



Chapter Three

Methodology

Chapter-3 Methodology

3.0	Introduction	50
3.1	Research Design	50
3.2	Population	50
3.3	Sample	50
3.4	Development of CAI	50-53
3.5	Tools and techniques	53-54
3.6	Data collection	54
3.7	Data analysis techniques employed	54

3.0 INTRODUCTION

This chapter includes the details of the methodology employed in the present study. These details have been presented under the captions of research design, population, sample, tools and techniques, data collection and data analysis.

3.1 RESEARCH DESIGN

Pre-test, Post-test experimental and control group design was employed for the study for the written test. Further post-test only experimental and control group design was employed for oral testing

3.2 POPULATION

All the Gujarati medium schools of Gujarat State under GSEB were the target population of the present study.

3.3 SAMPLE

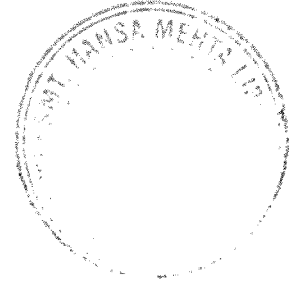
Students of Std. IX of Shree Ambe Vidyalaya and Ambe Vidyalaya constituted the sample for the study. One of the Std. IX sections of Ambe Vidyalaya (40 Students) was treated as experimental group, whereas, one section of Shree Ambe Vidyalaya as control group (40 Students).

3.4 DEVELOPMENT OF CAI

SAMPLE POEMS

Eight poems of standard IX from the textbook of Gujarat Secondary Education were selected for this study. The Poems selected were:

- 1) Satatam Namami
- 2) Bhati Me Bharatam
- 3) Vakrapadhyani



- 4) Vakovakyam
- 5) Nitipanchakam
- 6) Subhasitapatheyam
- 7) Rastriya Dheyavakyani
- 8) Ratnakanika

The CAI on the above poems was developed considering the following points.

1) Text, Graphics, Music composition

Text, Graphics and Music composition was done considering difficulty level of Sanskrit words and translation of the Shlokas and elaboration was done whenever needed. Suitable visuals, sound and animation were integrated. Background Music of TANPURA was introduced..

2) PRESENTATION IN DIFFERENT MODES

For making the presentation of prepared CAI effective the investigator included different modes, namely, Background Music, Graphics, Suitable pictures, animation and content related Sound Effect in each frame.

3) EASY TO LEARN AND PLEASURE TO THE STUDENTS

The contents of the poems and their modes of the presentation were attempted in such an interesting and effective way that they were easy to learn and pleasure to the students.

For developing CAI, the investigator considered the 8 poems taught to Std.IX students. The investigator kept in mind the following objectives during the development of the CAI.

- 1) The students will be able to recite Sanskrit slokas on their own.
- 2) The students will be able to translate Sanskrit slokas on their own.
- 3) The Students will be able to give the meaning of all difficult words.
- 4) The students will be able to learn Sanskrit with interest.
- 5) The students will be able to understand grammar easily.
- 6) The students will be able to develop confidence in Sanskrit.

The CAI was developed on the principals of programmed learning material (PLM). Developed programme material has different small frames. Each frame contains one bit of contents of the topic. This content is followed by a question and its answer related to the presented content. This sequence of content followed by questions and answers is known as stimulus-response. This way the entire CAI was developed. This programme material was shown to two subject experts. For validating it in terms of the content of the subject and clarity of the language used in the material. The material was also given to the two experts in the field of programme learning for checking the systematic flow of instruction and the formation of frames. Finally, the suggestions given by the experts were incorporated.

After completion of the programmed material it was programmed through the computer software for converting it into a CAI. For the purpose of programming, the researcher has chosen the FLASH, COREL-DRAW, FRONT PAGE, PAGE MAKER software. The FLASH, COREL-DRAW, FRONT PAGE, PAGE MAKER were chosen because of the following characteristics.

- 1) It is windows based and user friendly
- 2) It permits the colorful figures, graphics and pictures that make the content interesting
- 3) Ease of simulation, and animation, which helps in easy understanding of content.

4) Provision for presenting for more than one window on screen at a time, which helps the researcher to present the text and figure at the same time.

5) It also helps for the narration

6) It is also helpful for background effects and color.

The researcher has entered all frames of programme material in the data files. Pictures and symbols from the Corel draw, front-page were used for construction of different formulas and graphical presentation of content, which were needed for CAI. By using this graphics researcher has made an attempt for preparing the CAI more interesting.

The developed CAI was shown to two experts in the field of computer programming and CAI, for checking the mode of presentation, clarity of the graphics, contiguity and modality. The suggestions from the experts were incorporated. The modified CAI was used for the experimentation.

3.5 TOOLS AND TECHNIQUES

Following tools were constructed to realize the above objectives:

1 Achievement test:

Achievement tests, both, written and oral were constructed by the investigator.

The written tests were constituted poem-wise covering the contents of poems.

The oral achievement test items were constructed on Reading of the poetry text, Shloka Recitation, Reading of the difficult words, pronunciation of the similar sounding words, and Phonetics.

Poetry text, Shlokas, Difficult words and similar sounding words were selected from the eight poems for the purpose of testing. Equal Weightage was given to the Reading of the poetry text, Shloka recitation, Reading of the difficult words and pronunciation of the similar sounding words.

2 Reaction Scale:

Ranjana Dave

In order to study the reactions of the students towards the developed CAI, objective-3 the researcher constructed a five point- Strongly Agree, Agree, Disagree, Undecided, Strongly Disagree reaction scale.

3.6 DATA COLLECTION

The ²Written pre-tests were administered on both, the experimental and control groups, poem-wise. After installing the CAI, the sample of 40 students was taken to the computer laboratory. As only 30 computers were available and were in working condition, 2 students were asked to work on each computer at a time and to study through CAI. They were taught through CAI for 20 days. After the completion of CAI, both the experimental and control group students were administered Written post-test poem-wise. Oral post-test was administered on the both the experimental and control groups. The researcher also administered the Reaction Scale on the experimental group.

3.7 DATA ANALYSIS TECHNIQUES EMPLOYED

- 1) The significance of difference between the mean gain scores of experimental group and control group on written test was studied through 't' test.
- 2) The significance of difference between the mean scores of experimental group and control group on oral post test was studied through 't' test.
- 3) Chi-square test was employed to study the observed frequencies against each statement of the reaction scale with respect to the frequencies expected against equal probability.