

CHAPTER – IV

ANALYSIS AND INTERPRETATION OF DATA

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4.0 Introduction

Statistics is a body of mathematical technique or process for gathering, organizing, analyzing and interpreting numerical data. Since research yields quantitative data, statistics is the basic tool of measurement, evaluation and research. Statistical data describes group behaviour or group characteristics abstracted from a number of individual observations which are combined to make generalization possible. Statistical method goes to the fundamental purposes of description and analysis. Statistics enables the researcher to analyze and interpret the data for drawing conclusions.

Interpretation of the data refers to that important part of the research which is associated with the drawing of inferences from the collected facts. Statistical facts by themselves have no utility. It is the interpretation that makes it possible to utilize the collected data in various fields of study.

4.1 Techniques Used in Data Analysis

This study has undertaken a study of grammatical knowledge of 8th class student in English with certain demographic variables in terms of mean, Standard deviation, T-test and ANOVA. Thus the

- 1) Dependent variable is – Grammar knowledge in English
- 2) Demographic variables are –

- a. Gender
- b. Type of School
- c. Father Education
- d. Father Occupation
- e. Mother Education
- f. Mother Occupation

4.2 Verification of Hypothesis

There are seven hypotheses in this study. All these hypotheses are tested and the result are interpreted as per the problem under investigation.

Hypothesis - 1

The first hypothesis of the study states that there is no significant difference between boys and girls with respect to grammatical knowledge in English. This hypothesis is verified and results are shown in table – 4.1.

Table 4.1: Significance of ‘t’ between boys and girls with respect to grammatical knowledge in English.

Category	AM	SD	N	df	t	Sig
Boys	31.24	8.31	241	398	1.34	p>0.05
Girls	32.40	8.59	159			

* Not significance at 0.05 level.

The value of 't' is not found to be significant and hence hypothesis is accepted. This shows that boys do not differ significantly from girls in respect of their grammatical knowledge in English.

Hypothesis - 2

The second hypothesis of the study stating that there is no significant difference between the students of state board and CBSE board in respect of their grammatical knowledge in English. This hypothesis is verified and results are shown in table – 4.2.

Table 4.2: Significance of 't' between students belonging to state board and CBSE board with respect to their grammatical knowledge in English.

Category	AM	SD	N	Df	t	Sig
CBSE Board	36.22	6.86	200	398	12.67	p< 0.01
State Board	27.18	7.38	200			

* Significance at 0.01 level.

The value of 't' is found to be significant at 0.01 level and hence hypothesis is rejected. This shows that students studying in CBSE board do differ significantly from their counterparts in state board schools in respect of their grammatical knowledge. Further, it is found that students of CBSE (AM=36.22) have better grammatical knowledge in English compared to their counterparts in state board (AM=27.18).

Hypothesis – 3

The third hypothesis of the study states that there is no significant difference between students belonging to Government and Private schools in respect of their grammatical knowledge in English.

Table - 4.3: Significance of 't' between students belonging to Government and private schools in respect of their grammatical knowledge in English.

Category	AM	SD	N	df	t	Sig
Govt	32.27	6.97	200	398	1.35	p> 0.05
Private	31.13	9.65	200			

* Not significance at 0.05 level.

The value of 't' is found to be not significant at 0.05 level and hence hypothesis is accepted. This shows that students belonging to Government schools do not differ significantly from their counterparts belonging to private school in respect of their grammatical knowledge in English.

Hypothesis – 4

The fourth hypothesis of the study states that there is no significant influence of father's education on the grammatical knowledge of student in English. On verification of this hypothesis, results are presented in table – 4.4.

Table 4.4 Significance of 'F' between categories of father's education in respect of knowledge of English grammar.

Source of Variance	Sum of Square	Mean Square	df	F	Sig
Between group	5158.94	2579.47	2	44.09	p < 0.01
Within group	23223.45	58.49	397		
Total	28382.397		399		

* Significance at 0.01 level.

The value of 'F' is found to be significant. And hence the hypothesis is rejected. This shows that there are significant differences between different categories of father's education in respect of English grammar of children. This means children whose father's education is graduate, post graduate and school education do differ in their English grammar knowledge.

In order to know significance of difference between categories of father's education, significance of mean differences are computed and the results are presented in table – 4.5

Table – 4.5: Significance of mean difference between different categories of father's education in respect of English grammar knowledge.

Category 1	Category 2	MD	Sig
Graduation (AM – 33.3)	Post Graduate (AM - 36.95)	3.65	P<0.05
Graduation	School Education (AM – 26.85)	6.44	P<0.01
Post Graduation	School Education	10.09	P<0.01

* Significance at 0.05 level.



Significant mean differences are noticed between all the categories of father's education (post graduation, graduation and school education). From this it is evident that students whose father's education is post graduation & Graduation (MD=3.65 & $p<0.05$); post graduation & school education (MD=10.09 & $p<0.01$); and graduation & school education (MD=6.44 & $p<0.01$) do differ significantly from each other in respect of their English grammar knowledge.

On comparing, the arithmetic means, it is found that the students whose father's education is post graduation (AM=36.95) are better in their English grammatical knowledge compared to their counterparts whose father's education is graduation (AM=33.3) and school education (AM=26.85). From this it is evident that higher the father's education higher will be the English grammatical knowledge of students.

Hypothesis – 5

The fifth hypothesis of the study states that there is no significant influence of father's occupation on the grammatical knowledge of student in English. On verification of this hypothesis, results are presented in table – 4.6

Table 4.6 Significance of 'F' between categories of father's occupation in respect of knowledge of English grammar.

Source of Variance	Sum of Square	Mean Square	df	F	Sig
Between group	1223.70	407.90	3	5.94	p < 0.01
Within group	27158.69	68.58	396		
Total	28382.39		399		

* Significance at 0.01 level.

The value of 'F' is found to be significant. And hence the hypothesis is rejected. This shows that there are significant differences between different categories of father's occupation in respect of English grammar of children. This means children whose father's occupation is service, business, teacher and others do differ in their English grammar knowledge.

In order to know significance of difference between categories of father's occupation, significance of mean differences are computed and the results are presented in table – 4.7

Table – 4.7: Significance of mean difference between different categories of father's occupation in respect of English grammar knowledge.

Category1	Category2	MD	Significance
Service (AM-33.11)	Business (AM-33.22)	2.11	p>0.05
Teacher (AM-38.17)	Others (AM-25.40)	12.76	P<0.05
Service	Others	5.71	p>0.05
Business	Teacher	4.94	p>0.05
Service	Teacher	7.05	P<0.05
Business	Others	7.82	P<0.05

* Significance at 0.05 level.

Significant mean differences are noticed between all the categories of father's occupation (service, business, teacher, and others). From this it is evident that students whose father's occupation is service & business (MD=2.11 & p>0.05); teacher & others (MD=12.76 & p<0.05); service & others (MD=5.71 & p>0.05); business and teacher (MD=4.94 & p>0.05); service and teacher (MD=7.05 & p<0.05); and business & other (MD=7.82 & p<0.05); do differ significantly from each other in respect of their English grammar knowledge.

On comparing, the arithmetic means, it is found that the students whose father's occupation is teacher (AM=38.17) are better in their English grammatical knowledge compared to their counterparts whose father's

occupation is service (AM=33.11); business (AM=33.22) and others (AM=25.40). From this it is evident that whose fathers occupation is teacher their English grammatical knowledge is higher.

Hypothesis – 6

The sixth hypothesis of the study states that there is no significant influence of mother’s education on the grammatical knowledge of student in English. On verification of this hypothesis, results are presented in table – 4.8.

Table 4.8 Significance of ‘F’ between categories of mother’s education in respect of knowledge of English grammar.

Source of Variance	Sum of Square	Mean Square	df	F	Sig
Between group	6968.82	3484.41	2	64.60	p< 0.01
Within group	21413.56	53.93	397		
Total	28382.39		399		

* Significance at 0.01 level.

The value of ‘F’ is found to be significant. And hence the hypothesis is rejected. This shows that there are significant differences between different categories of mother’s education in respect of English grammar of children. This means children whose mother’s education is graduate, post graduate and school education do differ in their English grammar knowledge.

In order to know significance of difference between categories of mother’s education, significance of mean differences are computed and the results are presented in table – 4.9

Table – 4.9: Significance of mean difference between different categories of mother’s education in respect of English grammar knowledge.

Category 1	Category 2	MD	Sig
Graduation (AM-34.96)	Post Graduation (AM-38.02)	3.06	P<0.05
Others (AM-27.39)	Graduation	7.57	P<0.01
Post Graduation	Others	10.63	P<0.01

* Significance at 0.01 level.

Significant mean differences are noticed between all the categories of mother’s education (post graduation, graduation and school education). From this it is evident that students whose mother’s education is post graduation & Graduation (MD=3.06 & p<0.05); post graduation & school education (MD=10.63 & p<0.01); and graduation & school education (MD=7.57 & p<0.01) do differ significantly from each other in respect of their English grammar knowledge.

On comparing, the arithmetic means, it is found that the students whose mother’s education is post graduation (AM=38.02) are better in their English

grammatical knowledge compared to their counterparts whose mother's education is graduation (AM=34.96) and school education (AM=27.39). From this it is evident that higher the mother's education higher will be the English grammatical knowledge of students.

Hypothesis – 7

The seventh hypothesis of the study states that there is no significant influence of mother's occupation on the grammatical knowledge of student in English. On verification of this hypothesis, results are presented in table – 4.10

Table 4.10 Significance of 'F' between categories of mother's occupation in respect of knowledge of English grammar.

Source of Variance	Sum of Square	Mean Square	df	F	Sig
Between group	1066.89	355.63	3	5.15	p< 0.05
Within group	27315.50	68.97	396		
Total	28382.39		399		

* Significance at 0.05 level.

The value of 'F' is found to be significant. And hence the hypothesis is rejected. This shows that there are significant differences between different categories of mother's occupation in respect of English grammar of children.

This means children whose mother’s occupation is service, house wife, teacher and others do differ in their English grammar knowledge.

In order to know significance of difference between categories of mother’s occupation, significance of mean differences are computed and the results are presented in table – 4.11

Table – 4.11: Significance of mean difference between different categories of mother’s occupation in respect of English grammar knowledge.

Category1	Category2	MD	Significance
House wife (AM-30.99)	Service (AM-35.88)	4.89	P<0.05
House wife	Teacher (AM-37.00)	6.00	P>0.05
House wife	Others (AM-34.50)	3.50	p>0.05
Service	Teacher	1.38	p>0.05
Service	Others	1.11	P>0.05
Teacher	Others	2.50	P>0.05

* Significance at 0.05 level.

Significant mean differences are noticed between all the categories of mother's occupation (service, house wife, teacher and others). From this it is evident that students whose mother's occupation is house wife & service (MD=4.89 & $p < 0.05$); house wife & teacher (MD=6.00 & $p > 0.05$); house wife & others (MD=3.50 & $p > 0.05$); service and teacher (MD=1.38 & $p > 0.05$); service and other (MD=1.11 & $p > 0.05$); and teacher & other (MD=2.50 & $p > 0.05$); do differ significantly from each other in respect of their English grammar knowledge.

On comparing, the arithmetic means, it is found that the students whose mother's occupation is teacher (AM=37.00) are better in their English grammatical knowledge compared to their counterparts whose mother's occupation is service (AM=35.88); others (AM=34.50) and house wife (AM=30.99). From this it is evident that whose mothers occupation is teacher their English grammatical knowledge is higher.