Chapter 3

Research Methodology

3.1 Introduction

The research methodology is basically supervising the research in a specific manner so that the problem can be solved effectively and efficiently. It is a format through which the researcher is aware how to proceed with the research problem and arrive at the result. It includes the entire process that is involved in the research part from the initial process of planning, execution, drawing interpretations and promulgating the results.

The theoretical background of the study is presented along with the significance, objectives and hypotheses in chapter 1. A review of related literature along with research findings and rationale of the study is written in the previous chapter. The present chapter is devoted to the description of the methodology given in the present study. In this chapter the discussion will be in detail about the variables, population, sample, tool used for the collecting the data, steps for tool construction, the procedure of the data collection, and statistical techniques used for the given study.

3.2 Variables of the Study

Variables are basically the periphery in the research part. It is basically the entity that can take any value and can vary. In this study the relationship will be measured between two variable- lifeskills and Pupil teachers" academic achievements. In this study, the variables are taken as in the following manners-

- Predictive variable - Life skills
- Criterion variable – Academic Achievement

3.3 Research Design

Research design is a planning of doing a research.

The research design is done for the purpose of following conditions

3.3.1 Collection and analyzing of the data in a manner that aims to merge it in a proper manner.

3.3.2 It is a decision making process as the plan of action is prepared by the researcher beforetaking over any study.

3.3.3 It is an arrangement of the conditions for the collecting and analyzing data in a well-organized manner.

3.3.4 It is a conceptual framework within which the research is conducted and it constitutes the blueprint for the collection, measurement and analyzing of data in a meaningful and structured way.

3.3.5 It enables the researcher to save a great deal of time, resources and labour.

For this study, quantitative research design is chosen. Among different types of quantitative research design, Correlation research design is taken by the researcher.

3.4 Population of the study

It is a group of individuals that share common characteristics- pupil teachers are prospective teachers. In near future they are going to teach in several schools across India. They all have professional degree with internship experiences on school education e.g. B. Ed. In the present study, the population is taken from professional courses taught in RIE, NCERT, Bhopal. The students of RIE Bhopal are from different regions and states of India. So, the population is a miniature collection from all over India The students are of both genders- male and female and from both the subject streams-Science and Humanities.

3.5 Sample of the Study

Data collection is essentially an important part of the research process so that the hypotheses tentatively held may be identified, rejected or not rejected and inferences are made. For the data collection process, the researcher needs to take the sample from the population. The process of obtaining information about the entire population by examining only a part of it is referred to as sampling.

In this research purposive sampling is done. Purposive sampling is also known as judgmental or selective or subjective sampling. It is a form of non-probability sampling (NPS). In this sampling researcher relies on the purpose of the study when choosing members from the population for sample of this study to participate in this survey. The number of sample of this study is 180.

3.6 Tool for Data Collection

In research, data gathering tools are called research tools. The advantage and importance of research is totally dependent on the relevancy of the tools used to extract the information fromthe sample population. The tool should be relevant, reliable and valid.

This study deals with the cumulative life skills in relation with academic achievement of prospective teachers. The details of the used tool is in the following-

- ❖ Self-made Scale on Life skills (2021) developed by the present researcher is taken as a tool. The tool is a scale based on different life skills consisting of 20 items. The scoringof positive items of self-efficacy scale was done by assigning score 4,3,2,1 for strongly agree, agree, disagree, strongly disagree.
- ❖ In this tool, Academic achievement is taken as the percentage of the result of teacher trainees in their professional courses.

3.7 Validity and Reliability of the Tool

Validity of a research study refers to how well the results among the study participants represent true findings among similar individuals outside the study. Validity is harder to assess, but it can be estimated by comparing the results to other relevant data or theory.

Reliability of a research study refers to the consistency of a measure. Reliability is a measure of the stability or consistency of test score or it is the ability for a test or research findings to be repeatable. For example, a medical thermometer is a reliable tool that would measure the correct temperature each time it is used.

Psychologists consider three types of consistency:

- **Over time (test-retest reliability),**
- **Across items (internal consistency)**
- **Across different researchers (inter-rater reliability).**

The validity and reliability of the used scale was assessed by 6 experts, and their recommendations and feedbacks are considered and the tool was modified and re-evaluated before using it for this study.

3.8 Method and Procedure of the Data Collection

Methods are the specific tools and procedure is the process to collect data using the method. Inthis study, survey method is used through online mode.

3.9 Statistical Techniques used for Analysis

It was an interesting task to accomplish the simplification, quantification, statistical analysis and generalization of the data. The analysis of data started with the background information of the sample. The data collected were consolidated, tabulated and analyzed using inferential techniques i.e. Pearson correlation or Pearson product moment correlation Analysis which are presented in detail in chapter IV.

In this Statistics, mean, standard deviation, t-test and the Pearson Correlation Coefficient (PCC)- also known as Pearson"s r, Pearson"s sigma, Pearson product moment correlation Correlation Coefficient(PPMCC), bivariate correlation or correlation coefficient are taken for analyzing the data. PCC is the ratio between the covariance of two variables and the product of their standard deviations; thus it is essentially a normalized measurement of the covariance, such that the result always has a value between −1 and 1. As with covariance itself, the measure can only reflect a linear correlation of variables, and ignores many other types of relationship or correlation.

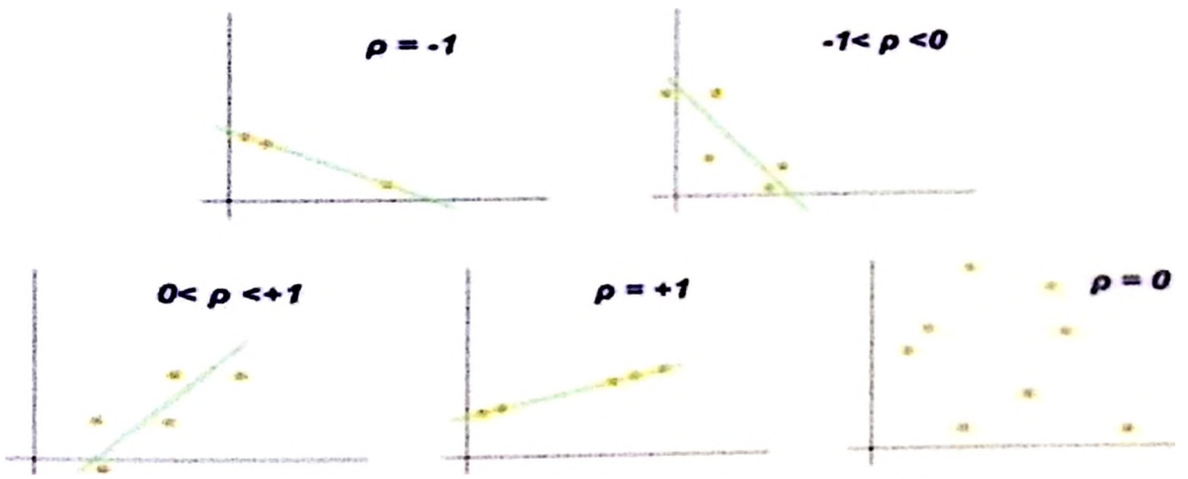

Figure 3.1 ***The scatter-graph of Pearson correlation for different values of r***

Different values of r express different types of correlations. The chart figure is given in the next page-

Correlation Coefficient Value (r)	Direction and Strength of Correlation
-1	Perfectly negative
-0.8	Strongly negative
-0.5	Moderately negative
-0.2	Weakly negative
0	No association
0.2	Weakly positive
0.5	Moderately positive
0.8	Strongly positive
1	Perfectly positive

Figure 3.2 ***Different types of Correlation Coefficient Value with Names***

3.10 Summary

The third chapter gave a detailed account of the procedure and method employed in conducting the study. It also described how the tools were developed by the investigator and ways of ensuring their validity and reliability. The study and the beneficial aspects were explained in detail. To add support to this quantitative study, in the forthcoming chapter the detailed analyses and discussion of the data will be done.