

CHAPTER III

METHODOLOGY OF THE STUDY

- 3.1.0 INTRODUCTION**
- 3.2.0 DESIGN OF THE STUDY**
- 3.3.0 POPULATION OF THE STUDY**
- 3.4.0 SAMPLE OF THE STUDY**
- 3.5.0 TOOLS FOR DATA COLLECTION**
- 3.6.0 DEVELOPMENT OF CAI PACKAGE**
- 3.7.0 PROCEDURE OF DATA COLLECTION**
 - 3.7.1 PHASES OF DATA COLLECTION**
 - 3.7.1.1 Phase-I: Pre-Testing**
 - 3.7.1.2 Phase-II: Implementation of CAI in Different Modes**
 - 3.7.1.3 Phase-III: Administration of Post-Test and Reaction Scale**
- 3.8.0 DATA ANALYSIS**

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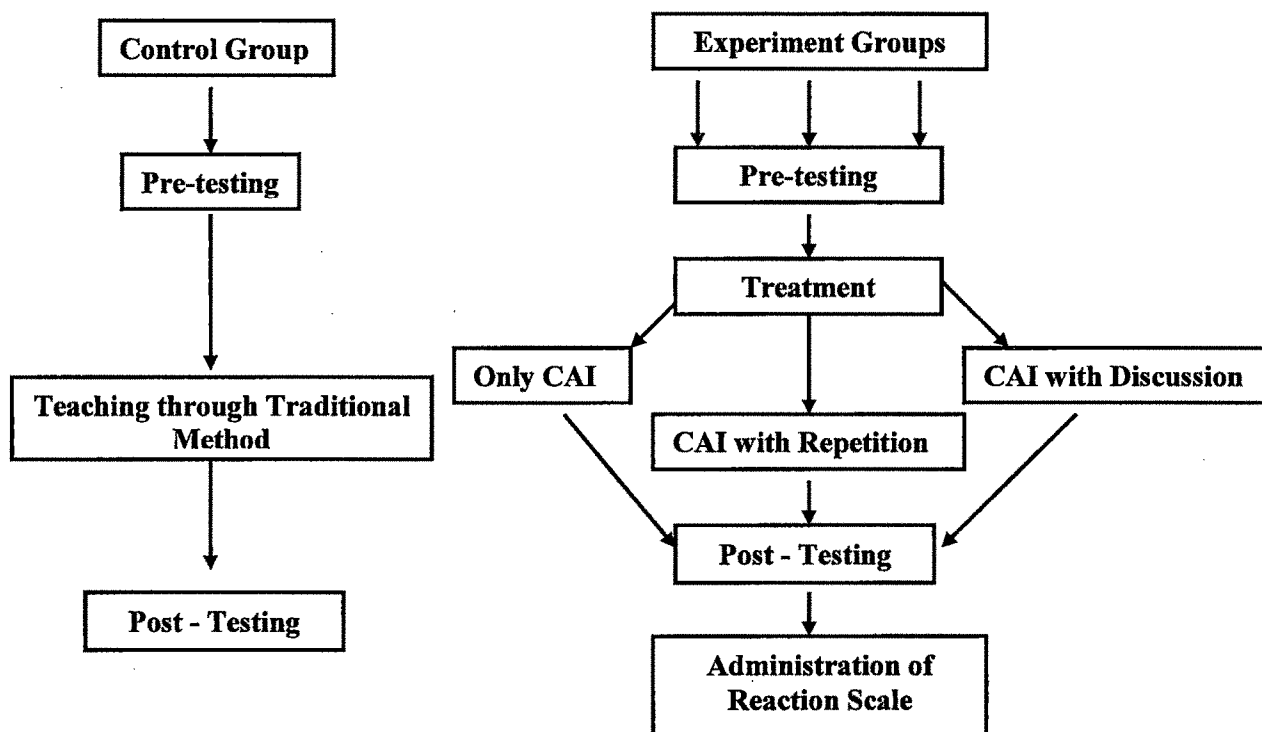
3.1.0 INTRODUCTION

This chapter presents the methodology adopted by the researcher to realize the objectives of the present study. It refers to the plan and the procedures used by the researcher for conducting the present study. This chapter includes population of the study, sample of the study, design of the study, required data for the study, tools and techniques used for data collection and the procedure of data analysis.

3.2.0 DESIGN OF THE STUDY

The present study is a developmental cum experimental study. Quasi-Experimental research design was used for the present study.

The researcher followed pre-test – post-test control group design. For the purpose of studying the effectiveness of CAI to teach English grammar in different modes, parallel experiment groups were taken. The design of the study is presented in the diagram below:



3.3.0 POPULATION OF THE STUDY

All the students studying in Standard VIII English Medium schools of Gujarat Secondary & Higher Secondary Education Board (GS&HSEB) constituted the population for the present study.

3.4.0 SAMPLE OF THE STUDY

The sample of the present study was selected purposively. For it the researcher selected standard VIII students studying in two schools of Vadodara namely, Bright Day School and Kelavani School during the academic year 2008-2009. These schools were selected with the purpose of getting all the required facilities. From the selected schools, **26** standard VIII students of only one division VIII-A of Kelavani School were taken as the Control Group and **62** standard VIII students of Bright Day School were treated as the Experiment Groups. From the students of the school of the experiment group, the researcher made three different groups comprises of **20**, **21** and **21** students for the implementation of CAI package in three different modes i.e. only CAI, CAI with Repetition and CAI with Discussion respectively. All the three groups were selected randomly using lottery method.

3.5.0 TOOLS FOR DATA COLLECTION

The researcher constructed achievement test for the pre-test and post-test purposes related to selected topics of English grammar of standard VIII English Medium following GS&HSEB curriculum. The achievement test included objective type questions. It included the transformation of sentences related to the selected topics - Types of Sentences, Tenses, Voice, Coordinating Conjunctions - 'And', 'But' and 'So', Adjective Clause, Modal Auxiliaries- 'Can', 'Could', 'Should', 'Would' and 'Must', Preposition – 'In', 'On' and 'Under' and Degree of Comparison of standard VIII of GS&HSEB. The constructed test was shown to the experts in the field of English. The suggestions were duly incorporated in the achievement test.

A Likert type five point reaction scale was prepared to know the reactions of the students of the experiment groups about the developed CAI. It was constructed by the researcher in which the students had to put tick mark (✓) in the appropriate box, ranging from Strongly Agree to Strongly Disagree.

The reaction scale included 22 statements to know the reactions of the students about their study experience with the developed CAI. Out of those 22 statements, six statements were negative and 16 statements were positive.

3.6.0 DEVELOPMENT OF CAI PACKAGE

The researcher developed the CAI package to teach English grammar, after analyzing standard VIII English text book of English medium school following the prescribed syllabus of GS&HSEB. The Powerpoint presentation was prepared related to topics Types of Sentences, Tenses, Voice, Coordinating Conjunctions - 'And', 'But' and 'So', Adjective Clause, Modal Auxiliaries - 'Can', 'Could', 'Should', 'Would' and 'Must', Preposition – 'In', 'On' and 'Under' and Degree of Comparison. Presentation also included explanation for each topic so that the students can have the clarity about any confusion related to the topic. This also helps in avoiding confusion and to have immediate feedback. The package was shown to the experts in the field of education, technology as well as the English teachers teaching in different English Medium schools. The suggestions from these subject experts were duly incorporated time to time by the researcher which resulted into present form of CAI. The developed CAI has a scope for the teacher to be the facilitator and guide wherever one wants to get involved. It included the examples related to each topic with theoretical and structural aspects in the explanation. The pictures used in the developed CAI were related to the life like situations that children come across in life or they have the direct or indirect experiences of thereby.

3.7.0 PROCEDURE OF DATA COLLECTION

The required data were collected with the help of pre-test, post-test and reaction scale which were constructed by the researcher. In between pre-test and post-test the researcher implemented the intervention programme in the form of CAI package for ten days for two hours per day on the experiment groups and control group was taught the same topics by their teacher. After the implementation of that the researcher administered the post-test after the span of fifteen days and the reactions of the students, based on teaching with CAI and the developed CAI itself were taken.

The data were collected in three phases, details of that are given below.

3.7.1 PHASES OF DATA COLLECTION

The study was conducted in three phases, the details these phases are given below.

3.7.1.1 PHASE-I: PRE-TESTING

The researcher administered the pre-test which was constructed by him. The test included sentences related to the topics i.e. transformation of sentences and pictures from which they have to make their own sentences according to the instructions given. The test was administered on all four groups – three experiment groups as well as on the control group. To complete the test, the students were given one hour.

3.7.1.2 PHASE-II: IMPLEMENTATION OF CAI IN DIFFERENT MODES

The researcher implemented the developed CAI on three experiment groups for ten days – two hours daily after the gap of 15 days from pre-testing.

The developed CAI was implemented by the researcher in three different modes of presentation i.e. only CAI, CAI with Repetition and CAI with Discussion. The developed CAI was implemented on two experiment groups – groups taught through only

CAI and CAI with Repetition modes – for six hours each. The CAI was implemented on both the groups – group1 (only CAI) and group2 (CAI with repetition) together for the first time. The experiment group2 (CAI with Repetition) was taught with the developed CAI again for six hours. The experiment group3 (CAI with Discussion) was taught with the developed CAI and at the same time, topics were also discussed with the students keeping the presentation in mind after each topic was learnt by the students. The discussion was related to the confusion of the students. Students' own ideas related to the topics and their use of different constructions for communication was known through it. Thus, all three experiment groups were taught totally for 20 hours i.e. the group with only CAI for six hours, the group with CAI with Repetition for six hours and the group with CAI with Discussion for eight hours.

All the topics included in the developed CAI were taught to the control group with traditional method. The topics were taught to them by their school teachers for four days one and half hour daily.

3.7.1.3 PHASE-III: ADMINISTRATION OF POST-TEST AND REACTION SCALE

The researcher administered the post-test on the students of all the three experiment groups to study the effectiveness of the developed CAI on the basis of the students' achievement in the post-test. The same test that was used as pre-test was used as post-test. The control group was also administered with the post-test to study the knowledge of the control group after teaching through traditional method. The reaction scale developed by the researcher was administered on all three experiment groups to know the reactions of students about the developed CAI.

3.8.0 DATA ANALYSIS

The collected data were analyzed quantitatively. Objective wise statistical technique used for data analysis is presented in the table 3.1.

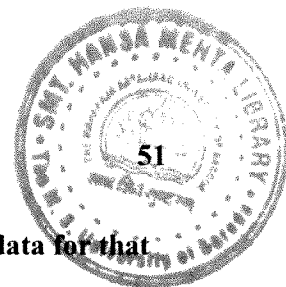


Table 3.1: Objective and the Statistical Techniques used for analyzing data for that particular objective

Objective	Statistical Techniques used
2	Analysis of Co-Variance (ANCOVA)
3	Frequency, Percentage and Intensity Index
4	Analysis of Co-Variance (ANCOVA) and t-test

Table 3.1, shows that for the Objective 2 of the present study, was analyzed with the help of Analysis of Co-Variance (ANCOVA), objective 3 was analyzed with that of Frequency, Percentage and Intensity Index and objective 4 was analyzed with that of Analysis of Co-Variance (ANCOVA) and t-test in accordance with the data.