

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1. INTRODUCTION

Research is the process of arriving at a dependable solution to the problem through planned and systematic collection, analysis and interpretation of data. Research methodology is a process used to collect information and data. It refers to the procedure and technique adopted by the research worker in conducting an investigation. It is the norm by which procedures and techniques are selected and articulated. A pre-planned and a well described method can provide the researcher a scientific and feasible plan for solving the problem under investigation.

This chapter presents the methodology adopted by the researcher to realize the objectives of the present research. It highlights the plan and the procedure which have been adopted for conducting the present study. The various aspects of methodology namely, samples selected for the study, procedure for data collection and other various data analysis are discussed. The chapter finally unfolds the research context and the overall research design employed for the present study. The details of the method adopted, variables for the study tools used, sample selected, procedures adopted for the administration of the tools and statistical techniques used for the analysis of the data are described under appropriate heads.

This research is intended to assess the impact of community service learning on life skills development among school children.

3.2. VARIABLES

3.2.1. Independent Variable

It is a factor that is manipulated purposively under observation to ascertain its relationship with the dependent variable. In this intervention study, community service learning was taken as independent variable.

3.2.2. Dependent Variable

It is the phenomena that appears, disappears or changes as the independent variable is applied. Life skills development was taken as the dependent variable in the study.

3.2.3. Extraneous Variable

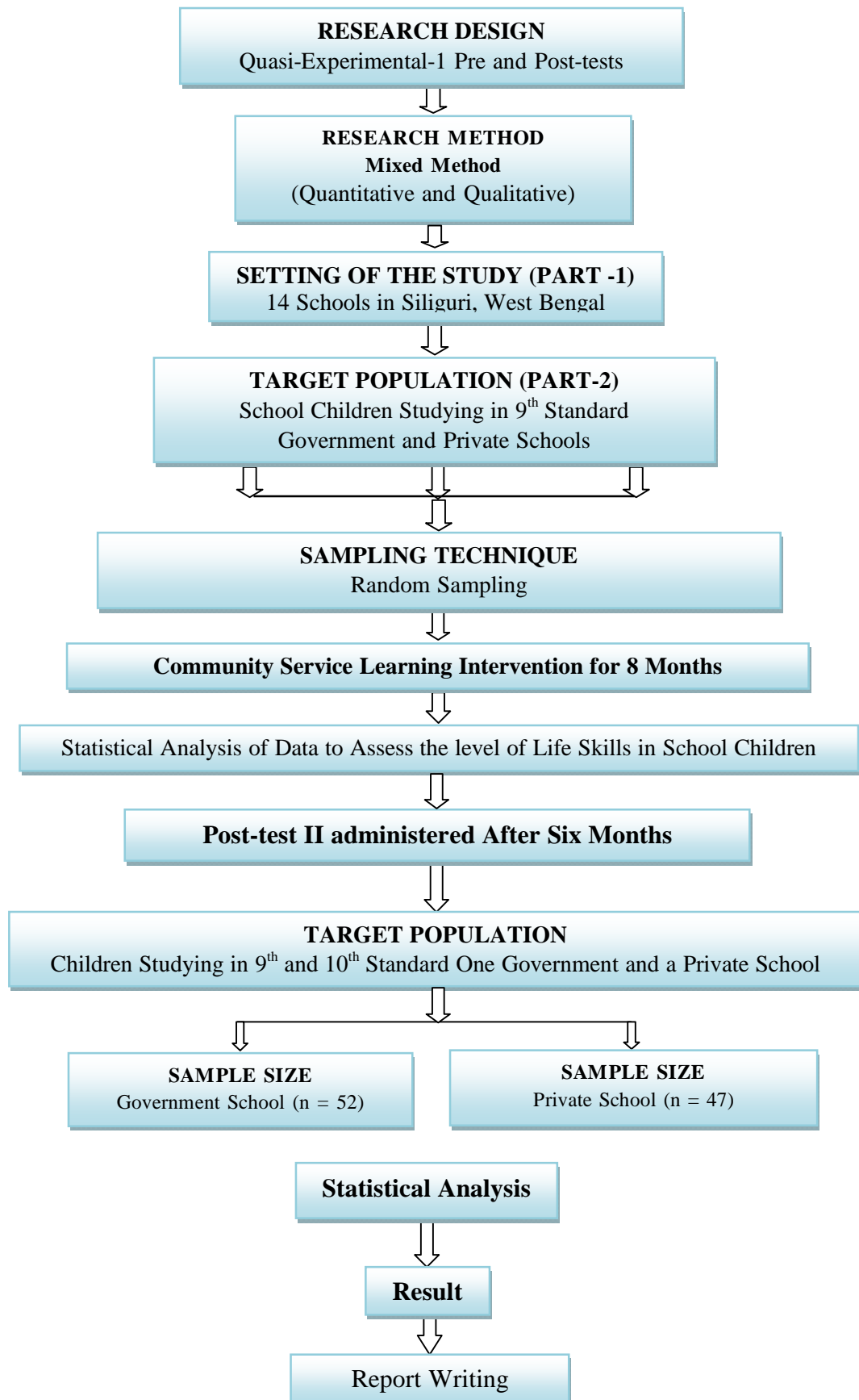
It is the variable which if not controlled or studied is likely to influence the outcome of an experiment, though they are not the variables that are already of interest. In this study, many extraneous variables have been taken into consideration such as age, gender, birth order, place of residence, religion, type of school, type of family, caste, father's education, mother's education, father's occupation, mother's occupation, total income of the family and number of siblings.

3.3. RESEARCH DESIGN

Table 3.1 Schema of the study

Sl. No.	Subject selected for the study	Pre-test	Intervention	Post-test 1	Post-test 2
1	To study the level of life skills development of school children	Life Skills Assessment Scale	-	-	-
2	To determine the impacts of life skills development and Civic value, Civic Responsibility and Study Habit	Life skills Assessment Scale Checklist on Civic Value, Civic Responsibility and Study Habit	Community Service Learning Module	Life skills Assessment Scale Checklist on Civic Value, Civic Responsibility and Study Habit	Life skills Assessment Scale Checklist on Civic Value, Civic Responsibility and Study Habit

Figure 3.1 Diagrammatic Representation of the Research Method



The quasi experiment is generally regarded as the most sophisticated research method for testing hypothesis. This method begins with a question connecting the relationship between two or more variables. The experiment is the event planned and carried out by the researcher to gather evidences relevant to his/her hypothesis. In the conduct of an experiment, the researcher devotes great care to the manipulation and control variables and to the observation of results. It is a research method that ensures that the most convincing evidence can be obtained of the effect that one variable has on another.

The experimental design refers to be conceptual framework within which the experiment is conducted. An experimental design has two purposes:

- 1) It proves the opportunity for the comparisons required by the hypothesis of the experiment.
- 2) It enables the researcher through his/her statistical analysis of the data to make a meaningful interpretation of the results of the study.

The researcher prefers pre- post-test design for the study. This design is one of the simplest, yet one of the most powerful of all experimental designs. It requires two groups of subjects and the subjects are assigned to the experimental groups and given pre-test on the dependent variables. The intervention is introduced only to the experimental subjects for a specified time, after which the groups were measured on the dependent variables.

After administering pre-test among 14 schools both government and private schools, the data were analyzed. The level of life skills were found low. Therefore two schools were chosen from these 14 schools a government school and a private school to give the community service learning intervention programme for 8 months. There were 2 hours and 4 hours activity for the total of 120 hours which included the preparation hours. Once the intervention was completed, post-test was administered. After six months of interval, another post-test was conducted by using the same Life Skills Assessment Scale and checklist for civic responsibility, civic value and study habit.

For this research a quasi-experimental research design was adopted. The quasi experimental design is a form of experimental research used extensively in the social

sciences and psychology. This design involves selecting groups upon which a variable is tested, without any random pre-selection process. In this research one group pre-test and post-test was implemented. In this design only one group has been used. Because this design may be the feasible one, the comparison is justifiable, but, as in quasi-experimental studies, the result should be interpreted cautiously. The investigator wanted to determine the impact of community service learning on life skills development among school children before and after the intervention.

3.3.1. Population

Population is the broader group of people to whom the results will apply. The population of the present study was the school children studying in 9th and 10th standard of government and private schools located at Siliguri, in West Bengal. There were 38 schools having 9th and 10th classes in Siliguri Municipal Corporation area. Out of which 14 schools, i.e. 36% of the schools were selected for first phase study.

3.3.2. Sampling

Sampling is the process of selecting a number of units or individuals for a study in such a way that the individuals or units represent the larger group from which they were selected.

3.3.3. Sampling Method and Procedure

There are about 140 schools in Siliguri which include government, private and aided schools. It was necessary to confine the population to a limit which sample could well represent. For the experimentation, the researcher selected students studying in the 9th standard during intervention from different schools. The researcher approached the principals of various schools for collecting data. Finally the data was collected from 14 different schools which include government and private schools. The sample thus constituted a total of 822 students. Life skills assessment scale and checklist on civic responsibility, civic value and study habit was administered to 822 students who were in the age group between 14 to 15 years by using random sampling. The study was conducted to assess the level of life skills development and the impact

of community service learning among school children of 9th and 10th standard students who reside in the Siliguri area.

It was found that life skills were very low among the students. From here it was decided to select two schools. A government school i.e., Shri Guru Vidya Mandir, and Mahbert Higher Secondary School, a private school at Siliguri, in West Bengal were selected for the experiment by purposive sampling. For the sake of convenience one full class was chosen for the experimental group. The sample was from 9th standard students between ages of 14-15 years during the academic year 2017-2018. They were selected to undergo community service learning invention for 8 months.

3.3.4. Sample Size

- In the first part of the study, the sample of the study is 822 school children (boys = 403, girls = 419) between the age group of 14 to 15 years studying in 9th and 10th standard.
- In the second part of the research, a sample of 99 school children i.e. 12% of the first phase study was taken for intervention. This sample was from two schools out of 14 taken in the first phase.
- The sample involves students who fulfilled inclusion and exclusion criteria, a total of 52 children from government school and 47 children from private school were in this category.

3.4. CRITERIA FOR SELECTION OF THE SAMPLE

3.4.1. Inclusion Criteria

- School children between the age group of 14 to 15 years
- School children studying in government schools and private schools located at Siliguri in West Bengal
- School children studying English medium and Bengali medium schools
- School children studying in 9th standard and willing to participate.
- School children belongs to marginalized and minority communities.

3.4.2. Exclusion Criteria

- School children of ages below 14 and above 15 years.
- School children studying in aided school
- School children studying other than in English medium and Bengali medium
- School children studying below 9th standard and not willing to participate.

3.5. TOOLS OF DATA COLLECTION

In order to collect the information on the variables considered in the study the following tools are used.

3.5.1. Life Skills Assessment Scale (Process of Developing LAS in Bengali)

Life Skills Assessment Scale (LSAS) developed by Dr. A. Radhakrishnan Nair et al. (2010) was used for the data collection. It is a standardized questionnaire having reliability of 0.84 and validity 89%. The multi-dimensional life skills assessment scale consists of 100 items in the form of statements in built with a 5 point scale for the respondent to check the appropriate response which is most descriptive of him/her. It has both positive and negative items. The scale measures 10 dimensions of life skills such as self-awareness, empathy, effective communication, interpersonal relationship, creative thinking, critical thinking, decision making and problem solving, coping with emotions and coping with stress. This scale, as a whole, has split half reliability coefficient by Cronbach's alpha = 0.88, spearman-Brown coefficient = 0.71 and Guttman's split-half coefficient = 0.71 ($p < 0.001$). Similarly, the concurrent validity of all scales ranges from 0.38-0.76 ($p < 0.001$) (Annexure -4).

Life skills assessment scale is available only in English and it was used on students who are studying in English medium. The government school follows Bengali as a medium of instruction so the existing life skills assessment scale was translated into Bengali by a person who was expert in the language. The life skills assessment scale that was translated in Bengali was given to a person who was an expert in English to translate it back into English to understand whether proper translation was done. It was cross checked to see if the English version of life skills

assessment scale that was translated from Bengali version was matching with the original life skills assessment scale that is in English. This was done to see if the life skills assessment scale was translated correctly. Following the above process, the life skills assessment scale in Bengali was validated. After validation, the scale was pilot tested with 100 school children to check the reliability and validity. It was found that life skills assessment scale in Bengali has reliability of 0.82 and validity 80% (Annexure-7).

3.5.2. Checklist of Civic Value, Civic Responsibility and Study Habit

The children participated in community service learning for 120 hours so the researcher has prepared a checklist containing 42 items to assess if it has made any difference in their civic value, civic responsibility and study habit. The researcher sent these items for validation to a few people who were expert in English language. The experts consisted of school teachers teaching various subjects who teach in 9th and 10th classes, psychologists and educationalists. The suggestions and feedback given by the experts was incorporated and the checklist was modified. The checklist was given for pilot testing to 100 students of 9th standard for further validation. After the pilot study those items showing low scores were deleted from the checklist and the final checklist was prepared (Annexure-6).

The checklist in English was sent to few experts in Bengali language to translate in Bengali. The checklist that was translated into Bengali was sent to few experts in English language to be translated back to English. It was to check whether the translation from the Bengali matches with the original checklist that's in English. The suggestions of experts were incorporated and the checklist in Bengali was modified. The modified checklist in Bengali was given for pilot testing to 100 students of 9th standard students studying in Bengali medium for validation. After the pilot study those items showing low scores were deleted from the checklist and the final checklist was prepared. The reliability was assessed by conducting the 't' test. The result shows that the check list is reliable and adequate to conduct the test (Annexure-8).

3.5.3. Survey Method for Personal Data

The personal data form was prepared in detail to collect socio-economic information from the students. This information helps to analyze and make a comparative study. Student's name, sex, age, order of birth, place of residence, qualifications and occupation of the mother, qualification and occupation of the father, total annual income of the family, religion, caste, number of sibling and type of family (Annexure-4).

3.5.4. Interview Schedule

The researcher used an interview schedule for collecting data from the Principals of both the schools. It was to understand their first response when they heard about community service learning, what challenges did they face in making community service learning as part of their school curriculum? What was their fear when children were taken to the community? The researcher asked more questions to collect the information from the management point of view of imparting life skills by involving school children in community service learning programmes.

3.5.5. Focus Group Discussion

Qualitative method of data collection was used to assess the quality of community service learning intervention. Teachers, parents and members in the community were the target population for the focus group discussion to assess their attitude towards the children who participated in community service learning programmes as they interacted with the children directly or indirectly.

The researcher prepared a set of appropriate structured questions for each group separately. Focus group discussion was conducted among 18 parents. Similarly, focus group discussion was conducted with the group of 6 teachers who taught in the respective classes. The researcher led the discussion and prompted questions like what was their first reaction when their children were going out of classroom to participate in community service learning programmes. What was their fear? Were they afraid that their classes would be hampered? Did they observe attitudinal change? More

questions were asked to motivate them to share their experience of seeing their children participate in community service learning programmes for 8 months. The researcher noted down their responses during the discussion and a report was prepared on the basis of the suggestions and observations of the participants. This discussion was conducted in both the schools only in the post intervention stage.

3.5.6. Reflection Sheet

The researcher prepared a reflection sheet for children to keep as a journal after they complete each activity. They were encouraged to spend few minutes in silence to gather all their experiences. The researcher observed the children at every stage, during the preparatory session, during the preparatory discussion in group, helping at the time of implementation of the activities, or guiding them to interact with the members in the community.

The school children pen down their feedback in the reflection sheet and facilitated an open feedback session in the classroom. After every three activities they were shuffled into a different group. This was a challenging experience for them as they usually get stuck to their close friends. In the beginning it was very difficult for them to work with new friends in a new group but gradually they appreciated and found it interesting when they got to know each other and made new friends. The technique of reflection sheet helped the researcher to guide the students and answer their queries especially when the students were emotionally disturbed (Annexure – 5).

3.5.7. Case Study

Case study is a descriptive and exploratory analysis of a person, group or event. It is in-depth investigation of a single individual, group or event to explore the causes of underlying principles typically seen in social studies and life sciences.

3.6. ETHICAL CONSIDERATION

A written consent letter was obtained from the parents, the school authorities and the students before commencement of the programme. The researcher followed

the rules and regulations of the schools in a manner that the activities took place during the school hours allotted by the school so that their class was not disturbed. The community selected for the intervention was oriented before the onset of the programme. Great care was taken on children's security when they were taken out to the community. The students were not allowed to participate in strenuous work which involves continuous physical work. The children were mentally prepared to face the members of the community with great respect and learnt the technique of working cordially with their peers. The data collected was used specifically for study purpose only.

3.7. AREA OF THE STUDY

The researcher selected Siliguri city in Darjeeling district of West Bengal as the area of study. Siliguri is located on the banks of the Mahananda river on the foothills of the Himalayas, surrounded by tea gardens. It is spread over an area of 260 kms. In 1947 the partition of Bengal between India and Pakistan led to the formation of the "Siliguri Corridor". Siliguri is one of the most important cities in West Bengal as it is virtually the gateway to many tourist places in the state like Darjeeling and Kalimpong. It is also one of the most developed cities of the state. Therefore, it receives both tourist as well as business travellers. There are 47 wards in the city. Among them, Siliguri Ward No 46 is the most populous ward with a population of about 31 thousand and Siliguri Ward No 11 is the least populous ward with population of 1912. Siliguri is the sub district head quarter of the city. It consists of the Siliguri Municipal Corporation and four community development Blocks: Matigara, Naxalbari, Phansidewa and Kharibari. The four blocks cover 22 Gram Panchayats and two census towns: Bairatal and Uttar Bagdogra. Based on Census data of 2011, the city has a population of 705,579, while the population of Siliguri UA/Metropolitan is 1,057,438. Males constitute 51% of the population and females 49%. In Siliguri, 10% of the population is under six years of age.

Siliguri is home to diverse group of people from different communities and religions. It is inhabited by an array of communities who have migrated from the neighboring states and countries. In the year 1856, tea was planted in Darjeeling District and its surrounding areas in North Bengal. The tribals were brought from

Jharkhand and Chhattisgarh to work in the tea gardens. The number of tea gardens increased from one garden in the year 1850 to 295 in 1871. This brought more tribals as migrants from different tribal belts around India to work as labor. In recent years the tea gardens and factories have been closed and this has rendered many people jobless. Since Siliguri comes under Darjeeling district hence more Nepalis have settled in the city. So the problem of Gorkha land is still a big concern in the city. Students from other states and countries come here to pursue education. With the passage of time many government and non-government schools were established. This study was carried out in 14 schools of the urban and rural area of Siliguri city.

3.8. STAGES OF RESEARCH

The researcher spent adequate time to understand the concepts, construct theories, suggestions, opinions and findings of the various studies with regard to life skills. After having significant knowledge, the researcher decided to undertake the study in different stages.

Phase 1

The researcher engaged herself in collecting related literature from books, journal, articles, research studies and conference proceedings. The researcher has presented the literature reviewed related to the area of study thematically in chapter two.

Phase 2

A check list on civic value, civic responsibility and study habit was prepared in English. A pilot test was done and got it standardized. It was translated to Bengali language and a pilot test was done. The Life Skills Assessment Scale and checklist was translated in Bengali and standardized and a pilot test was done.

Phase 3

Having gone through the literature, the researcher developed a 120 hours of community service learning module. After having prepared the module, a pilot study

was done in a school to assess if the module was feasible and actionable. The necessary corrections were incorporated and module finalized.

Phase 4

Data collection was done by using the Life Skills Assessment Scale from 14 schools, both from government and private schools during pre-test. The sample for this part of the study was 822 children from 9th standard consisted of both boys and girls. The data was analyzed and found the level of the life skills of school children was low.

Phase 5

From these 14 schools, one government and a private school were chosen for the intervention study. A pre-test was taken from these children before they started the intervention programme. The children of 9th standard participated in community service learning intervention for eight months.

Phase 6

After completing the community service learning intervention programme, the experimental groups' data was collected on the development of life skills and independent variables along with their civic value, civic responsibility and study habit.

Phase 7

After six months, the second post-test was conducted, in order to determine the impact of the community service learning on life skills development, civic value, civic responsibility and study habit.

Phase 8

After the instruments were administered the data were collected, and the score was codified to analyze the data using correlation, One-way ANOVA, Two-way ANOVA, Mean, Median, 't' test and post-hoc analysis.

3.9. DEVELOPMENT OF COMMUNITY SERVICE LEARNING MODULE

The researcher took a few sessions with a particular school children studying in 9th standard. Social issues, community development, civic engagement and their duty as a citizen were topics that were discussed. After the classroom discussion they were taken out to visit the locality that is close to the school so that they could interact with the members in the community. This interaction helped them to know the needs and the issues they faced in their day to day life. This experience helped them to know the problems and issues of the community. They spent time in brainstorming about their experience of visiting the community and the needs and problems of the community. They asked many questions and later arrived at a decision to do something. So they voiced a few activities as a solution to the issues. This helped the researcher to know the needs of the community and the students' interest. The researcher also became familiar with the syllabus of the 9th standard. With this in mind the researcher started to draft a community service learning module with the help of children.

The activities were planned under five areas of concern such as health and mental wellbeing, education, hygiene and sanitation, environment, skill development. It was designed to cover four hours and two hours of activity. Three activities of two hours was designed for each area of concern. Each activity was to be repeated twice with one hour of preparation which totals to 75 hours. Similarly four hours of activity was planned for each area of concern. Each activity was to be repeated twice with one hour of preparation which totals upto 45 hours. So community service learning programme contained in total 120 hours of activity. Each activity included preparation and reflection. The module contained the objective of conducting a particular activity, with what is the theoretical knowledge the students need to know, the process that would be followed to carry out this activity, what were the resources required for the successful execution of the activity and learning outcomes of students. Great care was taken that children were not bored. It proved to be a joyful learning for them and they were not physically tired.

The draft community service learning module was sent to a few of the experts in the subject of psychology, social work, work education and few school teachers who teach science and social studies to class 9th standard students for their feedback. It was also shown to the Principals of the schools and their permission obtained to carry out the activity. The researcher also checked with few community members about the feasibility of carrying out certain activities. Feedback from different experts was taken into consideration and it was found to be very valuable as it added meaning to the module. Community service learning module was pilot studied in one of the school among the 9th standard students and found feasible and actionable. The children understood the concept and interacted well with the community members in addition to enjoying the activity. In this way community service learning module was standardized. The areas of intervention are health and mental wellbeing, education, hygiene and sanitation, environment, and skill development. The framework of the community service module is given in the Annexure-10.

3.10. PILOT STUDY

Pilot study was conducted to evaluate the feasibility, time, cost and barrier of implementation of community service learning intervention programme in the high school. It was intended to know whether it can achieve all the objectives on which the programme is developed or not, and also to verify the quality and objectives of life skills learnt while involving the school children in structured community service learning programmes.

Permission was taken from the Principal of the school, parents and children before the students entered into this activity. The sample for the pilot study was from 9th standard students (only girls) between the age group of 14 to 15 from Loreto House School, Kolkata. The sample size was 45 students. Purposive sampling method was used. A pre-test was done using Life Skills Assessment Scale. The first eight activities from the community service learning module done by the students were spread out over two months. Each activity was of two hours duration. The students were divided into small groups and the nature and process of the activity discussed.

They participated in eight community service learning activities such as visiting an orphanage, preparing and sharing food with the deserving, a go green march, painting trees to protect from insects, tagging names on 80 trees in the school campus, visiting the differently abled children, raising funds to fight hunger and disease and spending memorable time with visually impaired children. After completing the community service learning intervention a post-test was done and the result was analyzed. The result showed the feasibility of the community service learning intervention module. The pilot study helped the researcher to incorporate few modifications on the module.

3.11. STATISTICAL ANALYSIS PLAN

The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups. The statistical techniques used for the present study are One-way ANOVA, Two-Way ANOVA, 't' test, post-hoc analysis and Pearson Moment Correlation. Analysis were conducted using SPSS, the interpretation procedure was from SPSS Survival Manual, version 21. The following statistical techniques were employed to codify the results and reaching valid conclusion. The scores on the tool have been calculated to assess the life skills present among adolescents.

One-way ANOVA: When the means of more than two groups or population are to be compared, and if there is one independent variable, one-way is appropriate statistical tool. The bivariate statistical technique is referred as one-way ANOVA because there is one independent variable (Zikmund, 2003).

The two-way ANOVA: Compares the mean differences between groups that have been split on two independent variables. The primary purpose of a two-way ANOVA is to understand if there is an interaction between the two independent variables on the dependent variable.

Post-hoc analysis: Post-hoc analysis designed for situations in which the researcher has already obtained a significant compilation F-test with that consists of three or more means and additional exploration of the difference among means is

needed to provide specific information on which means are significantly different from each other.

The t-test is the most commonly used method to evaluate the significance of the difference between the means of two groups. The independent sample t-test has been used for this purpose. The t-value is a ratio between the difference in the mean and the standard deviation error of the two sets of data. The t-test is used to test a hypothesis stating that the mean scores on some variable will be significantly different for two independent samples of groups (Zikmud, 2003).

Correlation Analysis: Correlation is a statistical technique which can show whether the variables are related. The most common type of correlation is the Pearson product moment method correlation. It is a statistical procedure used to discover the extent of relationship or agreement between two variables. The extent of the relationship can be expressed numerically, which is called coefficient of correlation. It is a single number that tells us to what extent two things are related or to what extent variation in the one goes with variation in the other (Stockburger, 1998). The main result of correlation is called the correlation coefficient (r).

3.12. CONCLUSION

This chapter described the statement of the problem, research methodology adopted by the researcher in the present study, the variables, the tools of research, data collection, details of development of community service learning intervention module, statistical measures and sampling.

In the next chapter details of data analysis and discussions are narrated.