CHAPTER-V
SUMMARY, FINDINGS AND RECOMMENDATIONS

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5.0   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 fourth 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

The present chapter includes a brief summary of the study; findings derived from various analyses along with the recommendations for further research on related areas, have also been outlined. The present study tried to see the Perception of Secondary School Teachers and Students about Effectiveness of ICT use in Teaching-Learning Process; the problems they encounter in ICT use; and their suggestions for effective use of ICT.

5.1   Statement of the Problem
The advancement in Information and Communication Technology (ICT) has vastly influenced the teaching learning process. Integration of ICT in classroom helps to create an environment for teachers and students activities that lead to meaningful and sustainable learning experiences. This integration supports teachers and students in their constructive thinking and Perception of ICT use in teaching learning process. It is possible to bring the process of learning beyond the boundaries of classroom by exploring new possibilities of ICT. This basic requirement can be available only when teachers and students are aware about ICT very well. When interaction takes place through ICT, it helps in their own development of perception of ICT in education. Therefore the present study will be helpful in realizing the ideas and thoughts on teachers and students' perception of ICT use in teaching learning process.

5.2   Objectives of the study
The present study was undertaken with the following objectives.
I.   To study the perception of secondary school teachers about effectiveness of ICT use in the following area of curriculum.
     i.   Curricular subjects.
     ii.   Curricular activities.
     iii.   Other curricular subjects.
     iv.   Personal social qualities (PSQ).

ii.   To study the perception of secondary school students   about effectiveness of ICT use in the following areas of curriculum.

      i.   Curricular subject.
      ii.   Curricular activities.
      iii.   Other curricular subjects.
      iv.   Personal social qualities (PSQ).

5.3   Research Questions

The present study was undertaken with the following research questions.

    i.   What do the secondary school teachers perceive about the effectiveness of ICT use in teaching learning process in curricular subject?
    ii.   What do the secondary school teachers perceive about the effectiveness of ICT use in teaching learning process in curricular activities?
    iii.   What do the secondary school teachers perceive about the effectiveness of ICT use in teaching learning process in other curricular subject?
    iv.   What do the secondary school teachers perceive about the effectiveness of ICT use in teaching learning process in PSQ (personal social qualities)?
    v.   What do the secondary school students perceive about the effectiveness of ICT use in teaching learning process in curricular subject?
    vi.   What do the secondary school students perceive about the effectiveness of ICT use in teaching learning process in curricular activities?
    vii.   What do the secondary school students perceive about the effectiveness of ICT use in teaching learning process in other curricular subject?
    viii.   What do the secondary school students perceive about the effectiveness of ICT use in teaching learning process in PSQ (personal social qualities)?

5.4   Variables

In the present study Independent variable is Teaching-Learning process and Dependent variable is Perception

5.5   Limitations of the Study

Following were the limitations of the study

    i.   The study was limited to the perception of 10 teachers and 52 students about ICT use in teaching-learning process.
    ii.   The researcher has delimited the study to a CBSE School (D.M.S. and K.V.-2,) of Bhopal.
    iii.   The sample of 10 teachers and 52 students were taken due to limited scope of time of the study.
    iv.   The study was conducted on secondary school teachers and one class i.e. class IX, of each school in Bhopal area.

5.6   Methodology

To accomplish the objective of present study descriptive survey method was used.

5.6.1 Sample

The sample for the study consisted 52 secondary school students selected form two schools of Bhopal city following incidental sampling technique; and the sample of 10 teachers form a secondary school of Bhopal city following incidental sampling technique.

In this study 2 types of research tools, prepared by the investigator, were used for the collection data.

(A) Questionnaire for the teachers; and

(B) Interview Schedule for the students.

5.6.3 Data Analysis

A both quantitative and qualitative technique was followed in analysing data obtained through questionnaire from teachers and interview schedule from students. The simple technique of percentage was used in quantifying the response of the subjects.

5.7 Findings

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:

5.7.1 Findings Pertaining to Perception of Teachers about ICT Use in Classroom

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.

5.7.2   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. Majorityof 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

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.

5.8 Education Implication

In this section the educational implications of the outcomes of the study, particularly for teachers as well as students, are presented as follows:

5.8.1 Education implication for Teachers

i. Teachers should be provided with required ICT tools.
ii. Teacher should undergo training in ICT use.
iii. Teacher should encourage student to handle ICT tools during teaching learning process.
iv. Teacher should be trained as how to integrate technology, content, and pedagogy.

5.8.2 Education implication for Students

i. Student should be allowed to handle ICT tools during teaching learning process.
ii. Student should be provided with adequate ICT equipment.
iii. Students should be provided sufficient time to do hands on practices with ICT equipment.

5.9 Suggestions for further research studies

i. The study can be replicated in different locations such as, urban, semi urban and rural.
ii. Similar studies can be under taking larger samples.
iii. In depth case studies can be conducted to gain detailed understanding of ICT use in schools.
iv. Perception of other stakeholders such as principals, parents, supervisors, and teacher educators about ICT use can be studied.
v. Experimental studies to know the effectiveness of ICT use on the student learning can be conducted.