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CHAPTER – 3

RESEARCH DESIGN

3.0 Introduction

The planning of the research should be objective and reliable. The planning is an important step. The research work can be easy if the planning of the research is done properly by the investigator. Beside the investigator can think about the kind of difficulties and their solution.

In the present chapter the emerge of the problem, population and sample selection, variables included in the research, planning and application of the experiment, tool, research method, data collection and analysis are included.

If the proper planning in the research process is not paid proper attention then the importance of the research can not be maintained therefore it is necessary to clarify its important.

3.1 Emerge of the Problem :

By doing the study of the earlier related researches, it can be found that if the students are taught with the lecture method, they are found to be taking less interest in the studies. The students naturally desire for something new, variety only with the use of lecture method the teacher can not identify the hidden abilities in the students. As a result the dissatisfaction among the students will not let the teacher stand and teach in the classroom. In the teaching work is done by identifying the differences among the students and as per their interest, the teaching can be very interesting.

When the teacher trainees of B.Ed. and PTC give their lessons in the schools, it is often heard from the students’ side that they find too many difficulties in English subject. Even after knowing such difficult condition of the students, can it be not made possible to teach English subject with such a method by which the students learn it by understanding it with interest and remember it? Keeping in mind this question and when an opportunity arose in M. Phil. Degree to conduct a research, the investigator decided to conduct a research on this particular
subject. If the students are taught with the help of the dramatization method, they will be able to develop interest in English subject and will be able to learn that subject matter with enthusiasm. Considering this thing in mind the investigator conducted a research and prepared a programme for dramatization of two selected units of Std. – 8 English subject – ‘Q for Question’ and ‘LMBB’ Learn More Be Brighter to assess its effect on the academic achievement of the students.

3.2 Population and Sample :

3.2.1 Population

The fundamental group of the participants from which the sample for the research is selected, that fundamental group is called the population. Without having clarity of the population, any research design cannot be constructed. Population is such a group of persons whose one or more than one characteristics is common.

According to D. A. Uchat,

“That group about which the investigator collects information and deduces findings.”

In the population of the presents study 3497 students studying in Std. – 8 in the Primary Education Committee schools of Padara block of the Vadodara district in the academic year 2013 – 14 are included.

3.2.2 Selection of the Sample :

In any research the selection of the sample becomes very important. Because the study of the entire population is not feasible due to the time limit and therefore the selection of the sample becomes very essential.

Such small unit of the population which can represent the whole population is called the population.

The process of selecting the small unit which is representative of the whole group to speculate about the whole group is called the process of selecting the sample. The below given are some of the methods of sample selection.
(A) Probability Sampling Methods

1. Accidental Sampling
2. Stratified Sampling
3. Systematic Sampling
4. Cluster Sampling

(B) Non–Probability Sampling Methods

1. Convenient Sampling
2. Purposive Sampling
3. Proportionate Sampling

(C) Special Sampling Methods

1. Paired Sampling
2. Double Sampling
3. Continuous Sampling
4. Snow–Ball Sampling

The present study was an experimental kind of a study. It was necessary that the necessary facilities can be available in the school for the experiment therefore the schools were purposively selected in this study. In the sample the 82 students studying in Std. 8 in the Chokari primary school in the academic year – 2013 – 14 were selected. Those students were arranged in the descending order on the basis of their marks in English subject in the previous year and two groups were framed. Average, standard deviation, standard error and ‘t’ value were calculated in which the ‘t’ value was 0.006. which is less than 1.96 which is described in the below given table 3.1.
Table No. - 3.1

‘t’ Value of the Students’ Scores in English Subject in the Previous Exam

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Participants (N)</th>
<th>Average (M)</th>
<th>Standard Deviation (SD)</th>
<th>Standard Error (SE)</th>
<th>Difference of Average</th>
<th>‘t’ Value</th>
<th>Level of Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>41</td>
<td>121.85</td>
<td>13.237</td>
<td>2.92</td>
<td>0.02</td>
<td>0.006</td>
<td>N.S.</td>
</tr>
<tr>
<td>Controlled Group</td>
<td>41</td>
<td>121.83</td>
<td>13.221</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.S. = Not Significant

From the Table 3.2 it becomes quite clear that the ‘t’ value of the difference between the average of the scores in English subject in the previous exam of the 82 students of the controlled and experimental group is 0.006 which is less than 1.96 and which is not significant at 0.05 level so on the basis of the scores in the English subject in the earlier exams, both the groups are equal.

The selection of the Sample for the experiment was done with the help of the coin spinning method.

The list of the marks scored by the students in the English subject in previous year exams is given in the appendix-G.

Table – 3.2

Detail of the Sample

<table>
<thead>
<tr>
<th>Name of the School</th>
<th>Group</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chokari Primary School Ta – Padara, Dist. – Vadodara</td>
<td>Experimental Group – 1</td>
<td>25</td>
<td>16</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Controlled Group – 2</td>
<td>25</td>
<td>16</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50</td>
<td>32</td>
<td>82</td>
</tr>
</tbody>
</table>
3.3 Planning and Application of the Experiment:

3.3.1 Lesson Planning:

Period wise lesson planning of the unit was done so that the teaching of the unit can be done effectively and due justice can be done to the objective so the study. Period wise lesson planning is presented in appendix-B.

3.3.1.1 Preparation of the Time Table:

The details of the time table for the teaching of units to the students of experimental and controlled groups is described in table 3.3.

Table – 3.3

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time</th>
<th>Period</th>
<th>Subject Matter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20 – 09 – 13</td>
<td>12:45 – 1:20</td>
<td>1</td>
<td>- ‘Fast Finger First’ round</td>
</tr>
<tr>
<td></td>
<td>E.G.</td>
<td></td>
<td></td>
<td>- Selection of Nandita Gosai</td>
</tr>
<tr>
<td></td>
<td>Friday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C.G.</td>
<td>1:25 – 2:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>21 – 09 – 13</td>
<td>8:00 – 8:35</td>
<td>1</td>
<td>- The poem ‘Grammar’</td>
</tr>
<tr>
<td></td>
<td>E.G.</td>
<td></td>
<td></td>
<td>- The sea touches Gujarat</td>
</tr>
<tr>
<td></td>
<td>Saturday</td>
<td></td>
<td></td>
<td>- Helpline</td>
</tr>
<tr>
<td></td>
<td>C.G.</td>
<td>8:40 – 9:15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>23 – 09 – 13</td>
<td>12:45 – 1:20</td>
<td>1</td>
<td>- A hockey player Nandita</td>
</tr>
<tr>
<td></td>
<td>E.G.</td>
<td></td>
<td></td>
<td>- Trees breath in Oxygen</td>
</tr>
<tr>
<td></td>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C.G.</td>
<td>1:25 – 2:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>27 – 09 – 13</td>
<td>12:45 – 1:20</td>
<td>1</td>
<td>- Different types of Raag</td>
</tr>
<tr>
<td></td>
<td>E.G.</td>
<td></td>
<td></td>
<td>- Raag Darbari from Tansen</td>
</tr>
<tr>
<td></td>
<td>Friday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C.G.</td>
<td>1:25 – 2:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>28 – 09 – 13</td>
<td>8:00 – 8:35</td>
<td>1</td>
<td>- Dialogue (Akbar, Tansen and Sant Haridas)</td>
</tr>
<tr>
<td></td>
<td>E.G.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saturday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C.G.</td>
<td>8:40 – 9:15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>30 – 09 – 13</td>
<td>12:45 – 1:20</td>
<td>1</td>
<td>- Post Test / Opinionnaire</td>
</tr>
<tr>
<td></td>
<td>E.G.</td>
<td></td>
<td></td>
<td>- Post Test</td>
</tr>
<tr>
<td></td>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C.G.</td>
<td>1:25 – 2:00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3.2 Application of the Experiment:

Whenever any research is undertaken, the research designs are also studied. And from that an appropriate research design to the research is selected.

In the present study the two groups were equalized on the basis of the students’ marks in English subject in previous year’s exam and therefore it can be said that both the groups are appropriate for the study.

The application of the experiment on the experimental group in the school was as given below:

<table>
<thead>
<tr>
<th>Group – 1</th>
<th>Group – 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Experimental Group)</td>
<td>(Controlled Group)</td>
</tr>
</tbody>
</table>

- Teaching with the help of Dramatization Method
- Post Test
- Teaching with the help of Lecture Method
- Post Test

**Figure – 3.1**

Outline of the Application of the Experiment

It is quite natural that the basis of the success of any experiment is upon the systematic teaching work therefore in the present the below given care was taken while applying the experimental work.

- In both the classes teaching work was done with the help of different teaching methods for five – five periods.
- In both the groups the teaching work was started on the same day.
- In both the groups the investigator himself did the teaching work.
- After the completion of the teaching work of the whole unit, the investigator gave the self prepared post test for the units which was prepared after the experts advice to the students of both the groups.
The opinions regarding the dramatization method were also known with the help of the opinionnaire.

3.4 Construction of Dramatization Programme :

In the present study the investigator selected the units on the basis of the opinions of the experts. In which the guidance of the experts was taken by personal meeting and discussion for the deciding number of participants and also for the preparation of unit teaching and new dialogues were added when and where required.

3.4.1 Selection of Participants for the Dramatization :

In the present study drama was to be prepared for two units ‘Q for Question’ and ‘LMBB : Learn More Be Brighter’ in which the characters of both the units were included. The information of the characters is described in Table - 3.4.

Table - 3.4
Information Regarding the Characters of the Dramatization Programme

<table>
<thead>
<tr>
<th>Characters</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vikas</td>
<td>Announcer</td>
</tr>
<tr>
<td>Mr. Parmar</td>
<td>Host</td>
</tr>
<tr>
<td>Nandita Gosai</td>
<td>Participant</td>
</tr>
<tr>
<td>Aunty</td>
<td>Nandita’s Aunty</td>
</tr>
<tr>
<td>Participants</td>
<td>Other Participant</td>
</tr>
<tr>
<td>Akbar</td>
<td>King</td>
</tr>
<tr>
<td>Tansen</td>
<td>One of the King’s Nine Gems</td>
</tr>
<tr>
<td>Sant Haridas</td>
<td>The Guru of Tansen</td>
</tr>
<tr>
<td>Courtiers</td>
<td>Courtiers</td>
</tr>
</tbody>
</table>

3.4.2 Preparation Regarding the Dramatization :

After the selection of the participants for the drama, each participant was said to study the unit completely. After that the information of what a character has to speak in dialogue was given to the character. The characters prepared the dialogues with the acting. After that the costumes based on the drama for each
characters and the other information was given. Afterwards the complete preparation for the drama was made as per the convenience.

3.5 Tool of the Experiment:

The data is required for assessing the hypotheses of the study. Appropriate tools have to be used so that this data can be collected from the participants of the experiment.

In the present study, the researcher have used two tools for data collection (1) Self Prepared Test. (2) Opinionnaire for Dramatization Method.

3.5.1 Self Prepared Test

With a view to testing effectiveness of dramatization and lecture method, in the present study, the investigator had tested students’ achievement in English subject. For this, a post test was developed 2 units in the subject of English (1) Q For Question, (2) L.M.B.B: Learn More Be Brighter. This was considered as self prepared test. The test was for 30 marks and the time was 35 minutes. It was objective test. The students had to give answer in the test paper. This test is mentioned in Appendix-C.

3.5.1.1 Objective Of the Test

The person who prepares the test papers should be clear about the objectives of the test. The investigator made test is popular to understand the following matters

1) To know pre knowledge of students
2) To know mastery on a particular unit of the subject
3) To survey educational achievement of students

There was only one objective of investigator to prepare the test in the present study, to know the level of achievement of students, on method and lecture method.
3.5.2 Opinionnaire for Dramatization Method

In order to know opinions of students who studied through dramatization method, investigator had prepared an opinionnaire. 15 sentences were given in the opinionnaire. 10 sentences were kept affirmative and 5 sentences were kept negative, in terms of the suggestion of the guide, it was tried to make the opinionnaire as easy and clear as possible.

The said opinionnaire is mentioned in appendix-E.

3.5.3 Expert Opinion :

The information of the experts whose help was taken in the assessment of the tool and their suggestions is given in table 3.5.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Expert</th>
<th>Suggestions</th>
<th>Change</th>
</tr>
</thead>
</table>
| 1       | Mr. Devang N. Mehta, Asst. Prof., S. S. Patel College of Education, Gandinagar. | - Rectify the errors of grammar  
- Increase the opinions (If possible) | - Implemented as per the suggestions |
| 2       | Sanjay Chauhan, Teacher, Ambali Primary School, Ta – Vaghodiya, Dist. – Vadodara | - Make use of the costumes as many as possible in the drama  
- Rectify the errors of grammar | - Implemented as per the suggestions |
| 3       | Milan Goswami, Teacher, Aanti Boys Primary School, Ta – | - Make the dialogue of the drama | - Implemented as per the suggestions |
3.6 **Research Method**:

After selecting the research problem, it is to be thought about that which method will be most useful in studying that problem. In the field of research, the research method is selected keeping in mind the nature of the subject, population and feasibility of the research.

There are three main types of research method.

1. Historical Method
2. Experimental Method
3. Descriptive Method

According to Uchat (2009),

“After the specific clarification of the problem of the statement, the investigator does some special work to collect information in the context of the objectives of the research which is called research method.”

In the present research the experimental method of research was used. In the present research the effectiveness of the dramatization method was to be assessed. This assessment was to be assessed in the context of the educational achievement. Considering this objectives, the experimental method of research was used in the present study.
3.6.1 Experimental Design:

When a research is conducted with the help of experimental method, it is conducted with the help of one of the many experimental research design.

Experimental Research Designs

Pre – Experimental Designs

1. One Group Case Study
2. One Group Pretest – Post Test Design
3. Two Group Stable Design

Complete Experimental Designs

1. Two groups, Accidental participants only post test Design
2. Accidental two groups, paired participants only post test Design
3. Accidental two groups, Pretest – Post test Design
4. Solomen Accidental Four Group Design
5. Factorial Design

Partial Experimental Designs

1. Non – Accidental Two group Pretest – Post Test Design
2. Balanced Design Changing Group Design
3. Time Continuous Design
   (a) One Group Time Design Continuous
   (b) Controlled Group time Design Continuous

Figure – 3.2

Experimental Research Designs

In the present study the two groups were selected accidentally therefore from the above mentioned complete research designs, the two groups accidental participants only post test design was selected.
Table – 3.6

Two Groups, Accidental Participants, Only Post Test Design

<table>
<thead>
<tr>
<th>Group</th>
<th>Independent Variable (Treatment)</th>
<th>Post Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>X</td>
<td>( T_{ZE} )</td>
</tr>
<tr>
<td>Controlled Group</td>
<td>-</td>
<td>( T_{ZC} )</td>
</tr>
</tbody>
</table>

Where \( X = \) Dramatization Method

\( T_{ZE} = \) Experimental Group Scores of Post Test

\( T_{ZC} = \) Controlled Group Scores of Post Test

3.7 Data Collection and Analysis :

3.7.1 Data Collection :

In the present study the investigator had equalized both the groups before applying the experiment. For this the students’ marks in English subject in the earlier exams were considered.

The group selection was done by method of tossing a coin in which one group was taught with the help of dramatization method and the other group was taught with the help of lecture method after which both the groups were given post test. The effectiveness of the teaching was assessed in the light of the scores in this post test. And with the help of the opinionnaire of the opinions of the students regarding the dramatization method were known.

3.7.2 Data Analysis :

In the present study, after the application of the experiment the data collected was analyzed using the statistical methods. The scores gained on the basis of the Post – Test were analyzed using the calculations of Mean, Standard Deviation, Standard Error in Deviation, and \( T – \) Test. While the opinions gained with the help of the Opinionnaire were analyzed using Chi – Square.

3.8 Validity of the Experiment :

The validity of the Experiment is to be assessed in two ways.

1. Internal Validity
2. External Validity

1. Internal Validity:

In the present study the internal validity was assessed on the basis of the below given factors.

(A) Concurrent Events:

In the present study there were no such event occurred due to which the dependent variable gets effected.

(B) Maturity:

When the experiment is going on, due to the long duration of the time, the participants get physically and mentally mature. But the duration of this study was of 10 days only therefore the question of maturity does not arise. Therefore the control over maturity was gained in this study.

(C) Difference in the Selection of Participants:

From the beginning if the groups are (1) differing in the context of the dependent variable or (2) differing significantly with the related important variables associated with the dependent variable, then its effect happens on the dependent variable. In the present study the participants of the sample are selected by accidental method therefore there is no difference in the selection of the participants.

(D) Less Number of the Participants in the Experiment:

If the students gets decreased at the time of giving the post – test from the time of providing teaching, then there can be an effect of this decrease on the measurement of the dependent variable. But the participants who were presents at the time of teaching were also present at the time of post – test. Therefore, the control over the aspect of less number of participants in the experiment was kept in control.

(E) John Henry Effect:

In the present study the investigator did not let the participants know about the experiment. Besides the investigator himself taught in both the groups therefore this factor was also controlled.
(F) **Spreading of the Experimental Treatment** :

If the controlled group gets the literature, programme, or test information from the experimental group, it affects the dependent variable. In the present study the school of the experiment was only one so the control over the spreading of the experimental treatment could not be gained.

2. **External Validity** :

In the present study the external validity was assessed on the basis of the below given factors.

(A) **The Interaction Between the Test and Force of Experiment** :

Here the participants of the experiment were not informed about the experiment. But there is interaction happening between the test and the treatment therefore there is no control gained over this factor.

(B) **Placebo Effect** :

In the present study the investigator provided education in a special manner to the experimental group along with that the controlled group was also provided new activities and the Placebo effect was controlled.

(C) **Hawthorn Effect** :

Many times the participants of the experiment become aware about the experiment and their awareness plays a part in their work whose effect happens on the results of the experiment. Therefore the investigator did not let the participants of the experiment know about the experiment and thus this effect was also controlled.

3.9 **Observations Made During the Experiment** :

The investigator had the below given experiences during the present study.
1. Among the students of the experimental group there was eagerness, interest and enthusiasm was observed due to the dramatization method of teaching.

2. The students of the experimental group thought that a new teacher is coming to teach and so thinking this they were enthusiastic and interested in teaching and were following the orders of the investigator.

3. The investigator also felt happy while teaching with the help of the dramatization method.

4. The school principal and teachers also helped a great deal in making adjustments for group wise teaching and for the teaching aids and other facility.

3.10 Conclusion:

The main basis of the success of the research work is upon the planning and design of the research work. By following the research design the investigator can make more precise and accurate study. In this chapter a detailed discussion regarding the emerge of the problem, research method, research too, application of the experiment, collection of data, method of data analysis and the self experiences of the investigators during the study was given.

In the coming Chapter – 4, the data collected is presented in the tables and its analysis and interpretation is made to assess the objectives and hypotheses of the research.
References