CHAPTER-IV

DATA ANALYSIS

AND

INTERPRETATIONS

DATA ANALYSIS AND INTERPRETATION

4.0 Introduction

In the first chapter, researcher presented with an introduction to the problem, stated the problem and brought out the rationale of the problem. Further, researcher formulated objectives of the study and also framed research questions that guided the research work. At the end, the researcher has mentioned limitations of the study. In the second chapter, a brief review of researches conducted by various researchers has been mentioned. The third chapter presents the methodology followed in carrying out the study. This chapter deals with the presentation of all the methods implemented to gather data and how the actual research work has been conducted by the researcher.

The present chapter is devoted to analysis and interpretation of data. The conclusions of the study have been presented towards the end of the chapter. The data collected through the tools such as: Questionnaire for the teachers and Interview Schedule for the students were subjected to appropriate procedure to interpret the research question with which this study was initiated. The details of the technique employed for analysis of data, results obtained through this analysis and the decisions regarding the research questions are presented in this chapter.

4.1 Teachers' Perception about ICT Use in Classroom

In this section, the results pertaining to the perception of respondents about the type of ICTs they use, availability of ICT facilities in schools under study; institutional support; time devoted; and the problems the teachers face etc. is presented:

4.1.1 Use of ICT

In this section the result pertaining to ICTs being used by the teachers during teaching learning process in the classroom is presented:

Table -4.1

Teachers use of ICTs in the classroom   (N=10)

S.No	Name of ICT	Percentage of teachers Use
1	LCD Projector	0%
2	Computer(Desktop)	(1)10%
3	Smart Class	0%
4	Smart Board	0%
5	Laptop	(7)70%
6	Smart Phone(Mobile)	(8)80%

The results of table 4.1 show that a very high proportion of teachers use smart phone (80%) and laptop (70%). None of teachers have reported to use LCD projector, smart class or smart board. However, only 10% of the have reported to use desktop

4.1.2 Institutional Support

In this section the result pertaining to institutional support, as perceived by the teachers, is presented. As high as70% of the teachers responded that school authorities provide support to use ICTs in teaching learning process.

4.1.3 Time

To a question as to whether the time allotted in the school time table is appropriate to use ICTs, as high as 70 % teachers responded positively. The 30% of the teachers who answered negatively suggested that time table should be prepared according to the needs of subjects; there should be some space for activity; more number of classes are required; and 1-2 periods per week should be devoted in ICT Lab.

4.1.4 Problems viz-a-viz Suggestions

In this section the result pertaining to the specific problems faced by the teachers in the use of ICT in teaching learning process and their suggestions to overcome those problems have been presented. The major problems as perceived by majority of the teachers include: (i) Lack of availability of ICT tools;(ii)Lack of familiarity with ICT tools; (iii)Inadequate ICT tools; and (iv)Insufficient time allotted in time table.

The major suggestions made by these teachers for effective use of ICT in teaching curricular subjects include:(i) ICT should be used to supplement the text or to clarify the concepts; (ii) Updating of teaches about the latest trends and changes in ICT sector; (iii) Use of smart class with related software so as to show contents related presentations, videos, images, world maps, documents etc.; and (iv) Preparation and use of self-instructional materials.

4.2   Teachers Perceptions about ICT Use in Other Curricular Areas

In this section the perception of respondents pertaining to the curricular activities in which they use ICT; teaching other curricular subjects in which they use ICT; development of personal social qualities of students in which they use ICT; suggestions for use of ICT in the curricular activities, use of ICT in the other curricular subjects; and the use of ICT in the development of personal social qualities have been presented.

4.2.1 Curricular Activities

In this section the result pertaining to curricular activities in which teachers use ICT, as perceived by themselves, is presented. As high as 90% of teachers responded that they don't use ICT in the curricular activities; and 10% of the teachers who answered that they use ICT in the curricular activities further clarified that the use of ICT is limited to listening and speaking test.

4.2.2 Other Curricular Subjects

In this section the result pertaining to use ICT in teaching other curricular subjects, as perceived by them, is presented.As high as70 %of teachers responded that they don't use ICT in the other curricular subjects; and 30% of the teachers who answered that they use ICT in the teaching other curricular subjects further clarified that their use of ICT is limited to subjects like moral education and moral values.

4.2.3 Personal social qualities (PSQ)

In this section the result pertaining to use ICT in the development of personal social qualities of students, as perceived by the teachers, is presented.As high as60% of teachers responded that they don't use ICT in the development of personal social qualities (PSQ) of students; and 40% of the teachers who answered that ICT is used in the development of personal social qualities (PSQ) for students further clarified that the use of ICT is limited to use of videos for importance of time, respect elders, honesty, self discipline, truthfulness, and motivational stories.

The suggestions made by the teachers the use of ICT in the teaching of curricular subjects, curricular activities, other curricular subjects, and development of personal social qualities is presented as follows:

(A) Curricular Activities

The major suggestions made by these teachers for effective use of ICT incurricular activities include:(i) Poems;(ii) Discussion;(iii) Drama;(iv) Grammar;(v)Supplement the subject knowledge;(vi) Conducting ALS;(vii) Creating interest;(viii) Concept formation;(ix) Build listening quality;(x) Innovations; and (xi) Conduct seminar.

(B) Others Curricular Subjects

The major suggestions made by these teachers for effective use of ICT in teaching other curricular subjects include:(i) Yoga; (ii) Moral education; (iii) Moral values; (iv) Tutorials for the support of skills; and (v) An motivational stories.

(C) Personal social qualities (PSQ)

The major suggestions made by these teachers for effective use of ICT in development of personal social qualities (PSQ) for student include:(i) showing videos on cleanliness; (ii) social issues; (iii) social problem; (iv) human relation; (v) inspiration; (vi) knowledge about rights and freedom; and (vii) moral values.

4.3 Student Perception about ICT use

In this section the perception of respondents pertaining to the type of ICTs used in classroom, use of ICT in teaching core subjects, availability of ICT facilities in schools, sufficiency of ICT tools, utility and likeness, capacity of teachers, handling of ICT by the students and the problems the students face etc. is presented:

4.3.1 ICT use in classroom teaching

In this section the result pertaining to perception of student about the name of ICT being use by the teachers during teaching learning process; the subjects in which the teachers use of ICTs; the subjects in which the use of ICT seems to be more effective; and the subjects in which the use of ICT become less effective, have been presented:

(A)   Type of ICT used in classroom.

Table -4.2

Use of ICTs in the classroom as perceived by the student   (N=52)

S.No	Name of ICT	Percentage of students
1	LCD Projector	(39)75%
2	Computer(Desktop)	(36)69.23%
3	Smart Class	(14)26.92%
4	Smart Board	(3)5.76%
5	Laptop	(20)38%
6	Smart Phone(Mobile)	(7)13%

The results of table 4.2 show that a very high proportion of teachers use LCD projector (75%), desktop (69%), and Laptop (38%) in the classroom, as perceived by the students.

(B)   Use of ICT in Teaching Core Subjects

Table - 4.3

Subjects wise use of ICT as perceived by students   (N=52)

S.No	Subject	Percentage of students
1	Maths	(20)38.46 %
2	Science	(36)69.23%
3	Social Science	(15)28.84%
4	Computer	(27)51.92%
5	English	(30)57.69%

The results of table 4.3 show that a very high proportion of teachers use of ICT in teaching core subjects such as: Science (69%), English (57%) and Computer (51%) in the classroom, as perceived by the students.

(C)   Effectiveness of ICT use in teaching core subjects

Table 4.4

Perception of students about effective of ICT use in teaching core subjects   N=52

S.No	Subject	Percentage of students	
		More effective	**Less effective**
1	Maths	(30)57.69 %	(17)32.69 %
2	Science	(49)94.23 %	Nil
3	Social Science	(36)69.23 %	(5)9.61 %
4	Computer	(10)19.23 %	Nil
5	English	(9)17.30 %	(26)50 %
6	Hindi	Nil	(42)80 %
7	Sanskrit	Nil	(10)19.23 %
8	Urdu	Nil	(10)19.23 %

The results of table 4.4 show that a very high proportion of students perceive that ICT is used effectively in the teaching core subjects like Science (94%), Social science (69%) and Maths (57%) in the classroom. And very high proportion of students are of opinion that use of ICT is less effective in teaching core subjects such as Hindi (80%)and English (50%).

4.3.2 Availability of ICT in School

In this section the result pertaining to availability of ICTs in schools, as perceived by the teachers, is presented.

Table -4.5

Availability of ICT in the school as perceivedby the students   (N=52)

S.No.	Name of ICT	Percentage of teachers
1	LCD Projector	(41)78.84%
2	Computer(Desktop)	(46)88.46%
3	Smart Class	(4)7.69%
4	Smart Board	(20)38.46%
5	Laptop	(22)42.30%
6	Smart Phone(Mobile)	(9)17.30%

The results of table 4.5 show that a very high proportion of students are of opinion that LCD projector (78%), computer (88%) and laptop(42%)are available in schools.

4.3.3 Sufficiency of ICT Tools
In this section the result pertaining to sufficiency of ICT tools in the schools, as perceived by the students, is presented. As high as 51.92% of students responded that enough ICT is used by teachers in the classroom and 48.07% of the students, who answered that not enough ICT is used by teachers in the classrooms, have suggested that more smart classrooms, smart board, more computer, more LCD projectors, laptop and tablets should be used by the teachers.

4.3.4 Utility and Likeness
In this section the results pertaining to utility and likeness in the use of ICT in the teaching learning process, as perceived by the students, is presented. As high as 65% of the students responded that ICT is very useful in classroom teaching; and as high as 69 % of student responded that use of ICT in the classroom teaching is very interesting.

4.3.5 Capacity of Teachers
In this section the result pertaining to capacity of the teachers in the use of ICTs, as perceived by the students, is presented. As high as 60% of the students responded that teachers are very efficient in the use of ICTs in classroom teaching.

4.3.6 Handling of ICT by the Students
To a question as to whether your teachers allow you to handle ICTs, as high as 56 % of the students responded negatively.

4.3.7 Problems viz-a-viz Suggestions
In this section the result pertaining to the specific problems faced by the student in the use of ICT in teaching learning process and their suggestions to overcome those problems have been presented. The major problems, as perceived by majority of the students, include: (i) Indiscipline; (ii)Teacher don't allow to handle ICTs; (iii) Low concentration; (iv) Speed, pictures and sound; (v) Less awareness about ICT; and (vi) Harmful for eyes.

The major suggestions made by the students for effective use of ICT in teaching curricular subjects include: (i) Give chance to the student to use ICT in the classroom; (ii) Teachers should prepare to use ICT in classroom; (iii) Use of smart class with related software so as to show contents related presentations, videos, images, world maps, documents etc; and (iv) Preparation and use of ICT in internal exams.

4.4   Student's Perceptions about ICT Use in Other Curricular Areas
In this section the perception of respondents pertaining to the use of ICT in the aspects in school curriculum such as curricular subjects, curricular activities, other curricular subjects, have been obtained. Besides their suggestions for the use of ICT in development of personal social qualities of students, suggestions for use of ICT in the curricular activities, use of ICT in the other curricular subjects and the we use of ICT in the development of personal social qualities, have been also been presented. The details of the results have been as follows.

In this section the result pertaining to curricular activities in which ICT is used, as perceived by the students, is presented. As high as 65 % of the students responded that teachers don't use ICT in the curricular activities; and 35 % of the teachers who answered that teachers use ICT in the curricular activities stated that such activities include: yoga, practical's, conducting quiz, project work.

4.4.2 Others Curricular Subjects

In this section the result pertaining to teaching the use of ICT in teaching other curricular subjects, as perceived by the students is presented. As high as92 % of students responded that teachers don't use ICT in the teaching other curricular subjects; and 8% of the students who answered that ICT is used in the teaching other curricular subjects stated that subjects are moral education and health education, work education, and literacy.

4.4.3 Personal Social Qualities (PSQ)

In this section the result pertaining to the use of ICT in the development of personal social qualities of students, as perceived by the students, is presented.As high as86 % of students responded that teachers don't use ICT in the development of personal social qualities (PSQ) for student; and 16% of the students, who answered that teachers use ICT in the development of personal social qualities (PSQ) of students stated that they use videos for importance of time, respect elders, honesty, self-discipline, truthfulness, cleanliness and motivational stories.

4.4.4 Suggestions

In this sections, the suggestions made by the students with regard to the use of ICT in the teaching of curricular subjects, curricular activities, other curricular subjects, and personal social qualities, are presented as follows:

(A) Curricular Activities

The major suggestions made by the students for effective use of ICT indifferent areas related to curricular activities include: (i) Quiz; (ii) Sports; (iii) Physical activities; (iv) Morality; (v) Project work; and (vi) Conducting ALS.

(B) Others Curricular Subjects

The major suggestions made by the students for effective use of ICT in different areas related to other curricular subjects include: (i) Yoga; (ii) Music and moral education; (iii) Moral values, health education, work education and general knowledge; (iv) Communication skills; and (v) Motivational stories.

(C) Personal Social Qualities (PSQ)

The major suggestions made by the students for effective use of ICT indifferent areas related to personal social qualities (PSQ) include: (i) Cleanliness, Truthfulness and Punctuality; (ii) Social issues; (iii) Social problem; (iv) Human relation; (v) Inspiration and motivational videos; (vi) Moral stories; and (vii) Moral values.

4.5   Findings of the Study

This section is devoted to Presentations of the finding pertaining to perception of teachers as well as students about ICT use in classroom process. The findings are mostly based on the data collected from these respondents with the help of schedules prepare by the investigator:

In this section the finding pertaining to the perception of teachers about different aspects of ICT use, particularly with reference to number of teachers use ICT, Institutional Support, Time devoted on ICT Use, Problems ad countered, and suggestions for the effective use of ICT in classroom have been presented.

i. A very high proportion of teachers use smart phone (80%) and laptop (70%). None of teachers have reported to use LCD projector, smart class or smart board. However, only 10% of them have reported to use desktop.

ii. As high as 70% of the teachers reported to have been provide support to use ICTs in teaching learning process.

iii. Majority of teachers (70%) reported that time allotted in school time table for the use of ICTs is appropriate.

iv. The major problems in the use of ICT in teaching learning process, as perceived by majority of the teachers, include: (i) Lack of availability of ICT tools; (ii) Lack of familiarity with ICT tools; (iii) Inadequate ICT tools; and (iv) Insufficient time allotted in time table.

v. The major suggestions made by these teachers for effective use of ICT in teaching curricular subjects include:(i) ICT should be used to supplement the text or to clarify the concepts; (ii) Updating of teaches about the latest trends and changes in ICT sector; (iii) Use of smart class with related software so as to show contents related presentations, videos, images, world maps, documents etc.; and (iv) Preparation and use of self-instructional materials.

vi. Majority of the teachers (90%) of the teachers responded that they don't use ICT in the curricular activities.

vii. Majority of the teachers (70%) of the teachers responded that they don't use ICT in the other curricular subjects.

viii. Majority of the teachers (60%) of the teachers responded that they don't use ICT in the development of personal social qualities (PSQ) of students.

ix. The major suggestions made by these teachers for effective use of ICT incurricular activities include: (i) Poems; (ii) Discussion; (iii) Drama; (iv) Grammar; (v)Supplement the subject knowledge; (vi) Conducting ALS; (vii) Creating interest; (viii) Concept formation;(ix) Build listening quality; (x) Innovations; and (xi) Conduct seminar.

x. The major suggestions made by these teachers for effective use of ICT in teaching other curricular subjects include: (i) Yoga; (ii) Moral education; (iii) Moral values; (iv) Tutorials for the support of skills; and (v) An motivational stories.

xi. The major suggestions made by these teachers for effective use of ICT in development of personal social qualities (PSQ) for student include: (i) showing videos on cleanliness; (ii) social issues; (iii) social problem; (iv) human relation; (v) inspiration; (vi) knowledge about rights and freedom; and (vii) moral values.

4.5.2 Findings Pertaining to Perception of Students about ICT Use in Classroom

In this section the findings pertaining to the perception of students about different aspects of ICT use, particularly with reference to the type of ICTs used in classroom, use of ICT in teaching core subjects, availability of ICT facilities in schools, sufficiency of ICT tools, utility and likeness, capacity of teachers, handling of ICT by the students and the problems the students face etc. is presented:

i.   A very high proportion of teachers, as perceived by the students, use LCD projector (75%), desktop (69%), and laptop (38%) in classroom.

ii.   Majority of the teachers, as perceived by the students, use of ICT in teaching core subjects such as: Science (69%), English (57%) and Computer (51%) in the classroom,

iii. Majority of students perceive that ICT is used effectively in the teaching core subjects like science (94%), social science (69%) and maths (57%) in the classroom. However, majority of students are of opinion that use of ICT is less effective in teaching core subjects such as Hindi (80%) and English (50%).

iv.   A very high proportion of students are of opinion that LCD projector (78%), computer (88%) and laptop (42%) are available in schools.

v.   Majority of the students (51.92%) responded that enough ICTs are used by teachers in the classroom.

vi.   Majority of the students (60%) are of opinion that teachers are very efficient in the use of ICTs in classroom teaching.

vii. Majority of the students (56%) stated that their teachers do not allow them to handle ICTs during teaching learning process.

viii. The major problems, faced by the student in the use of ICT in teaching learning process, as perceived by majority of them, include: (i) Indiscipline; (ii) Teacher don't allow to handle ICTs; (iii) Low concentration; (iv) Speed, pictures and sound; (v) Less awareness about ICT; and (vi) Harmful for eyes.

ix.   The major suggestions made by the students for effective use of ICT in teaching curricular subjects include: (i) Give chance to the student to use ICT in the classroom; (ii) Teachers should prepare to use ICT in classroom; (iii) Use of smart class with related software so as to show contents related presentations, videos, images, world maps, documents etc; and (iv) Preparation and use of ICT in internal exams.

x.   Majority of the students (65%) are of opinion that teachers don't use ICT in the curricular activities.

xi.   Majority of the students (92%) stated that teachers don't use ICT in the teaching other curricular subjects.

xii. Majority of the students (86%) are of opinion that teachers don't use ICT in the development of personal social qualities (PSQ) for student

xiii. The major suggestions made by the students for effective use of ICT incurricular activities include: (i) Quiz; (ii) Sports; (iii) Physical activities; (iv) Morality; (v) Project work; and (vi) Conducting ALS

xiv. The major suggestions made by the students for effective use of ICT in teaching other curricular subjects include:(i) Yoga; (ii) Music and moral education; (iii) Moral values, health education, work education and GK; (iv) Communication skills; and (v) Motivational stories.

xv.   The major suggestions made by the students for effective use of ICT in development of personal social qualities (PSQs) for students include: (i) showing videos on cleanliness, truthfulness and punctuality; (ii) social issues; (iii) social problem; (iv) human relation; (v) inspiration and motivational videos; (vi) moral stories; and (vii) moral values.