

*Chapter – 4*  
*Results and*  
*Interpretation*

# CHAPTER - IV

## RESULTS AND INTERPRETATION

### 4.1 INTRODUCTION

The analysis of data is the heart and soul of any research work. If the collective data are systematically arranged and analysed through appropriate scientific and statistical technique, the results obtained are scientific and correct. This is where precision counts most.

This chapter deals with the analysis of the data. The purpose of the present study was to find out the relationship between reading comprehension & mathematics achievements & the role of language of instruction or medium of instruction. Forty children each from Grade V from English medium and Hindi Medium were administered tests of Reading comprehension and intelligence. Their achievement in mathematics was assessed from their Grade-IV annual marks in mathematics subject.

Raven's coloured progressive Matrices (RCPM) test which assessed children's intelligence, revealed no significant differences between English Medium and Hindi Medium children. The test for reading comprehension were given both in English and Hindi Languages. For, this four tests were administered, namely, word identification (English), passage comprehension (English), word decoding (Hindi), and passage comprehension (Hindi). (The Hindi version being the translation of the English version of the tasks). The data was analyzed by 't' test and correlation. Analysis of data was done in following manner.



## 4.2 TESTING OF HYPOTHESES

### HYPOTHESIS 1 –

There is no significant difference in the English Medium and hindi Medium students in Intelligence and Socio-Economic Status (SES).

**Table No. 2 – Means SD and ‘t’ value of Grade-V English Medium and Hindi Medium students (N=40 in each case). Intelligence and Socio-Economic Status (SES) variables.**

Medium		N	Mean	SD	df	‘t’
Intelligence	English	40	31.98	29.53	78	1.286
	Hindi	40	25.88	5.30		
Fathers Qualification	English	40	2.42	0.53	78	0.82
	Hindi	40	2.33	0.53		
Mother Qualification	English	40	2.17	0.04	78	1.52
	Hindi	40	1.99	0.44		
Fathers Occupation	English	40	1.45	0.68	78	0.4
	Hindi	40	1.60	0.74		
Monthly Income	English	40	1.48	0.78	78	0.00
	Hindi	40	1.40	0.78		

Table No. 2 shows that there is no significant difference between the English medium and Hindi medium students in intelligence and Socio-Economic status (SES). If we observe the intelligence of English Medium and Hindi Medium students we found from the table that the mean of English medium is 31.98 and SD 29.53 where as Mean of Hindi medium 25.88 and SD 5.30 and the ‘t’ value comes out to be 1.286 with 78 degree of freedom ‘t’ value is more than calculated value (.202) which is not significant hence hypothesis is accepted.

Second factor which the study have been focused is SES/Background of the students. To asses the SES of students gathering information on some important factors like Father’s educational qualification, Mother educational

qualification, Father's occupation and monthly income of the father. In educational qualification following categories were taken : (1) Matriculation and +2 (2) Graduation (3) Post-Graduation. In the same way following categories were taken in father's occupation : 1. Government Job, 2. Private Job, 3. Business. Lastly, monthly income of the father is categorized as : 1. 4000-8000, 2. 8001-12000, 3. 12001-16000, 4. 16001-20000.

These are the major factors which might be affect the students academic achievement.

From the above table it shows that the father qualification of English Medium students and mean of father qualification 2.42, SD 0.53 where as Hindi medium the mean value comes out to be 2.33 and SD 0.53 and the 't' value comes out with 78 degree of freedom which is not significant so here we conclude that father qualification in both the groups are similar. Mother qualification of English medium and Hindi medium the mean value of mother's qualification in English medium is 2.17 SD 0.04 where as in Hindi medium mean value is 1.90 and SD 0.04. And the 't' value comes out to be 1.52 which is also not significant. Hence, we conclude that there is no difference in the mother qualification of English medium & Hindi medium students. Father occupation of English medium student shows that the mean value of English medium is 1.45 and SD.68 where as for Hindi medium. Mean value 1.60 and SD .74 and 't' value comes out to be 0.4 with 78 degree of freedom it shows that it is not significant. It means that in both the groups father occupation mostly in favour of Government Job Employees. In the same manner monthly income of the father of English medium & Hindi medium students are shows that the mean value of English medium mean value is 1.40 and SD .78 and 't' value comes out to be 0.00 which is not significant hence we say that there is no difference in the Monthly income of English medium student & Hindi medium students.

Hence, the results goes in favour of the family background whose monthly income goes to 3<sup>rd</sup> category i.e. 12001 to 16000/-.

In the end we conclude that there is no significant difference is the intelligence father qualification, mother qualification, father occupation & monthly income of the father. Further it may be said that these two major variables intelligence and socio-economic status does not influence the Reading Comprehension and Mathematics Achievement of English Medium & Hindi Medium Students.

### **HYPOTHESIS 2 –**

There is no significant difference in the Reading Comprehension of English Medium and Hindi Medium students.

**Table No. 3 – Means SD and ‘t’ value of Grade-V English Medium and Hindi Medium students (N=40 in each case). Reading Comprehension given in their Respective language of instruction.**

Category	N	AM	SD	df	‘t’
English	40	42.85	14.22	78	2.44*
Hindi	40	35.83	11.35		

\* Significant at 0.05 level

Table No. 3 shows significant difference in the Reading comprehension of English medium and Hindi Medium students. The mean value of English medium students are 42.85 and S.D. 14.22 and the mean value of Hindi Medium students 35.83 and S.D. 11.35 and the ‘t’ value of both the medium comes out to be 2.44 which is greater than the tabulated value with 78 degree of freedom at 0.05 level. It implies that there is significant difference in the Reading comprehension of English Medium and Hindi Medium Students. English

Medium students were good in Reading comprehension as compared to Hindi Medium students. Hence our hypothesis is rejected.

**HYPOTHESIS – 3.**

There is no significant difference in the Mathematics Achievement of English Medium and Hindi Medium students.

**Table No. 4 – Means SD and ‘t’ value of Grade-V English Medium and Hindi Medium students (N=40 in each case). In Mathematics Achievements.**

Category	N	AM	SD	Df	‘t’
English	40	67.53	16.75	78	2.391*
Hindi	40	58.58	16.73		

\* significance at 0.05 level.

Table No. 4 shows that there is significant difference in the Mathematics Achievement of English Medium and Hindi Medium students. The mean value of English medium students were 67.53 and S.D. 16.75 and Hindi medium students were 58.58 and SD 16.73 & the obtained value of ‘t’ is 2.391 which is more than the table value with 78 degrees of freedom at 0.05 level. It mean that hypothesis is rejected. The performance of English Medium students are better in Mathematics achievement than Hindi Medium students.

**HYPOTHESIS 4 –**

There is a significant relationship between Reading comprehension and Mathematics Achievement of English Medium students.

**Table No. 5 – Means SD and ‘t’ value of Grade-V English Medium and Hindi Medium students (N=40 in each case). Reading Comprehension given in their Respective language of instruction.**

**CORRELATION TABLE FOR ENGLISH MEDIUM STUDENTS**

	<b>Reading Comprehension</b>	<b>Mathematics Achievement</b>	<b>Intelligence</b>	<b>Word Identification</b>
<b>Reading Comprehension</b>	1.000	0.558**	0.079	0.703
<b>Mathematics Achievement</b>		1.000	- 0.047	0.639
<b>Intelligence</b>			1.000	- 0.033
<b>Word Identification</b>				1.000

\*\* Significant at 0.01 level

Table No. 5 shows the relationship between Reading Comprehension and Mathematics Achievement of English Medium students. From the above table the correlation value between reading comprehension and mathematics achievements is 0.558\*\*. At 0.01 levels indicates that there is a significant correlation between reading comprehension and Mathematics Achievement of English Medium students. Hence hypothesis is accepted.

It is also observed from the table that there is a significant correlation between reading comprehension and Word Identification. The correlation value of 0.703 is significant at 0.01 level. Similarly the correlation value of 0.639\*\* indicates that there is a significant correlation between words identification and mathematics achievement at 0.01 level.

## HYPOTHESIS 5 –

There is a significant relationship between Reading comprehension and Mathematics Achievement of Hindi Medium students.

**TABLE NO. 6 : CORRELATION TABLE FOR HINDI MEDIUM STUDENTS**

	<b>Reading Comprehension</b>	<b>Mathematics Achievement</b>	<b>Intelligence</b>	<b>Word Identification</b>
<b>Reading Comprehension</b>	1.000	0.526**	0.509**	0.691**
<b>Mathematics Achievement</b>		1.000	0.810**	0.801**
<b>Intelligence</b>			1.000	0.641**
<b>Word Identification</b>				1.000

\*\* Correlation is significant at the 0.01 level.

Table No. 6 shows the relationship between Reading Comprehension and Mathematics Achievement of Hindi Medium students. From the above table the correlation value comes out to be 0.526\*\*. This indicates that there is a significant correlation between Reading Comprehension and Mathematics Achievement of Hindi Medium students at 0.01 level. Hence hypothesis is accepted.

From the above table it is also observed that there is a correlation between Reading Comprehension and word identification of Hindi Medium students. The value 0.691\*\* is significant at 0.01 level. In case of Mathematics achievement and word identification the correlation value 0.801\*\* indicates that there is a significant correlation at 0.01 level.



### **HYPOTHESIS – 6.**

There is no significant different in intelligence Boys & Girls of Grade-V.

### **HYPOTHESIS 7 –**

There is no significant difference in the reading comprehension of boys & girls of Grade-V

### **HYPOTHESIS 8 –**

There is no significant difference in the Mathematics Achievement of Boys and Girls of Grade V.

**Table No. 7 shows the Mean, SD and ‘t’ value of Boys and Girls of Grade V on all intelligence, Reading and Mathematics Achievement.**

Sex	N	Mean	S.D.	df	‘t’
Intelligence	Boys	50	26.36	78	- 1.399
	Girls	30	33.20		
Word Identification	Boys	50	65.76	78	0.005
	Girls	30	65.73		
Reading Comprehension	Boys	50	38.82	78	- 0.448
	Girls	30	40.20		
Mathematics Achievement	Boys	50	62.64	78	- 0.273
	Girls	30	63.73		

### **HYPOTHESIS 6 –**

It is found from the table no. 7 that there is no significant difference in intelligence of Boys and Girls of Grade V. The Mean value of boys is 26.36 and SD 6.04 where as Girls mean value comes out to be 33.20 where SDs 33.83

and the calculated 't' value  $-1.399$  with 78 degree of freedom. The tabulated value is less than the calculate value Hence it is not significant.

#### **HYPOTHESIS 7 –**

From the above table the mean value of boys are 38.82 and S.D. 12.44 where as the mean value for girls comes out to be 40.20 S.D. 14.70. The calculated 't' value is  $-0.448$  with 78 degree of freedom which is less than the tabulated value. Hence there is no significant difference in the Reading Comprehension of Boys and Girls. The Girls are found to be comparable to boys in their reading comprehension.

#### **HYPOTHESIS 8 –**

From the Table No. 7 it is found that there is no significant difference in the Mathematics Achievement of Boys and Girls of Grade V. The Mean value of boys 62.64 and S.Ds 16.00 where the mean value of Girls comes out to be 63.73 and S.Ds 63.73. And the calculated 't' value  $-0.273$  which is less than the tabulated value hence it is not significant.