

CHAPTER III

RESEARCH METHODOLOGY

- INTRODUCTION
- RESEARCH METHODOLOGY
- RESEARCH DESIGN
- POPULATION
- SAMPLE
- TOOLS OF DATA COLLECTION
- PROCEDURE FOR DATA COLLECTION
- STATISTICAL TECHNIQUES USED

CHAPTER III

RESEARCH METHODOLOGY

3.0 INTRODUCTION

This is the age of computers. No area is left untouched with computer as it is a tool to increase efficiency and accuracy of any task. In this scenario it is not only important but also inevitable to plan Computer Education thoughtfully specially when it is being imparted by many institutes. Today Computer Education is being imparted by government as well as non government institutes. Some of them are established and working following certain guidelines and norms. Some of them have established without following any specific criteria or norms or guidelines. Hardly any study is conducted to judge where these institutes are standing. At this point of time many questions came in the mind of the investigator about the status of the Computer Education imparted by different institutions.

In this context, the investigator has undertaken a study to investigate about the Status of Computer Education. Before selecting the problem for the present study, investigator had gone through the review of related literature. During this phase the investigator found that this area is worth exploring from many point of views. Moreover investigator had many friends in the same field so he had an opportunity to share the experience of the people working in Computer Education. It helped investigator to develop and insight with some of the issues and questions related with Computer Education. But in absence of valid evidences, no effective future planning can be done to improve present scenario of Computer Education. So investigator felt the need to explore this issue systematically. Hence, the investigator had taken the present study entitled :

“A STUDY OF THE COMPUTER EDUCATION IN BARODA DISTRICT OF GUJARAT.”

The research methodology followed in the present study is given as follow.

3.1. RESEARCH METHODOLOGY

The present study is a survey type of study. Details about the research methodology followed in the present study including the components like, research design, population, sample, tools, procedure of data collection and statistical techniques used.

3.1.1. Research Design

The present research is a survey type of the study. The purpose of the survey type of study is to reveal the present scenario of circumstances which furnish the evidence for future planning and decision making to bring betterment in its present state with future perspective. Survey study of research is a serious endeavor which bring implications about the present situation. Present study undertakes the study of Computer Education imparted in Baroda district of Gujarat with reference to different components. All types of institutes imparting subsidised as well as self financed Computer Education courses in face to face mode are taken for the present study. It covers the following category of institutes.

- Franchisee Study Centres
- Self managed with self designed course
- Study Centres given by university
- Self managed but courses of other bodies (ITCT, MHRD, Autodesk)
- DOEACC Certified courses conducting institutes
- University Affiliated Colleges
- University Department running computer courses
- ITI department conducting Computer Education

3.1.2. Population

When any need is felt to get some evidences for certain purpose, the concept of research spurts. Evidences are needed to through some focus on the problem for future perspective in the direction to explore the problem. Group may involve individuals, objects, region, attributes, quality, variable etc.. That group for which

inferences of the collected data can be generalised, is called as the population. Here the population encompasses all category of institutes imparting Computer Education in face to face mode except schools in Baroda district of Gujarat. It includes franchisee study centres, self managed with self designed course, study centres given by university, self managed but teaching courses of other bodies like (ITCT, MHRD, Autodesk), DOEACC Certified courses conducting institutes, university affiliated colleges, university departments and ITIs. There are around 101 institutes comes under the region of population of the present study. A list of total number of institutes comes under population is given in table 3.1.

Table 3.1: Type wise and Frequency wise Distribution of Different Types of Institutions Imparting Computer Education in Baroda District.

S. no.	Type of the Institutes	Frequency
1.	Franchisee	42
2.	Self managed with self designed course	36
3.	Study centres of University	06
4.	Affiliated Colleges	02
5.	Self managed institutions run courses of other bodies	09
6.	DOEACC Certified Institutions	02
7.	University Departments	03
8.	ITI	01
	TOTAL	101

Table 3.1 reveals that 96 percent institutes are private, whereas, 4 percent institutions are of university departments and ITIs offering subsidised courses. Sample has been taken from the said institutions which is given as follow.

3.1.3 Sample

Sample is that part of the population which is used to collect data for the study and the inferences drawn from that collected data of the sample are generalised for the population. Which sampling method is to be used, depends upon the nature of

the data, population for which results are to be generalised. One of the for sample is that it should be representative of the population and it should be adequate in number otherwise generalisations drawn for the population can be misled. Here looking at the objectives of the present study, population and nature of the data to be collected, the investigator has adopted purposive sampling method. Table 3.2 can help to understand distribution of sample. As there are around 101 computer institutes in Baroda district of Gujarat, the investigator has taken 40 institutes in the sample.

Table 3.2: Type wise and Frequency wise Distribution of Computer Education Institutions in Sample.

Serial no.	Type of the Institutes	Frequency
1.	Franchisee	15
2.	Self managed with self designed course	12
3.	Study centres of University	04
4.	Affiliated Colleges	02
5.	Self managed but runs courses of other bodies	03
6.	DOEACC Certified	02
7.	University Department	01
8.	ITI	01
	TOTAL	40

Table 3.2 exhibited the number of institutes taken in sample from different category of institutions. From the same table it is revealed that more than one third of the population is taken as sample. It is being discussed about the type of the institutions taken in the sample. A list of the institutions taken as sample is given in Appendix 4.

3.1.3.1 Franchise Centres

The highest number of institutes come in the category of "Franchise Centres." Franchisee centres are the study centers of those giant Computer Education agencies which are having their mother institute either in any metropolitan city of the country

or overseas and they have allotted hundreds and thousands of franchisee centres in different regions. Number of this type of institutes are around 42 in Baroda district and the investigator has taken 15 of them as a part of the sample for the present study which is more than one third of the total number of this type of institutions.

3.1.3.2 Self Managed Institutions With Self Designed Courses

In this category there are approximately 36 institutes in the district of Baroda out of which the investigator has taken 12 institutes which are one third of the total population. These institutes are set up by their own and they have not any type of affiliation with any bigger body. They designed their own courses and ran institutes. They do not followed any specific criteria or guidelines for establishing and running their institutes.

3.1.3.3 Study Centres of Universities

There are total six study centres of various universities. Investigator has taken 4 of them for the purpose of the sample of the study which is two third of the total population. All the four study centres are of different universities. These study centres ran the courses of specific universities and these centres take and teach students as per the guidelines of the concerned university. Even the examination and certification is in accordance with the norms of concerned universities.

3.1.3.4 University Affiliated Colleges

There are only two university affiliated colleges in the Baroda district. As both belonged to different universities, the investigator has taken both the colleges as the sample for the present study. These colleges are similar in many respect with university study centres but the major difference lies in recruitment of personnels and their payment which is done by the concerned university.

3.1.3.5 Self Managed Institutions Offering the Courses of Other Bodies

There are almost nine institutes of this type. The investigator has taken three institutes from this category as the sample of the present study. The sample taken in this category is one third of the total population.

3.1.3.6 DOEACC Certified Courses Teaching Institutes

There are two institutes which are conducting DOEACC (Department of Electronics Accredited Computer Courses) Certified computer courses in Baroda district. These institutes ran courses under AICTE (Association of Indian Council for Technical Education) and MIT (Ministry of Information Technology). The investigator has taken both the institutes as sample.

3.1.3.7 University Departments

It was found that there were three departments of the M. S. University of Baroda conducting Computer courses in Baroda district. The investigator has taken one of these departments. Here the sample is one third of the total population.

3.1.3.8 ITI (Industrial Training Institute)

It was found that there was only one institute which was run by ITI in Baroda district so the investigator took that institute as sample.

3.1.4. Tools of Data Collection

Research study is a purposeful activity which is undertaken with certain assumptions, research questions, hypotheses and objectives. Keeping all these things in mind the whole conceptual framework of the study is developed. Tools are needed as a means to collect the data for bringing the result of the study. Tools are decided according to the nature of the data required.

For the present study, the investigator has opted for self made tools as no standardised tools are available which can fit to the need of the present study. Before construction of the research tools the investigator analysed the available literature.

On the basis of which the investigator constructed following tools for collection of the data for the present study. They are: Questionnaire, Classroom Observation Schedule, Interview Schedule. Table 3.3 enlisted the tools meant for different objectives of the present objectives.

Table 3.3: List of Research Tools Meant to Different Objectives

Research Tools	Meant for Objectives
Questionnaire	1,2,3,4,5 and 8
Observation Schedule	6
Interview Schedule	7

Table 3.3 reveals that questionnaire was used to achieve maximum number of objectives and observation schedule and interview schedule helped to achieve one objective each. Details about the construction of tools is given as follow.

3.1.4.1 Questionnaire

Questionnaire was the most useful research tool to collect factual information related to this study as it was used for seven objectives. So the investigator prepared the questionnaire with 25 major items. The questionnaire contained items like, year of establishment of the institute, type of institution, name of affiliating body, details about the courses offered by the institutions (name of the courses, duration of the courses, teaching hours, type of courses: degree / diploma/ certificate, type of courses: hardware/ software, clientele group, eligibility criteria, admission criteria, type of courses: part time/ full time, affiliated / non affiliated, name of the course planning authority, type of courses: subsidized / partly subsidized / self financed, total fees for courses, weightage of marks in theory and practical, number of students per batch, percentage of dropouts per year, percentage of successful candidates per year, and market value of the courses.

In the initial draft of the questionnaire 40 items were kept and it was given to 5 experts for their suggestions. The majority of the suggestions received were related with language of the items, presentation of items, and their relevance. On the basis of the suggestions certain items were deleted and few were modified. The final questionnaire was prepared with 21 items. A copy of questionnaire is given in Appendix 1.

3.1.4.2 *Interview Schedule*

A semi structured interview schedule was constructed to collect the data related to the problems faced by computer institutes with regards to problems related with teachers (Choice availability in selection of teachers, training of teachers, qualification of teachers, medium of their instruction, experience, amount of salary, sincerity), problems related with students (availability of students, level of students, heterogeneity/ homogeneity of the group, problems related with in-service groups, background of students, regularity of students, level of motivation of students, demand of students related with physical facility, students' comparison with other institutes, students having or not having computer at home, discipline maintained by students), problems related with computer laboratory (internet, no of computers, printers, scanner, consumables, telephone or lease line problem, time available for practical, lab maintenance, license of software, problems due to introduction of new configuration/model and problem due to fluctuating costs of hardware) problems related with courses (introduction of new courses, availability of study materials, teachers for teaching new courses, teaching of old and regular courses, designing of courses as per market demand, availability of tutor of new introduced courses and marketing of new courses), problems related with batch timing and number of students in each batch, problems related with electricity supply, fluctuation and cost, problems related with infrastructure (classroom and related facility, seminar room, video camera, over head projector, facility for other activities), problems related with fees (amount of fees, collection of fees), problems related with market competition, and other problems faced by computer institutes like, legal problems, Government interruption, problem due to introduction of subsidized courses introduced by government, problems related with affiliation/ franchisee, problem related with students tendency regarding Computer Education courses and problems related with availability of live projects from market.

The initial draft of interview schedule was given to 5 experts for their suggestions. The majority of the suggestions received were related with language of the items, presentation of items, and their relevance. On the basis of the suggestions certain items were deleted and few were modified. The final questionnaire was prepared on the basis of experts suggestions. It was prepared to collect data which

could not be collected through questionnaire and observation schedule. A copy of interview schedule is given in Appendix 3.

3.1.4.3 *Observation Schedule*

This is the third research tool used to collect data related to classroom teaching learning process. It covered the items like, use of lesson plan, layout of lesson plan, use of books, way of introducing a lesson, approaches used in teaching, pupils' participation in the class room, use of chalk board, use of teaching aids, use of major teaching skills, types of questions asked, assignments given in the class, supervision of the practical classroom, classroom management, leadership style used in class, reinforcement given in the classroom, review of the lesson at end of the period, methods used by the teacher etc.

The observation schedule contained 20 items and it was given to 5 experts to give their suggestions so that it could be improved. Certain suggestions with regards to language of the items, font size, spelling, alignment etc. were received and they were given due attention. In this way classroom observation schedule was finalized for data collection. A copy of observation schedule is given in Appendix 2.

3.1.5 *Procedure for Data Collection*

In any research process, the procedure of data collection is an important phase. It is as important as the construction of research tools, deciding the objectives of the study, selection of an appropriate research tools etc.. In this regard enough care was taken by the investigator to construct proper tools and to follow the appropriate procedure for collecting the data. The investigator himself collected the data for the present study. The investigator contacted the proper persons from the sample institutes, took their permission for administering questionnaire and interview schedule.

As far as questionnaire is concerned investigator did up to six efforts to collect the data from all the institutions. Majority of them responded provided the questionnaire in first two attempts and in first round of follow up. Nearly 70 percent of the institutes could return the filled questionnaire and in the second attempt (first follow up) investigator could get another 22.5 percent of filled questionnaire. But to

get the data from remaining 7.5 percent institutes, investigator made up to six follow ups then could obtain the data from all sample institutes. During collection of the data through questionnaire, certain information was filled up by the investigator from the leaflets available in the institutions and a large part of information was given by the authorities of the institutes.

To achieve objective 7 of the present study data were collected with the help of interview for which a semi structured interview was prepared. Interviews were taken personally by the researcher. The researcher took prior permission from most of the authorities of different institutions. Although it was found very difficult to take interview of the respective authorities as they were found busy with different institutional work, the researcher could complete the interview from the authorities of all the institutions in five to six attempts. Out of 40 heads of institutions only 15 heads were ready to give the interview in first attempt where as, other heads were interviewed in two to six attempts. Using the semi-structured interview schedule, the researcher noted down the responses of the interview on paper. In few cases the researcher used the audio tape to record the response of interview. To achieve the objective 6 of the present study, the researcher used the help of observation. The researcher prepared an observation schedule to observe the teaching learning process of different Computer Education institutes. The investigator observed a total of 80 class room teaching of 40 institutions during a period of three months. Researcher used the help of non-participatory observation and recorded the observation schedule in the classroom itself. The researcher used to take the note of specific events after the observation is observed.

3.1.6 Statistical Techniques Used

There are varied types of statistical techniques used for the purpose of making data more intelligible and to establish, verify and produce evidence in concerned area. As the present study is more of qualitative in nature, collected data were analysed using both qualitative as well as quantitative techniques. Quantitative data were analysed using simple statistical techniques, such as, mean, frequency, and percentage. Details of the analysis and interpretation of data is given in Chapter IV.