
CHAPTER III

METHOD

3.0 Introduction

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques. (Irny and Rose, 2005). Selection of appropriate methodology provides clear direction to the researchers with regard to the various steps to be followed in carrying out the research successfully.

The present chapter outlines the Site description, Selection of the sample, Design of the study, Variables, Construction of the tool, Pilot Study, Implementation of PALS, Data gathering procedure and Data analysis procedure.

The method adopted in the study is described below:

3.1 Site Description

The study was conducted in Secondary Schools in Coimbatore district. The sample was selected from Grade VII Students for both Experimental and Control Group. Both groups had similar in nature in terms of location and Medium. Both Schools were Government run Higher Secondary School located in and around Coimbatore city.

The schools selected for the study are:

1. Government Higher Secondary, Pannimadai, Coimbatore (Control Group)
2. Government Higher Secondary, Ganapathy, Coimbatore (Experimental Group)

3.2 Selection of the Sample

The study was Experimental in nature. The sample comprised of 188 students, both Boys and Girls from Grade VII. The sample consisted of two groups of students namely Experimental and Control Group. The first group of 116 students with 58 individuals in each gender had been considered as Experimental Group and the next Group of 72

Students with almost equal number in each gender as Control Group. Purposive Sampling technique was adopted in the study.

3.3 Design of the Study

The study was designed on the basis of Pretest and Posttest Control Group Design. The sample of the study consisted of two Groups namely Experimental Group and Control Group. Pretest was administered to both the Groups. Peer Assisted Learning Strategies (PALS) were assigned to only Experimental Group.

The layout of the design carried out in this study is given below.

Experimental Group	=	O1	X	O2
Control Group	=	O1		O2

Here,

O1 means Pretest

O2 means Posttest

X means Treatment

3.4 Variables

The variables selected for the study and the levels are given below:

Variables	Levels
Independent Variable	
a. Gender	i. Boys ii. Girls
b. Medium of Instruction	i. Tamil ii. English
c. PAL Strategies	i. Partner reading ii. Paragraph Shrinking iii. Quiz activity iv. Project With Partner
Dependent Variable	
a. Test score before and after Introduction of PALS	Scores in 25 MCQ
b. Performance in Reading before and after introduction of PALS	Number of correct words read in 5 minutes in a passage of 75 words
c. Performance in Paragraph Shrinking strategy	Summarization of main idea in the given paragraph (15 key words to be summarized)
d. Quiz programme	Score in quiz out of 10 score
e. Performance in Project work	Rating in terms of: i. Outstanding (5/5 score) ii. Above average (4/5) iii. Average (3/5) iv. Below average (2/5) v. Poor (1/5)

3.5 Construction of the Tool

The investigator developed the tool based on literature survey and opinions of the experts.

1. Personal Data Bank

To collect general information regarding Gender, Types of School programme and Grade, Personal data bank was developed (*Annexure I*)

2. Assessment of Understanding the Concept and Comprehension of Science Lesson taught in the Conventional method (Before PALS introduction)

The test aimed to measure the understanding the concept and comprehension of the Science Lesson named ‘**Universe and Space**’ which was in Unit 2 of the VII Grade Science. A 25 Multiple Choice Questions (MCQ) were selected covering all the concepts in the lesson. There were **four** choices for each question which had very minimal differences between choices. This test was considered as Pretest which was administered for both Control and Experimental Group. (*Annexure II*)

3. Assessment of Understanding the Concept and Comprehension of Science Lesson taught using PAL Strategies

The test aimed to measure the understanding the concept and comprehension of the Science Lesson named ‘**Polymer Chemistry**’ after introduction of PALs which was in Unit 3 of the VII Grade Science. A 25 Multiple Choice Questions (MCQ) were selected covering all the concepts in the lesson. There were **four** choices for each question which had very minimal differences between choices. This test was considered as Posttest which was administered for Control and Experimental groups. For both Pretest and Posttest, MCQ was framed in a similar pattern. (*Annexure III*)

Scoring

Scoring was assigned that for every correct response **One score** and wrong response **Zero score**.

4. Reading Skill Assessment

Partner reading strategy was used for which the investigator consulted with the classroom teachers to assign reading materials. Reading activity using the reading

strategies was a routine activity during PALS session. For assessment of reading skill, a passage containing 75 words was selected which was used for both Pre and Post testing. (*Annexure IV*)

Scoring

Reading skill was assessed as number of correct words read in 5 minutes minus the errors.

5. Summarization of Main concept of the lesson with Key Words using Paragraph Shrinking Strategy

During Partner Reading, Paragraph Shrinking Strategy was used. Paragraph shrinking was designed to develop comprehension through identification of main idea in the paragraphs. The investigator with the help of the classroom teachers selected five passages in the lesson which consisted of around 360 words for this purpose. Fifteen words were selected for identification of main idea from the passages. The Partners were allowed to read the passage and shrink it to get the main idea for 30 minutes. Soon after 30 minutes, the partner who was the tutor would ask to identify the main idea by naming within 15 words. (*Annexure V*)

Scoring

Scoring was done by number of words identified similar to the list of words the investigator noted from the paragraph.

6. Quiz Activity

Quiz activity aimed to test the comprehension ability of the students when involved partner reading. From the paragraph shrinking passage, a set of ten questions for one word was prepared to test the comprehension. (*Annexure VI*)

Scoring

The tutor will ask the question and the tutee will answer. For each correct response, **one score** and wrong response, **Zero score**.

In Indian context more than 50% of the students could not read even second grade text book. Assessment scores for Partner Reading, Paragraph Shrinking and Quiz Activity were considered for tutees.

3.6 Pilot Study

A pilot study was conducted among 30 students in CCMA Government Higher Secondary School, Coimbatore for a period of one month with 16 sessions. The tools were found to be reliable to be administered to the whole group of samples. The reliability of the Cronbach Alpha is 0.82.

3.7 Implementation of Peer Assisted Learning Strategy

The PALS was implemented for a period of three months with 36 sessions.

3.7.1 Pairing of Students

First and foremost step involved in PALS is pairing of students. In this study, students were listed from highest to lowest according to their reading ability and their pretest score. Classroom teachers were also involved in pairing of students. After listing the students from highest to lowest, the investigator divided the list in half placing the top student in the first list with the bottom student in the second list. This list was continued until all the students have been partnered. There were four students academically struggling with learning problems who were found to be in need of intensive attention were partnered with the average level ability students who received additional support from the investigator during PALS session.

3.8 Techniques Adopted as PALS in the Study

Peer Assisted Learning Strategy was implemented for a period of three months which excluded pretesting and posttesting time duration. The techniques adopted as Peer Learning Strategy are:

1. Partner Reading
2. Paragraph Shrinking Technique
3. Quiz Activity
4. Project work with partner

3.8.1 Partner Reading

The first activity in PALS is partner reading. All the students in the class were oriented to the partner reading strategy. This includes that students should establish a routine for reading and to adopt the step by step method:

- Read aloud
- First the tutor reads and then the tutee
- Read aloud simultaneously
- Take turns with each person reading a paragraph
- When one student reads, the other listens
- Re- reading misread word
- Adjusting reading speed if reading simultaneously so that they stay together
- Students offer feedback and praise frequently for correct reading
- Signal to the teacher(investigator) if any difficulty arises

3.8.2 Paragraph Shrinking Technique

During Partner reading, Paragraph Shrinking strategy was used. Paragraph shrinking is a routine students used during PALS session, The aim of using this technique was to practice finding the main idea by summarizing a text. The Main features of the techniques are:

- Either tutor reads or the tutee reads and the other listens for 10 minutes without re-reading.
- The tutor asks what the main idea in the paragraph is.
- He / she summarizes main idea in the paragraph- what or who or how of the paragraph.
- Ask to write the main idea of the text in 10 or fewer words depending on the length of the paragraph.
- Receiving feedback from the partner.
- Paragraph shrinking was designed to develop comprehension through identification of main idea in the paragraphs.
- Paragraph shrinking activity would usually take 30 minutes in a 45 minutes class session.

3.8.3 Quiz Activity

Questions are formulated from each paragraph read. The investigator would assist the tutor in framing the questions.

- The tutor will ask the questions to the tutee.
- The tutor will score the answer.
- This activity is considered quiz activity.
- This activity can be done after each paragraph shrinking and also after students involved in three or four paragraph shrinking activity.

3.8.4 Project with Partner

- A Partner project was given on the topic “Types of Plastics”
- Partners collected various types of Plastics and explained each type
- Rating was given as Outstanding, Above average, Average, Below Average, and Poor

3.9 Data Collection Procedure

Data were collected in three phases:

- I Phase** Pretesting was done to assess the understanding and comprehension of the lesson taught in the conventional method. The test was administered to both Control and Experimental Group in a single day.
- II Phase** Implementation of PALS to the Experimental group which consumed a larger portion of the time. The time taken for this phase is three months, three sessions per week and thus totaling 36 sessions with 45 minutes each session
- III Phase** Posttesting to both Control and Experimental Group administered in a single day.

3.10 Data Analysis

- For comparison of means, *t test* was used.
- To study the influence of Gender and Medium of and their interaction when considering pre score as Covariate, *Analysis of Covariance* was used.
- For rating the Project work with partner, *Percentage* analysis was used.