THE RELATIONSHIP BETWEEN THE ACHIEVEMENT IN MATHEMATICS AND COMPUTER EDUCATION OF SECONDARY SCHOOL STUDENTS - A COMPARATIVE STUDY

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ABSTRACT

The study was intended to find out the The Relationship between the Achievement in Mathematics and Computer Education of Secondary School Students - A Study random sampling technique was used to compose a sample of 100 secondary school students Mean Standard deviation and t values were calculated for the analysis of data. The results revealed the the ,Medium and parental income had no significant difference but, Gender and type of management exhibited significant difference in respect of their achievement relation between the mathematics and computer education.

Key words: *academic achievement, mathematics, computer education and secondary school students*

INTRODUCTION:

India has almost a common school system each state prescribed uniformity in syllabus. Children of respectively in the prescribed school same age group join their schools system. Different managements like State Govt., Central Govt., Private holding the day schools and as well as residential schools. In such situation we could find the differences in achievement of the students from different managements. This is not an exception at residential school, because of different socio-economic background of the students and other factor influence the achievement of the students. Historically Indian society has been stratified on the basis of caste upper caste enjoyed the fruits of culture and learning. The lower caste were suppressed to lead sub life's. The parents who are rich, tend to send their children to better schools the poor students cannot afford it. The poor student will get an opportunity to join in residential schools which are constituted by State Government and Central Government. In the present study the researcher selected sample of the students from Govt. and Private schools students from different localities like Rural and Urban.

BACKGROUND OF THE PROBLEM:

Few incidents influenced researcher, when researcher had worked as a teacher in private school. Those are some few students are good in Mathematics and other students were average in Mathematics but the average students thinking level in computer, way of asking questioning is different from other students. And their parent's economic conditions, educational qualification and occupational skills differ with each of them. Then as a researcher decided to find out the achievement in the relationship between Mathematics and Computer Education i.e., influenced by their parental educational qualifications and economic conditions.

SIGNIFICANCE OF THE PROBLEM:

Education is found to be a useful agent for improvement in socio-economic status. The parental education, occupation and income are the part in socio-economic status that may also have significant implication in educational sector. The relationship between the parental education, occupation income and education is reciprocal. This reciprocal relationship between socio-economic factors and education is considered one of the basis of manpower strategies and policies for educational development.

A part from the macro goals of manpower planning educational demand at the individual levels may be significantly influenced by socio-economic conditions. The same is verified with mathematics and Computer Education in Rural and Urban areas.

OBJECTIVES OF THE STUDY:
1. To find whether there is any difference between the achievement in Mathematics and Computer Education with regards to their gender of Secondary School Students.
2. To find whether there is any difference between the achievement in Mathematics and Computer Education with regards to their locality of Secondary School Students.
3. To find whether there is any difference between the achievement in Mathematics and Computer Education with regards to their Management of Secondary School Student.
4. To find whether there is any difference between the achievement in Mathematics and Computer Education with regard to their Community of Secondary School Student.
5. To find whether there is any difference between the achievement in Mathematics and Computer Education with regards to their parental education of Secondary School Students.
6. To find whether there is any difference between the achievement in Mathematics and Computer Education with regards to their parental Income of Secondary School Students.

HYPOTHESES OF THE STUDY:
1. There is no significance difference between Boys and Girls with respect to their opinions on Academic achievement in Mathematics and Computer Education.
2. There is no significance difference between 'Rural and Urban' with respect to their opinions on Academic achievement in Mathematics and Computer Education.
3. There is no significance difference between 'Govt. and Private' with respect to their opinions on Academic achievement in Mathematics and Computer Education.
4. There is no significance difference between 'Community' with respect to their opinions on Academic achievement in Mathematics and Computer Education.
5. There is no significance difference between 'Literate and Illiterate' with respect to their opinions on Academic achievement in Mathematics and Computer Education.
6. There is no significance difference between above Income 12000 and below Income 12000' with respect to their opinions on Academic achievement in Mathematics and Computer Education.

METHODOLOGY USED:
Survey research is a method for collecting, analyzing data obtained from large number of respondents representing a specific population collected through highly structured and detailed questionnaire.
DEVELOPMENT OF TOOL:
In this study keeping in view the nature of the problem the investigator selected the questionnaire, Achievement test in mathematics and computer education as the tools of research.
PILOT STUDY:
A pilot study/try out was undertaken to verify the applicability of items. For achievement test the preliminary draft was administered to 20 pupils of VIII class students in Government and Private school in Hanamkonda mandal in Warangal District. For the test 45 minutes of time was allotted. Test was determined on the basis of observation of pre – pilot study that investigator observed.
FINALIZATION OF TOOL:
After some modifications the researcher has finalized the tools. The achievement test has Ten Fill in the blanks, five multiple choice and five match the following questions and five one word answer questions it's carried total 25 marks.
POPULATION AND SAMPLE:
The population comprised of VIII peoples in Warangal District. Sample of the study consisted 100 students of VIII class in Government and Private schools by random sampling procedure.
ADMINISTRATION OF THE TOOL:
To find out the determined factors of Achievement in Mathematics and Computer Education in secondary school students in relation to their parental education, income, locality and management in one of the mandal of Hanamkonda.
TOOL: For Achievement in Mathematics the researcher conducted Scholastic Achievement Test in Mathematics. Before conducting the test I explained about the test to 8th class students, I conducted the test on that particular topic. For Achievement on computer education test the basic concepts of computer education was used (Were mod) in the test by the investigation. The questionnaire consisted the Basic concepts of Computer Education in objective type question only.

SCORING AND CODING PROCEDURE:

Mathematics Achievement Test was scored with the use of key which was prepared by the investigator. In the test, 10 Fill in the blank questions carried 1 mark each, 5 Multiple choice questions carried 1 mark each, 5 Match the following questions carried 1 mark each, 5 One word answer questions carried one mark each The total marks are 25. Computer Test was scored with the use of key, which was prepared by the investigator (In that test) In the test,   10 Fill in the blank questions carried 1 mark each, 5 Multiple choice questions carried 1 mark each, 5 Match the following questions carried 1 mark each, 5 One word answer questions carried one mark each The total marks are 25.

ANALYSIS AND INTERPRETATION OF DATA

Hypothesis – I: There is no significance difference between Boys and Girls with respect to their (Opinion on) Academic achievement in Mathematical and Computer Education.

Table – 1

Gender		N	Mean	S.D	t-ratio	Level of Significance
Boys	**Maths**	**43**	**11.44**	**4.45**	**1.36**	**Not Significant**
	Comp.		**12.86**	**5.21**		
Girls	**Maths**	**57**	**9.33**	**4.19**	**5.19**	**Significant**
	Comp.		13.59	4.69		

For the Boys the mean score of Mathematics and Computers Education is 11.44 and 12.86 respectively. The t-value is found to be 1.36 is not significant at 0.05 & 0.01 levels. Hence, the hypothesis is accepted. For girls the mean scores of Mathematics & Computer Education are found to be 9.33 and 13.59 respectively. The t-value is found to be 5.19 which is Significant at both levels. Hence the hypothesis is rejected. Even though the t-value shows the relationship between Mathematics and Computer Science in boys and girls, the mean values differ showing. From the mean values and t-values two observations can be made. When mean values of Mathematics and Computer Education are compared between boys and girls, boys are better on Mathematics and Computer Education then girls.

Hypothesis – 2: There is no significance difference between Rural & Urban with respect to their Opinion on Academic achievement in Mathematical and Computer Education.

Table -2:

Locality		N	Mean	S.D	t-ratio	Level of Significance
Rural	**Maths**	**50**	**12**	**3.63**	**1.5**	**Not Significant**
	Computer		13.14	4.0		
Urban	**Maths.**		8.48	4.61	**1.78**	**Not Significant**
	Computer	50	13.42	5.91		

For the students of Rural schools the mean value of Mathematics and Computer Science are 12 and 13.14 respectively. The t-value researcher found to be 1.5 which is not significant at 0.05 & 0.01 levels, hence, the hypothesis is accepted at both levels. For the student of Urban schools the mean value of Mathematics and Computer Education as 8.48 and 13.42 respectively. The t-value is found to be 1.78 which is not significant at 0.05 & 0.01 levels. Hence the hypothesis is accepted at both levels.

Hypothesis – 3: There is no significance difference between Government and Private with respect to their Opinion on Academic achievement in Mathematical and Computer Education.

Table – 3

Type of Management			N	Mean	S.D	t-ratio	Level of Significance
Govt.	**Boys**	**Maths**	27	10.07	4.2	**1.74**	Not Significant
		Comp.		12.29	5.16		
	Girls	**Maths**	33	9.12	4.05	**3.91**	Significant
		Comp.		13.31	4.65		

For the students of government school Boys the mean values of Mathematics and Computer Education are 10.07 and 12.29 respectively. The t-value is found to be 1.74 which is not significant at both levels. The null hypotheses is accepted. For the students of Government school girls the mean value of Mathematics and Computer Education are 9.12 and 13.31 respectively. The t-value is found to be 3.91 which is significant at 0.05 and 0.01 levels. Hence the hypothesis is rejected.

Table – 4

Type of Management			N	Mean	S.D	t-ratio	Level of Significance
Private	Boys	Maths	15	12	4.78	0.53	Not Significant
		Comp.		13	5.54		
	Girls	Maths	25	9.68	4.44	2.90	Significant
		Comp.		13.72	5.38		

For the students of private school Boys the mean values of Mathematics and Computer Education are 12 and 13 respectively. The t-value is found to be 0.53 which is not significant at both levels. The null hypothesis is accepted. For the students of private school girls the mean value of Mathematics and Computer Education are 9.68 and 13.72 respectively. The t-value is found to be 2.90 which is significant at 0.05 and 0.01 levels. Hence the hypothesis is rejected.

Hypothesis – 4: There is no significant between community with respect to their opinions on Academic achievement in Mathematics and Computer Education.

Table – 5

Community		N	Mean	S.D	t-ratio	Level of Significance
OC	Maths	6	9.5	4.11	1.65	Not Significant
	Comp.		14.16	5.55		
BC	Maths	48	10.58	4.07	2.97	Significant
	Comp.		13.35	5.06		
SC	Maths	37	9.64	4.53	2.89	Significant
	Comp.		12.91	5.24		
ST	Maths	5	12.4	5.6	0.70	Not Significant
	Comp.		14.6	4.2		
MIN	Maths	4	10	4.12	0.75	Not Significant
	Comp.		12.25	4.29		

For the OC caste the mean scores of Mathematics and Computer Education are 9.5 and 14.16 are respectively. The t-value researcher found to be 1.65 is not significant at both levels. Hence, the hypothesis is accepted. For the BC caste the mean scores of Mathematics and Computer Education are 10.58 and 13.35 are respectively. The t-value researcher found to be 2.97 is not significant at both level. Hence, the hypothesis is rejected. For the SC caste the mean scores of Mathematics and Computer Education are 9.64 and 12.91 are respectively. The t-value researcher found to be 2.89 is not significant at both levels. Hence, the hypothesis is rejected. For the ST caste the mean scores of Mathematics and Computer Education are 12.4 and 14.6 are respectively. The t-value researcher found to be 0.70 which is not significant at both levels. Hence, the hypothesis is accepted. For the Minority the mean scores of Mathematics and Computer Education are 10 and 12.25 are respectively. The t-value researcher found to be 0.75 which is not significant at both levels; hence, the hypothesis is accepted.

Hypothesis – 5: There is no significant difference between Literate and Illiterate with respect to their opinions on Academic achievement in Mathematics and Computer Education.

Table-6

Parental Education	N	Mean	S.D	t-ratio	Level of Significance
Illiterate	28	12.53	3.68	1.05	Not Significant
Literate	72	11.61	4.48		

The table shows mean scores, S.D scores and t-values. The highest mean 12.53 for the level of illiterate and 11.62 low level of literate. The t-value has found to be 1.05 and not significant at both levels, hence null hypothesis is accepted. It is concluded that there is a significance relationship between Mathematics and Computer Education.

Hypothesis – 6: There is no significant between in Income (above 12000 and below 12000) with respect to their opinions on Academic achievement in Mathematics and Computer Education.

Table-7

Parental Income	N	Mean	S.D	t-ratio	Level of Significance
Below 12000	84	12.05	4.61	1.34	Not Significant
Above 12000	16	10.18	5.22		

The table shows mean scores, SD and t-values. The highest mean as 12.05 for below 12000 income parents and 10.189 for above 12000 income parents. The table shows mean values of 12.05 and 10.18 are respectively. The t-value researcher found to be 1.34 is not significance at both 0.05 and 0.01 levels. Hence, the hypothesis is accepted at both levels.

11.FINDINGS AND CONCLUSIONS OF THE STUDY:

1. To find whether there is any difference between the achievement in Mathematics and Computer Education with regard to their gender of secondary school students. In this objective the information of gender is divided into boys and girls then the researcher found the relation between the gender and the achievement in Mathematics and Computer Education. The finding results of the boys mean is 11.44 and 12.86 on Mathematics and Computer Education respectively and its SD are 4.45 and 5.21 and t-ration 1.36. The girls mean is 9.33 and 13.59 Mathematics and Computer Education respective the SD are 4.19 and 4.69 and t-ration 5.19.

2. To find whether there is any difference between the achievement in Mathematics and Computer Education with regards to their locality of secondary school students. In this objective the information of locality is divided in to rural and urban. Then the researcher found the relation between the rural & urban and achievement in Mathematics and Computer Education. The finding results of the rural Mathematics and Computer Education means are 12 and 13.14 respectively and its SD are 3.63 and 4.00 and its t-ratio is 1.5. The finding results of urban Mathematics and Computer Education mean are 8.48 and 13.42 respectively and its SD are 4.61 and 5.91 and its t-ratio 1.78.

3. To find whether there is any difference between the achievement in Mathematics and Computer Education with regards to their management of secondary school students.
    In this objective the information of management is divided into government and private. Then the researcher found the relation between government and private and achievement in Mathematics and Computer Education. The finding results of government Mathematics and Computer Education are in Boys 10.07 and 12.29 respectively and its SD are 4.2 and 5.16 and its t-ratio is 1.74. The results in government girls means in Mathematics and Computer Education 9.12 and 13.31 respectively, and its SD are 4.05 and 4.65 and its t-ratio is 3.91.

4. To find whether there is any difference between achievement in Mathematics and Computer Education with regard to their community of secondary school students.
    In this objective the information of community is divided into OC, BC, SC, ST and Minority. Then the researcher found the relation among community and Achievement Mathematics and Computer Education. The finding results of OC mean in Mathematics and Computer Education are 9.5 and 14.16 respectively, and SD are 4.11 and 5.55 and its t-ratio is 1.65. The finding results of BC students Mathematics and Computer Education means are 10.58 and 13.35 respectively and its SD are 4.07 and 5.06, and its t-ration is 2.97. The finding results of SC students Mathematics and Computer Education score means are 9.64 and 12.41 and its SD are 4.83 and 5.24 and its t-ratio is 2.89. The finding results of ST students Mathematics and Computer Education score means are 12.4 and 14.6 respectively and its SD are 5.6 and 4.2 and its t-ratio is 0.70. The finding results of Minority Mathematics and Computer Education score means is 10 and 12.25 respectively, and its SD are 4.12 and 4.29 and its t-ratio 0.75.

5. To find whether there is any difference between achievement in Mathematics and Computer Education with regard to their parental education of secondary school students. In this objective the information of parental education is divided Illiterate and Literate. Then the researcher found the relation between parents education and academic achievement on Mathematics and Computer Education. The finding results of the parent education in illiterate and literate mean is 12.53 and 11.62 and SD are 3.68 and 4.48 and its t-ratio is 1.05.

6. To find whether there is any difference between the achievement in Mathematics and Computer Education with regard to their parental income of secondary school students. In this objective the information of parental income is divided into income below 12000 and above 12000. Then the researcher found the relation between parental income and achievement in Mathematics and Computer

Education. The finding results of the income below 12000 mean is 12.05 and SD 4.61 and its income above 12000 mean is 10.18 and its SD is 5.22 and its t-ratio 1.34.

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