

## Chapter V

# SUMMARY, FINDINGS AND SUGGESTIONS

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### 5. SUMMARY, FINDINGS AND SUGGESTIONS:

This chapter includes a brief summary of the study, findings and conclusions drawn from various analyses along with the suggestion for further research on related area have also been outlined.

The present study tried to investigate the study of basic skills of English language among 8<sup>th</sup> class students. The study focused on the development of basic skills of language.

#### 5.1. The Problem

“A study of the actual access and usage of Information and Communication Technology at secondary level of education”.

#### 5.2. Objectives of the Study

The study was under taken with the following objectives

1. To study the actual access and usage of ICT by teachers and students in secondary schools.
2. To compare the ICT usage by teachers and students in rural and urban areas.

#### 5.3. Research Questions

1. Will the teachers and students actually access and use the ICT at secondary level?
2. How ICT is used between teachers and students of rural and urban areas?

#### 5.4. Sample of the Study

The study included different types of schools, including State Governments, Kendriya Vidyalaya, JNV and private schools located in rural and urban areas of the district. Applying random sampling technique of 10 schools around 60 students, 20 teachers and 8 principals were selected for the study.

#### 5.5. Tools used for the Study

Teachers and students were interviewed using close-ended multiple choice questionnaires to collect quantitative data. These are set of three questionnaires for students, teachers and principals.

## **5.6. Delimitations of the Study**

The study was subjected to the following limitations:

- The study has been conducted in 10 schools of the Ganjam district of Odisha. Also, study confined to three blocks of the district.
- The study was confined to secondary level of education (class ix & class x).
- And sample of the study was included 20 teachers, 60 students, and 8 principals.

## **5.7. Major Findings of the Study**

The following major findings emerged out of the analysis of the data of the study:

### **5.7.1. Infrastructure**

The findings related to infrastructure including availability of computers internet connections, ICT peripherals, school website and placement of computers in schools are presented in this section.

#### **5.7.1.1. Availability and access of computer in schools**

In the district, 80% schools were having computers and 50% were having multimedia presentation. Around 40% were having internet connection, and 40% audio-visual documentaries. Audio-language lab was found only in 10% of the schools.

#### **5.7.1.2. School type wise availability of computers**

- It was found that Central Government schools (KV/ NV) were well equipped with computers. Both of the Central Government schools surveyed, had 11-15 computers.
- In the district, 3 State Government schools were surveyed and it was found that 1 schools had less than 5 computers was located in urban region while 2 other schools had no computers as it was in rural areas.
- Three private schools had 1-5 computers, 1 school had 6-10 computers and 1 more school had 11-15 computers.

#### **5.7.1.3. Adequacy of ICT infrastructure: Teacher Perspective**

- It is observed that 50% of the teachers found that the sufficient infrastructure was available in the school for teaching ICT as a Subject.
- Whereas only 40% teachers said that ICT was sufficient for teaching other subjects. At the same time 25% teachers reported that ICT infrastructure remained unutilized even while teaching ICT as a subject, similarly 25% teachers responded about non utilization of ICT infrastructure for teaching other subjects.
- Only 25% teachers said the ICT infrastructure for teaching ICT as a subject was deficient. At the same time 35% of the teachers found that the availability of ICT infra for teaching other subject areas deficient.

#### **5.7.1.4. Internet Connection in schools**

A total of 8 Schools have either broadband or dial up internet connection. However the teachers reported that:

- While conducting the survey based on type of schools, it was found that most of the private schools are the front runners on internet connectivity, with almost having less than 15 computers with internet connectivity.
- Most of the schools surveyed had 10 or less internet connected computers. Most State Government schools in District have only 1 to 5 internet connected computers.
- Both of the central government schools had 11 – 15 computers that had internet connectivity.
- As the data shows, state government school is having less internet connection in computers i.e. (majority of rural State Government schools have no computers with internet connection).

#### **5.7.1.5. Availability of e-educational material, subject software and school website**

- All the three educational softwares are available more in urban area school than that in rural areas. The availability of subject software is minimal as compared to the availability of Educational CD(Ed- CD) and School website.
- School website was available in 40% of Private schools, 10% in State Govt. Schools and 20% in Central government schools.
- Private schools take the lead regarding Web Site as well as more educational CDs.

### **5.7.2. Access to computers and peripherals**

Access to computer and its peripherals plays an important role for using ICT in schools. The proportion of teachers and students having access to computer facilities is discussed below:

#### **5.7.2.1. Access by teachers**

In any school, where use of ICT is encouraged, teachers need to use the computer or internet to prepare for lessons and manage their classes. They can create instructional material, access model lesson plans, research based practices and can keep record of students.

However, the ground reality in schools studied in this report was different. That is, only 4 schools have computers in staff rooms – that too only in private schools, K.V and J.N.V. And those teachers who are in these schools can access computers whereas few or no teachers could access computers in rural areas.

### 5.7.2.2. Access by students

The Principals and teachers reported that students' access to ICT in schools was 20-40% in rural schools where as in urban schools it was reported 20 to 80%, in urban schools, which was due to better access conditions in private schools, and K.V. The variation in ICT access by students was far more in urban areas as compared to rural areas.

Students were also asked about the access to computers in school as well as at home.

- 25% students had access to computer sat home in rural areas and 27% percentage of student in Government schools, where as in private schools 50% students had access to computers at home.
- 52% of the students had access to computer at home in urban areas. A number of students, who did not have computers at home, tried to access technology at other places, such as a cyber café, a friend's or relative's house.

The study further inquired into reasons for not having a computer at home.

- Quite a large number of students (46%) did not have a computer at home because the high cost – affordability is an issue.
- 29% students used cyber cafe and 11% students were mentioned that there is other reasons for not having technology and 14% reported that their parents were not supportive.

### 5.7.3. Usage of ICT

This section deals with usage of ICT for various activities in school and its contribution to teaching and learning in secondary schools. It examines how students and teachers were familiar with the relevant technology and its applications by looking at their ICT qualifications and skills.

#### 5.7.3.1. Use of ICT peripherals

- Printers were found to be the most frequently used ICT peripherals for educational purpose in schools. However most teachers never used printer, those who are in government schools in urban as well as rural areas.
- The next most frequently used peripheral is Smart Board and projector which was used at least 2-3 times a month by the teachers of JNV, KV and few private schools, though the availability of such boards is limited to the surveyed schools.
- Availability of these ICT peripherals are not seen in government schools of rural areas whereas in 1-2 urban school, peripherals like only printer and scanner were available in administration only.

### 5.7.3.2. Teachers' ICT skills

Teachers were asked to state their perceived level of proficiency in a number of important ICT skills areas. An analysis of the responses (presented in the graph) to this question showed that the majority of teachers did not consider themselves proficient in a wide range of ICT skills and applications. The figure 4.8 shows teacher specific skills related to the use of ICT applications.

- Though only 5%-15% teachers considered themselves under “satisfactory” to highly satisfactory’ or in terms of skills, competency, preparedness and comfort in the use of ICT, 2%-10% of teachers considered themselves ‘below average’ in terms of knowledge and competency in ICT.
- 10%-20% of teachers considered themselves as fast grasping in use of ICT. More than 55% of teachers’ self-perception about knowledge and competency indicated an average level. This shows an overwhelming number of teachers rated themselves as “average” on skills, competency, preparedness and comfort.

### 5.7.3.3. ICT Access by students

School location wise and School type wise analysis has been done with regard to access to computers and internet at home. With reference to table 4.5, Central Govt. and Private schools are the forerunners both in access to computers and internet, on the basis of school types. And on the basis of location, urban schools students access computers and internet more than rural schools students.

- In Central schools, 41% students were having computers at home and out of them 33% were accessing internet at home. And in private schools, 50% students were having computers and 43% were accessing internet at home. Whereas in state govt. schools, 27% students were having computer at home and 22% of them accessing internet.
- In urban areas, 52% students have access to computers and 41% have access to internet at home, but the students in rural households are at a disadvantage both at school as well as at home. Only 27% of students in rural areas have access to computers of which Internet is available to just 22%.

### 5.7.3.4. Use of ICT tools by students

In the survey process, the students were asked about their use of computers and technology tools in schools.

- As shown in figure 4.10, more than 50% students were using social gaming both in rural and urban areas. Above 50% both in Internet surfing and Social Net-working in three type schools and both in rural and urban areas.

- But in Presentation and Word Processing Central Govt. and Private school students were forerunners. Whereas based on location most urban students use all the tools than rural school students.

## **5.8. Suggestions**

Following suggestions are made based on the findings of the study:

### **5.8.1. Improving school ICT infrastructure and access**

- The government should focus on providing quality computers, printers, projectors etc. along with software and smooth internet connectivity. At the same time, it should make provision for regular maintenance of facilities.
- Schools should provide access to computers with internet connectivity even after school hours to address the needs of such students who do not have personal computers at home.
- Involvement of private vendors in providing infrastructure to school may be considered. State Governments should prepare a well-defined contract which clearly stated responsibilities.
- Computer lab should not be the exclusive domain of the computer teacher. Encouragement and involvement of other subject teachers in use of ICT in classrooms should be promoted to ensure better subject teaching and learning.

### **5.8.2. Deployment of ICT resources in schools**

- Computers should be made available in general classrooms instead of being confined to designated rooms alone to make teaching learning more effective.
- Multimedia resource room with a projector, computer and Smart Board should be set up for the use by students and teachers for demonstration.
- A few computers should be placed in the staff room for teachers to facilitate preparation of assignments, question papers, worksheets, result sheets and so on.
- Efforts should be made by the school to promote awareness among students and teachers on the availability of ICT resources.

### **5.8.3. Professional development of teachers and principals**

- Teachers need to be empowered and motivated through training, to use ICT for curriculum transaction. Such programs should be organized on a continuous basis.
- Schools should regularly monitor the ICT training needs of their staff and develop and implement training plans as appropriate.
- There is a need to focus and develop teaching-learning resources by the teachers and the students. The material should be placed on the website for encouraging others to develop need based material and also for sharing.

### **5.9. Suggestions for the Further Study**

- The present study can be further extended by taking a large sample to obtain greater reliability of results.
- The sample for present study was conducted to only three blocks of the district further research can be done with all blocks in the district.
- The present study can further be conduct to compare the development of usage of ICT based on locations and types of schools.
- A further comparative study of usage of ICT by teachers and students of rural and urban areas can also be carried out.

To summarize, it is evident that ICT applications are becoming an indispensable part of contemporary cultures. The easy access, smart deployment and judicious usage of ICT can enhance the quality of teaching learning. Schools should efficiently utilize the benefits of ICT in creating an effective learning environments, thus impacting the overall quality of school education.