CHAPTER III

METHODODOLOGY

3.1 INTRODUCTION

This chapter explains the plan and procedure of the present study. It contains the title of the study, assumptions of the study, hypotheses of the study, sample of the study, research design of the study, structure of the experiment, selection of the experimental and control group, development of research tool, administration of the tool and statistical techniques employed for the data analysis.

3.2 TITLE OF THE STUDY

For the present study the title is precisely stated below:

“EFFECTIVENESS OF COMMUNICATIVE TASK IN DEVELOPING READING COMPREHENSION SKILLS AMONG THE COLLEGE STUDENTS IN CHINA AND INDIA”

3.3 ASSUMPTIONS OF THE STUDY

The following are the assumptions for the present study,

i) There are so many tasks in developing reading comprehension skills in English.

ii) Depending upon the objectives, the comprehension skills can be categorized.
iii) Communicative task plays a vital role in developing reading comprehension skills among students.

iv) Task based communicative activities can be used to promote various skills in developing reading skills in English among Indian students and Chinese students.

v) Learning the various skills of reading in English through Task based communicative approach enables the students of China and India to learn more about English reading, in an easy, effective and efficient manner.

vi) The effectiveness of the task-based communicative approach can be measured.

vii) The effectiveness of task-based communicative approach can be compared with other approaches.

3.4 HYPOTHESES OF THE STUDY

The following are the hypotheses formulated for the present study.

Major Hypotheses

i) “There exists significant difference between the effectiveness of Task based Communicative approach and Traditional Method of Teaching in developing reading skills in English among the college students of India”.
ii) “There exists significant difference between the effectiveness of Task based Communicative approach and Traditional Method of Teaching in developing reading skills in English among the college students of China”.

iii) “There exists significant variation between Indian students and Chinese students in developing reading comprehension skills in English through task based communicative approach.

Specific Hypotheses

i) There exists significant difference between pre-test and post-test mean values of control group of Indian students.

ii) There exists significant difference between pre-test and post-test mean values of control group of Chinese students.

iii) There exists significant difference between pre-test and post-test mean values of experimental group of Indian students.

iv) There exists significant difference between pre-test and post-test mean values of experimental group of Chinese students.

v) There exists significant difference between the post-test mean values of control and experimental group of Indian students.

vi) There exists significant difference between the post-test mean values of control and experimental group of Chinese students.
vii) There exists significant difference between the mean values of male and female students in post-test of experimental group of Indian students.

viii) There exists significant difference between the mean values of male and female students in post-test of experimental group of Chinese students.

ix) There exists significant difference between the mean values of rural and urban students in post-test of experimental group of Indian students.

x) There exists significant difference between the mean values of rural and urban students in post-test of experimental group of Chinese students.

xi) There exists significant difference between the mean values of Indian students and Chinese students in relation to sex.

xii) There exists significant difference between the mean values of Indian students and Chinese students in relation to locale.

3.5 STAGES OF THE STUDY

This study has undergone the following stages.

i) Examining various tasks suitable to develop reading comprehension skills in English at college level.
ii) Selecting the Task Based Communicative Activities for developing reading comprehension skills in English at college level.

iii) Selecting one experimental group and one control group both in India and China.

iv) Developing and validating achievement test for pre-test and post-test administration.

v) Administering pre-test to both the experimental and control group.

vi) Application of Task based Communicative Activities to experimental group and application of traditional approach to the control group for a period of 60 days.

vii) Administering post-test to the experimental and control group after a period of 60 days from the administration of pre-test.

viii) Analyzing the data to find out the effectiveness of the Task based Communicative activities in developing reading comprehension skills in English at college level.

3.6 EXPERIMENTAL METHOD

In this study, the experimental method is employed. Experimentation is the name given to the type of educational research in which the investigator controls the educative factor to which the groups of learners are subjected during the period of enquiry. In experimental
research, the entry behavior of the students is measured and then the
treatment is given. The comparison between pre and post-test
administration is made and if any difference, is attributed to the experiment
or the treatment.

The experimental research is unique in two very important
aspects. It is the only type of research that directly attempts to influence a
particular variable and it is the only type that can really test hypothesis
about cause and effect relationships.

Experimental research has the following distinguishing
caracteristics (McMillan and Schumacher, 1984). They are (i) Statistical
equivalence of different groups, (ii) comparison of two or more groups or
sets of conditions, (iii) Manipulation of independent variables, (iv)
Measurement of dependent variable and (v) Control of internal and
external threats to the validity of the experiment.

In this study, the investigator employed quasi-experimental
design. Quasi-experimental design is used in experimental situation in
which it is not possible for the researcher to assign subjects randomly to
groups. Among different quasi-experimental designs, the Non-randomised
Control group, Pre-test-Post-test Design was used in this study.
3.7 RESEARCH DESIGN OF THE STUDY

In the present study, the investigator employed Non-randomised Control group, Pre-test-Post-test Design due to the following reason.

In a school or college situation, where it is not possible to upset class schedules, to gather subjects for obtaining a sufficiently large sample or to recognize classes in order to employ randomization procedure for getting equivalent control and experimental groups, an experimenter may use pre-assembled groups, such as intact classes, for framing experimental and control groups. The pre-assembled groups are selected and are administered pre-test. The pre-test scores are analysed to show that the means and standard deviations of the two groups do not differ significantly. Once the two groups are obtained, it is advisable to use a random procedure to determine which group is to be assigned to experimental treatment and which one to be controlled condition. After determining the groups, the experimental treatment is given to the experimental group and the control group is treated with traditional method. Now the post-test is administered to both the groups. Then the differences between the pre and post-test scores are compared to find out the significance of difference.
3.8 SAMPLE OF THE STUDY

Since the study is a comparative study between Indian students and Chinese students at college level, the sample was taken from both countries at college level. The students studying in R.V.S. College of Arts and Science, Coimbatore, India and students of Huai Hua University, Huai Hua, China were chosen as the sample for the present study.

3.9 COMPOSITION OF EXPERIMENTAL AND CONTROL GROUPS

In the present study, one experimental group and one control group were selected. These two groups were composed from R.V.S. College of Arts and Science, Coimbatore, India. A total of 40 students studying in B.Sc Chemistry Second Year were considered as control group and another total of 40 students studying in B.Sc Physics Second Year were considered as experimental group. Both group students were more or less equal based on their previous examination scores in English subject.

The same process was done in China for composition of experimental and control group. For which a total of 40 students studying in B.Sc Chemistry second year were considered as control group and another 40 students studying in B.Sc Physics Second Year were considered as experimental group. Both groups were more or less equal based on their previous examination scores in English subject. Both
experimental and control group students were taken from Huai Hua University, China.

Thus the control group and experimental groups in India as well as in China were formed.

3.10 RESEARCH TOOL

For the present study, the investigator developed and validated an Achievement test to collect data from students.

The main purpose of the Achievement test for the pre-test and post-test was to know the entering behavior and terminal behavior of the students. The difference between pre-test and post-test will show the effectiveness of the task based communicative approach in developing reading comprehension skills in English at college level.

3.11 DEVELOPMENT OF ACHIEVEMENT TEST

The achievement test was developed as per the following directions given by Stanley and Hopkins (1972),

i) Provision should be made for evaluating all important outcomes of instruction.

ii) Nature of the test must reflect its purpose.

iii) The nature of the test must reflect its conditions under which it should be administered.
Fig 3.1 describes the steps involved in the development of the Achievement-test. The steps followed in developing the Achievement test fulfilled the following three item analysis procedure.
1. Item Selection

The choice of an item depends upon the judgment of competent persons as to its suitability for the test. In the present study, the experts in the field of English teaching and educational experts were consulted and their opinions were sought while developing the achievement-test. Based on the expert opinion, a rough draft of the tool was prepared. The tool was again presented to expert opinion to restructure and to revise the items. Garrett (1979) calls this stage of test construction as items selection stage. In this stage, the desired number of question items were identified.

In this study, the achievement test was prepared with two types of questions. Which were i) Multiple choice items and ii) open ended question. The multiple choice items that were in the forms of complete or incomplete questions or statements and usually four alternatives. Comparatively, it is difficult to write, but most of the test specialists favour the multiple choice items (De Cecco and Crawford, 1977). Compared with false items, the multiple-choice type of items tend to distinguish better between high and low achievement, are less subject to ambiguity and misinterpretation, and can be answered correctly by chance less frequently (Ebel, 1963). While framing multiple choice items, the following suggestions of Ebel (1963) were carefully followed.
i) Before writing the item, make an explicit statement of the idea the item will embody. Select key statements, especially those which clearly define concepts and principles, from good instructional materials.

ii) Write the item in the way which will allow greater success for those students who have achieved greater mastery of terminal behavior than for those students who have achieved less mastery.

iii) Prepare the original draft in such a way to make revision and assemble convenient.

iv) Write the stem as question or incomplete statement which has a concise answer and plausible alternatives. A direct question is usually better than an incomplete statement because it more clearly defines the problem and indicates the teacher’s purpose.

v) Make the correct answer thoroughly correct, express it clearly, and avoid specific determiners which will betray the answer to the alert but unknowledgeable students.

vi) Make the distracter thoroughly wrong and yet plausible to the student who knows a little but not enough, Victor Noll (1965) identified how distracters can vary from being plausible to being absurd.
vii) Write the items as clearly, simply and correctly as possible.

viii) Modify the item, if necessary, so that 50 percent of the students will answer correctly.

ix) Arrange for a colleague to review the original draft. The reviewer should try to answer each question and should check his choices against the answer key.

The second type of questions are open ended for which the students are expected to provide one sentence as answer. For the questions belonging to affective comprehension any appropriate answer based on logic could be accepted. Otherwise, no mark will be allotted for the illogical answer.

2. Item Difficulty

Once the item selection procedure was over, the next step was to find out the difficulty level of each item. The items were presented to fifty students in the form of a test and the scores were computed. Then, the scores were arranged in decreasing order. The top 27 percent and the bottom 27 percent of the scores were considered for the computation of item difficulty level. In this study, items with difficulty level ranging from 30 percent to 80 percent were retained.
3. Item Validity

The validity index of an item, i.e., its discriminative power is determined by the extent to which the given item discriminates among the learners who differ sharply in the function measured by the test as a whole. In the present study, the item discrimination index ranging from 0.3 to 0.8 were selected. Those items which have not come within the purview of the stated indices were modified till the computation of the stated values (Ebel, 1963). Table 3.1 shows the final selection of items.

Table 3.1

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Comprehension skill</th>
<th>No. of items</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Factual Comprehension</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>Critical comprehension</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Evaluative comprehension</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>Affective comprehension</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>80</strong></td>
</tr>
</tbody>
</table>

3.12 RELIABILITY OF ACHIEVEMENT TEST

Reliability is the consistency with which a tool measures what it measures (Garrett, 1979). In the present study, the reliability coefficient
of the Achievement test was computed through Internal Consistency Method.

**Internal Consistency Method**

The internal consistency or homogeneity method stresses the inter-correlation of the items in the test and the correlation of the items with the test as a whole. There are three common types of internal consistency methods. In the present study, the reliability of the achievement was established by Kuder-Richardson (K-R) Formula.

In this method, the reliability is determined from a single administration of an instrument but without splitting the test item into equal halves. The reliability of both pre and post items were evaluated by using KR$_{21}$ formula,

$$KR_{21} = \frac{n}{n-1} \left[ 1 - \frac{M(n-M)}{nS^2} \right]$$

Where $M$ = Mean test score

$S^2$ = Variance

$n$ = Number of items

The computed `$r$' value is 0.895. This indicates high reliability of the achievement test.
3.13 VALIDATION OF ACHIEVEMENT TEST

Validity of a test refers to the extent to which a test is a precise measure of whatever the test intends to measure (Garrett, 1979). In the present study three methods were employed to establish the validity of the achievement test. They are Content Validity, Face Validity and Concurrent Validity.

1) Content Validity

Content validity explains whether the items in a test are constructed around appropriate content. Mc Millan and Schumacher (1984) observe that content validity is the procedure by which content of a test is judged to be representative of some appropriate universe or domain of content. In establishing content validity, expert judges typically examine the test items and indicate whether the items measure pre-determined criteria, objectives or content. Best (1977) maintains that there is no numerical way to express the content validity, but it can be assessed by a panel of experts in the field who could judge its adequacy. Content validity is the logical relationship of the items to pre-determined content area.

It is essential to establish content validity for research involving achievement. The content validity of the achievement test was established by the systematic way of test construction. Fig 4.1 shows the plan and procedures involved in the development of the achievement test.
While developing the achievement test, the logical and systematic procedures were followed with Jury Council’s opinion in order to ensure objectivity, adequacy and clarity of the test items. On the suggestions of the Jury Council, the construction of the items was modified. Some items were reworded. These steps ensure sufficient content validity of the achievement test.

2) Face Validity

Face validity is a judgment that the items appear to be relevant. It is the evaluator’s appraisal of what the content of the test measures. If the test items appear to deal with relevant content in the particular area then the test has face validity. The achievement test has covered the relevant content and thus the face validity was established.

3) Concurrent Validity

Concurrent validity is an empirical procedure that results in a correlation coefficient used to describe the degree of relationship between two measures given at about same time or within a short interval of time. Concurrent validity ensures a high relationship between scores on an instrument and scores on an existing valid measure (Mc Millan and Schumacher, 1984). In the present study, the concurrent validity of the achievement test was established by correlating the achievement test scores with that of the previous examination scores in English. The
correlation coefficient computed to be 0.87 indicating a high validity of the achievement test.

3.14 ADMINISTRATION OF PRE-TEST

The achievement test developed for collecting data was administered as a pre-test to the control and experimental group in India and China. This test is to assess the entry behavior of students. The duration of the test was one and half an hour. For the effective administration of the test, the following directions given by De Cecco and Crawford (1977) were carefully followed.

i) Careful organization and efficient distribution of all the test materials,

ii) Brief directions and brief answers raised by students and

iii) A record of time on the chalk board to help the students pace their efforts.

Cheating is the major problem which affects the test result. Prevention of cheating is one of the major responsibilities in administering the test. Ebel (1972) lists the following cheating behavior aspects that are prevalent among learners during test time.

i) The side-long glance at a fellow student’s answer.

ii) The prevention and use of crib sheet.
iii) Collusion between two or more students to exchange information on answers during the test.

iv) Unauthorized copying of questions or stealing of test booklets in anticipation that they may be used again later.

v) Arranging for a substitute to take an examination.

vi) Stealing or buying copies of an examination before the test is given or sharing such illicit advanced copies with others.

In this study, the cheating during the test period was prevented by adopting the following measures:

i) The distance among the students has been considerably increased.

ii) As a result of increase in distance, exchange of information between the students has been prevented.

iii) The achievement test was kept under the possession of the investigator as a confidential material and thus the question of question copying did not arise.

iv) The question of `a substitute taking the test' arise because all the subjects were known to the investigator.

v) Seriously taking up invigilation duties during the test period by the investigator himself.
3.15 CONTROLLING VARIABLES DURING PRE-TEST PERIOD

Researchers point out that certain intervening variables that appear in the experiment while administering test. Failure to control such variables may affect the outcome of the experiment. In the present study, the problem was overcome by equally treating all the subjects in the control and experimental group without any partiality. The time variable was controlled by prescribing equal time limit to the two groups as far as the achievement was concerned.

3.16 ADMINISTRATION OF EXPERIMENTAL GROUP

The experimental group students were taught reading skill in English through task based communicative approach for a period of 60 working days at the rate of one and half hours per day.

Task based communicative approach influences through processes and behavioural patterns of learners to certain extent. It is also known that this task based communicative approach is learner’s favourite media of learning and entertainment. Learners derive pleasure by using task based communicative approach. This approach could provide pleasurable experiences which have been utilized for triggering off the learning of communication skills. The investigator has selected the following four skills for the effective development of reading skills in English.
i) Factual comprehension

ii) Critical comprehension

iii) Evaluative comprehension and

iv) Affective comprehension

For each skill, the investigator prepared suitable task based communicative approach, while preparing the task based communicative approach, the psychology of the students had been taken into account. Therefore, the communicative approach combined humour, suspense, thrill and variety. In certain task based communicative approach, the words and sentences were not arranged in a proper sequence. These things were done in order to bring the principles of information gap and information transfer and thereby to generate real comprehension in the classroom.

In the experimental group itself the students were given task based communicative activities in which part of the information is hidden. The students were asked to guess the hidden information by way of indulging in asking questions and getting clarification. This is one of the ways of generating real communication in the classroom. Here the principle of information gap is used. After each and every activity was over, the investigator gave more examples and asked comprehension questions.

The investigator also provided activities based on the principle of information transfer. Thus the communication between two groups of
students is generated. For the first group, certain information relating to a topic is given. For the second group, different information relating to the same topic is given. Here, the peer group interaction in the items of questioning, answering and clarifying the things was facilitated and conducive atmosphere without fear, anxiety and stress was created. But at the same time the enquiry mind of the students is developed. In fact all these facilitated effective communication skills of students in English and its grammar. In this process, the investigator acted as guide and facilitator to the students for developing the various skills of reading comprehension in English language.

In the whole experimentation, the students were made active partner in giving and receiving information from other members. Likewise, for promoting the skills of finding and correcting errors in English students were asked to write down a dialogue using the language function learnt and they exchange their writings and discuss. In this process, the students got their mistakes corrected with the help of the peer group members or they were rewarded for their correct responses.

3.17 ADMINISTRATION OF CONTROL GROUP

For the control group students, language functions and various skills in developing reading comprehension skill in English were taught orally using the traditional method. In traditional method, the
investigator teacher simply explains the ideas found in the passage by way of using synonyms or definitions. In the Traditional Method, mechanical drill was given importance. Individual, group and choral drilling activities in language acquisition were provided in a mechanical way. This process was lasted for 60 days as in the case of the experimental group.

3.18 ADMINISTRATION OF POST-TEST

The achievement test was administered to the control and experimental groups after a period of 60 days from the day of the experiment. For the achievement test, the time fixed was one and half an hour. The suggestions offered by Ebel (1972) and De Cecco and Crawford (1977) were carefully weighed while administering the post-test.

3.19 STATISTICAL ANALYSIS

The data collected from students were analysed at descriptive and differential level. The following statistical techniques were employed for the analysis and interpretation of the collected data.

i) Mean and Standard Deviation

ii) Product Moment Correlation Technique

iii) `t’ test to find out the significance of difference between mean scores.
3.20 DELIMITATIONS OF THE STUDY

i) Though there are so many techniques in learning English, only Task based Communicative Approach was used for experimental study.

ii) The sample covers the students of B.Sc Chemistry and B.Sc Physics second year of the RVS College of Arts and Science, Coimbatore, India and Huai Hua University, China.

iii) Only limited portions were taken for the present study.

iv) The experimental treatment was given only for 60 days.

3.21 CONCLUSION

In this chapter, the methodology of the study was explained in detail. Each and every step was carefully planned and executed. The research stages and strategy adopted, the structure of the experiment designed and executed have been explained in greater detail. The next chapter describes the statistical analysis and interpretation of the data collected through the validated tool.