exceeds the tabulated value (1.98) at 0.05 level. Hence the null hypothesis is accepted.

Hypothesis: 3

There is no significant difference among **government, aided** and **private** higher secondary students with respect to influence of parents' education.

Table 6: Significance Difference among Government, Aided, Private Higher Secondary Students with Respect to Influence of Parents' Education

Category	N	Mean	S.D.	'f' value	Significance at 0.05 level
Government	51	51.97	23.16	1.56	Significant
Aided	50	39.7	10.6		

Private	49	66.31	15.75		

Table 6 examines the mean, standard deviation, 'f' value and level of significance of male and female student's towards parents' education. The mean scores of government, aided and private shows that there is significant difference in their influence of parents' education. The scores indicate that the two groups have difference. The 'f' value of the group is 1.56 at 0.05 level. The calculated 'f' value not exceeds the tabulated value (3.06) at 0.05 level. Hence the null hypothesis is rejected.

Hypothesis: 4

There is no significant difference between **literate** and **illiterate parents** of higher secondary students with respect to influence of parents' education.

Table 7: Significant Different between Literate and Illiterate parents of Higher Secondary Students with Respect to Influence of Parents' Education

Category	**N**	**Mean**	**S..**	**'t' value**	**Significance at 0.05 level**
Literate	91	56.15	18.86	4.56	No Significant
Illiterate	59	43.63	14.55		

Table 7 examines the mean, standard deviation, 't' value and level of significance of male and female student's towards parents' education. The mean scores of literate and illiterate parents shows that there is significant difference in their influence of parents' education. The scores indicate that the two groups have difference. The 't' value of the group is 4.56 at 0.05 level. The calculated 't' value exceeds the tabulated value (1.98) at 0.05 level. Hence the null hypothesis is accepted.

MAJOR FINDINGS

From the present study the investigator came to the following findings;

- There is no significant difference between male and female higher secondary students with respect to Influence of parents' education.
- There is no significant difference between rural and urban higher secondary students with respect to Influence of parents' education.
- There is a significant difference among government, aided, private higher secondary students with respect to Influence of parents' education.
- There is no significant difference between literate and illiterate parents of higher secondary students with respect to Influence of parents' education.

SUGGESTIONS

1. Parents should monitor their children to use mass media/internet for necessary information.
2. Parents should educate their children in all their stages to overcome the teen age problems and help them out by providing their needs.

3. Parents should bear in mind that it is a temporary phase with most children. Some of the most destructive children have later on grown up to be among the most creatively constructive. Many of them outgrow this in time.
4. We should be very friendly with the child. Parents can instill the best of everything into their child. Try to improve yourselves to be his/her best companions.

EDUCATIONAL IMPLICATIONS

In summary, all parental influences derived from this study have implications for Mathematics. These influences, which include parents serving as role models of altruism, parental support for career goal achievement, high grade expectations, introductions to the positive aspects of teaching, parents involving children in hands-on learning experiences, and the creation of environments that nurture the discovery of vocational content are all important in creating interest in Mathematics.

CONCLUSION

The findings of the present study and earlier researches supported the notion that parents' education is one of the most important factors influencing child's achievement motivation. Highly educated parents have greater success in providing their children with the cognitive and language skills that contribute to early success in school. The relationship of parents' education to their children's achievement motivation in academic area is meditated by parents' beliefs and behaviors are likely to be influenced by their educational experiences and how these parental beliefs and behaviors actually influence children's achievement motivation in academic area.

REFERENCES

1. Aruna NS (1981) "*A Study of Factors Influencing the Achievement of Standard VII students Belonging to Scheduled Castes and Scheduled Tribes whose Medium of Instruction is Kannada"*, Unpublished Doctoral Thesis, Mysore University.
2. Baumrind Diana (1989). "*Rearing Competent Children",* In Child Development Today and Tomorrow, ed. William Damon. San Francisco: Jossey-Bass.
3. Bayley N, Oden MH (1955). *"The Maintenance of Intellectual Ability in Gifted Adults"*, Journal of Educational Research, 52: 119-120.
4. Bhattachariya, Chatterjee (1986). *"A Cross study of Some Differential Aptitudes of Secondary School Students"*. Unpublished Doctoral Thesis, Calicut University.
5. Buch MB (1991). *Fourth Survey of Research in Education, Baroda, Society / for Education Research and Development*, vol.II,1991.
6. Choudary VS, Shoba Vaidya (1995). *"Effect of Mastery Learning Strategy on Achievement, Sex, and Scio- economic Status of Students: An International Study"*, Progress of Education, LXVI (7).
7. Clark (1927)"*Family Background and College Success*", School and Society, XXV, 237-238.
8. Hess Robert D, Holloway Susan D (1984). *"Family and School as Educational Institutions",* In Review of Child Development Research, Vol. 7: The Family, ed. Ross D. Parke. Chicago: University of Chicago Press.
9. Hoover-Dempsey, Kathleen V, Sandler Howard M (1997). "*Why Do Parents Become Involved in Their Children's Education?"* Review of Educational Research 67 (1):3 - 42.
10. John Connolly,(1994). *Peer self-concept of adolescence: Analysis of factor structure and association with peer experiences; Journal of research on adolescence;* Vol.4(3),385-403.

11. Schaefer Barbara A, McDermott Paul A (1999*)."Learning Behavior and Intelligence as Explanations for Children's Scholastic Achievement,"* Journal of School Psychology 37 (3):299 - 313.
12. Schunk Dale H, Zimmerman Barry J (1997). "*Social Origins of Self-Regulatory Competence,"* Educational Psychologist 32 (4):195 - 208.
13. Steinberg Laurence, Elmen Julie, Mounts Nina (1989). *"Authoritative Parenting, Psychosocial Maturity and Academic Success among Adolescents,"* Child Development 60:1424 - 1436.
14. Watkins Thomas J (1997). "*Teacher Communications, Child Achievement and Parent Traits in Parent Involvement Models,"* Journal of Educational Research 91 (1):3 - 14.