Chapter III

METHODOLOGY OF THE RESEARCH

3. METHODOLOGY OF THE RESEARCH:

This research study has been carried out to make a systematic analysis of the issues related to the accessibility and use of ICT in secondary schools with a view to understand the factors affecting the adoption of ICT for teaching practices and enhancement of the quality of learning outcomes. The present study is a combination of the quantitative and the qualitative analysis using survey design methodology.

This chapter presents the research design that includes methodology for conducting the study including sampling, tools, procedure for data collection and data analysis.

3.1. Methodology

The research study utilized both quantitative and qualitative data collection tools, but is more rooted in a qualitative framework which recognizes the importance of locating the study within socio-economic perspectives (more focus on rural-urban). However, qualitative approach was applied with quantifiable evidences to create valid findings. To collect the data for the study, systematic samples of respondents – principals, teachers and students were surveyed.

The first step towards conducting the research study was preparation of the research design, which was framed with literature review. Based on this, an outline of the study was drawn along with two research methods – qualitative and quantitative. The key processes taken up for the study were - designing the study, formulating research questions, analyzing the data collected, interpreting and reporting the results with recommendations.

3.2. Population

In the study, the various secondary-level education schools of Ganjam district form the population. For this study, the researcher has taken central government, state board and private schools.

3.3. Sampling

The study was conducted in Ganjam districts of Odisha. The study included different types of schools, including State Governments, Kendriya Vidyalaya, JNV and private schools located in rural and urban areas to study different level of usages and integration of ICT in schools. To carry on with the said targeted groups, school management authorities were approached for seeking relevant permission for the study in recommended schools.

3.3.1. Identification of Blocks

The three blocks chosen for the study were included in Terms of Reference (ToR). These were geographically diverse, and embodied different levels of development. While Ganjam is an urban area, Chikiti is a Notified Area Council (NAC) and Jarada is a rural area. Random sampling adopting lottery method was followed to select the number of schools included in the survey.

3.3.2. School selection criteria

From each block, 4 schools were to be selected. However the data obtained from each block varies in terms of school as given in table 3.2. These schools were a mix of State Government, Central Government and Private schools. The schools were selected based on the criteria detailed out in the table 3.1. In order to cover all socio-economic groups in the survey, schools with some understanding of ICT were selected so as to get a holistic perspective of the issues. A list of schools of State Government, KV, NV and private schools from urban and rural areas was prepared, based on the following criteria:

Table 3. 1 – School selection criteria

Criteria	Indicators
▪ Educational Level	Secondary/Higher Secondary
▪ Co-educational school	
▪ No. of students	At least 200
▪ No. of teachers	At least six
▪ Student – teacher ratio	Approximately 45:1
▪ Student fee	Affordable, free
▪ Minority section enrolment	Desirable
▪ Backward caste enrolment	Desirable

3.3.3. Sampled Schools

Efforts were made to select equal numbers of schools from rural and urban areas to ensure uniform representation. From each block, 2 rural and 2 urban schools were supposed to be selected, out of which 2 schools were government and 2 private. Since some schools in the blocks did not cooperate, the number of schools varied from each other. The table below presents the number of schools.

Table 3. 2 - Total number of schools from each Block

Blocks	Name of the Schools	No. of Schools
Chikiti	Utkalmani High School, Madhabandha & Mukteswar Vidya Mandir, Surala	02
Ganjam	K.V, D.A.V, New DePaul, Oxford Public School, Maa S.S.V Mandir, City High School and Govt. High School, MKCG Campus	07
Jarada	J.N.V Surangi	01
Total		10

3.4. Respondent Profile

Respondents include Principals, Teachers and Students. Respondents were selected from diff types of schools representing state government, central government and private across the rural and urban segments.

Table 3. 3 - Respondent selection criteria per school

Respondent	**Number**
Principal/ Management	1
Secondary Teacher	2
Students	6 (4 Std. from 9TH & 2 Std. from 10TH Class)

This study surveyed a total of 10 schools selected. From these schools in actual 20 teachers, 8 principals and 60 students were selected for the study. The profile of teachers and students who were the main stakeholders in the implementation of ICT in school education are shown through various pie-charts.

3.4.1. Profile of teachers

The data was collected from 20 teacher from 10 schools, 65% of them were from urban and 35% from schools in rural areas.

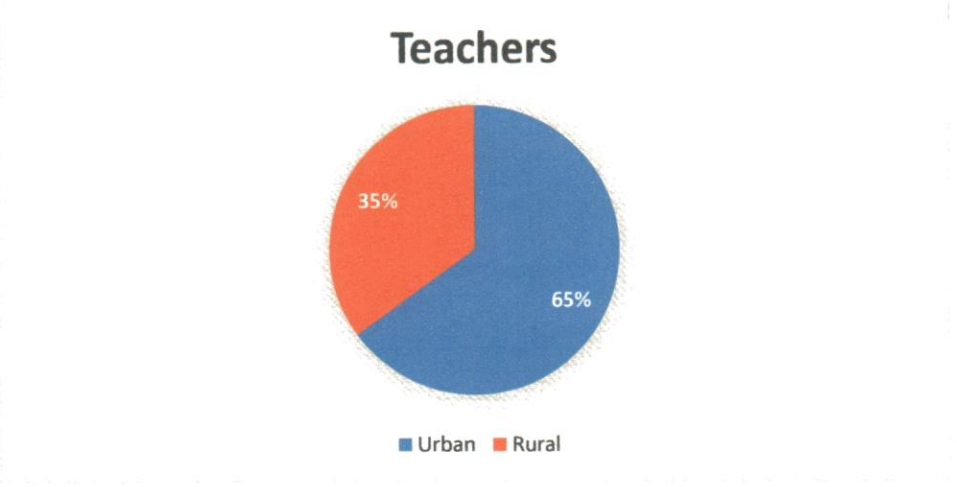

Figure 3. 1 - Location wise distribution of teachers

The respondent teachers from State Government schools, Central Government and Private Schools were shown as follows.

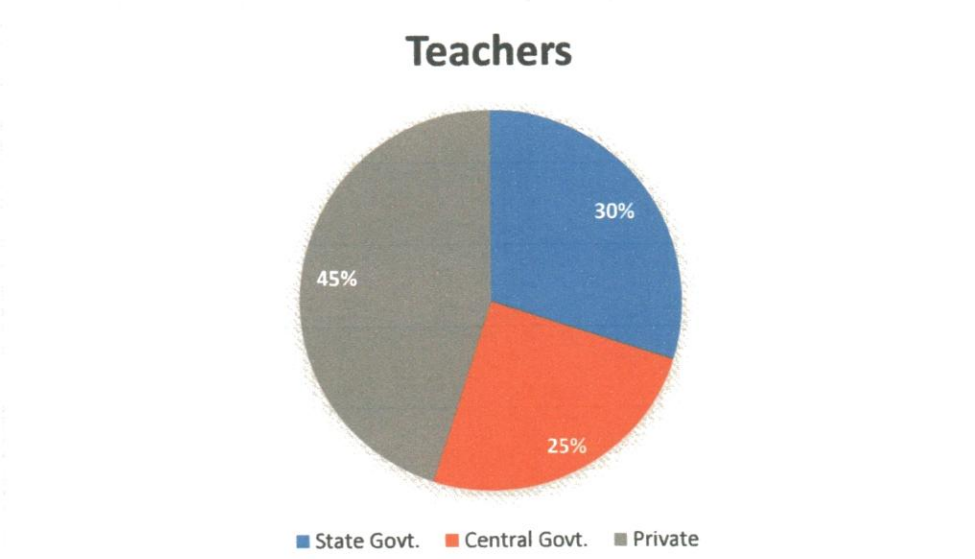

Figure 3. 2 - Percentage of teachers by type of schools

3.4.2. Student Profile

Out of 60 students, 54% of the student respondents were from urban and 46% were from rural schools.

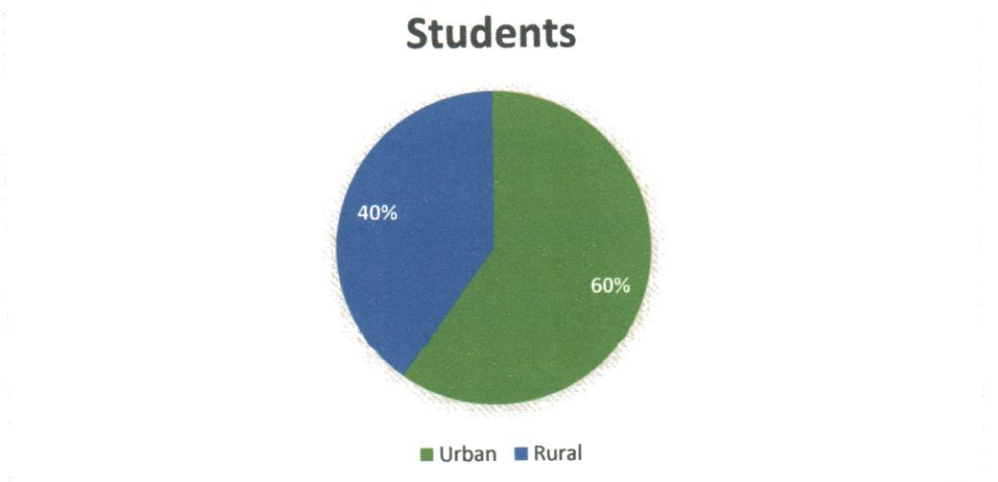

Figure 3. 3 - Students by location

All the students were from both the class 9th & 10th. More students from class 9th were covered as students from classes 10 were busy preparing for their board examination.

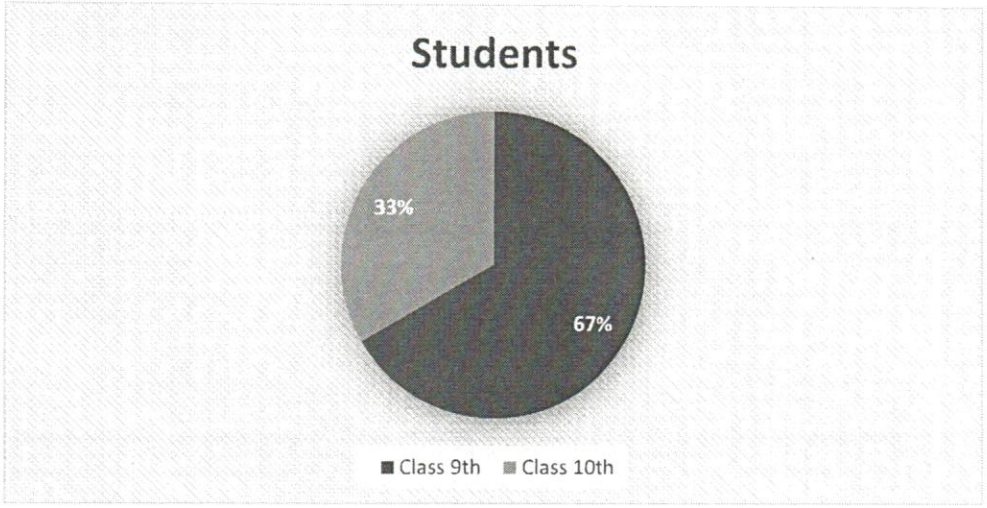

Figure 3. 4 - Percentage of students by class

3.5. Tools used:

Teachers and students were interviewed using close-ended multiple choice questionnaires to collect quantitative data. They were also administered open-ended questionnaires as qualitative tools through which the respondents were asked to elaborate their experiences with ICT deployment & usage in their schools in the form of anecdotes or case studies.The following tools were used:

3.5.1. Student Questionnaire

The student questionnaire for students covers major areas like student's perspective of ICT, ,infrastructure in school, knowledge of ICT, creative use of ICT its benefits and challenges. Each area includes several questions. The student questionnaire also consists of the profile of the students.

3.5.2. Teacher Questionnaire

The teacher questionnaire consists of questions related to various themes. It also includes categorization of school by management, their educational qualification, infrastructure available etc. The tool also includes questions related to the use of technology including creative use and procedure followed by them, their knowledge and competency level. Each theme has many questions to collect deeper understanding and use of ICT from the teachers.

3.5.3. Principal Questionnaire

This questionnaire consists of few questions. These questions are related to the profile of the school, availability of infrastructure, use of ICT by teachers in different subject areas and students. Pilot testing of the questionnaires provided crucial input for restructuring the questionnaire, particularly the length and language used in questions.

3.6. Process of Data Collection:

For collecting the data of students, teachers and principals three separate questionnaire have been framed and was provided to them to get the responses. Teachers and students questionnaires included close-ended multiple choice questions. Structured interviews, based on the questionnaire, were conducted with the principals of schools. The following steps were followed for the process of data collection:

A schedule was prepared for school visits. In each school, accessed school technology infrastructure and due to COVID-19 crisis, scheduled technology-oriented classes were skipped. In addition to collecting filled in questionnaires, few discussions by students was carried out about the ICT in their day to day life.

In all schools, face-to-face interview with the principal based on a semi-structured questionnaire was made. And teachers were given the questionnaire to get their responses.

Due to COVID crisis most of the schools were remain open with few number of staffs and no students, for this technology was used for collecting the data. Questionnaires were framed in Google forms. Finally all the data collected was tabulated by using technology.