CHAPTER III

RESEARCH METHODOLOGY
CONTENTS

III. RESEARCH METHODOLOGY

3:1 Introduction ........................................... 101
2 Statement of the Problem .............................. 102
3 Definition of the Key Terms ............................ 103
4 Operational Definition of the Key Terms .............. 105
5 Objectives of the Research Study ....................... 105
6 Assumptions ............................................ 106
7 Hypotheses ............................................. 107
8 Delimitations ........................................... 109
9 Population and Sample .................................. 110
10 Experimentation ......................................... 113
11 Construction and Validation of Research Tools .... 130
12 Variables of the Study ................................ 139
13 Data Collection .......................................... 140
14 Scheme of Data Analysis ............................... 142
CHAPTER III

RESEARCH METHODOLOGY

3.1. Introduction

In any research work proper designing of the methodology of investigation is a crucial step. This involves a careful evaluation of the many standard procedures of data collection with respect to the objectives of the research programme, the sample on which the study is made, the type of tools used and so on. This chapter presents the methodology adopted by the investigator. The present study is an experimental one, as it intends to study the effectiveness of school health programme through teacher intervention strategy in primary school class rooms. This chapter aims at presenting in detail how this study was planned and executed. A methodology of the present study is described under the following sections:

- Statement of the problem
- Objectives of the research study
- Assumptions
- Hypotheses
- Delimitations
- Experimentation
- Construction and validation of research tools
- Method of Data collection
- Scheme of Data Analysis
3.2 Statement of the problem

The National Health Policy (1983) and the National Policy on Education (1986) and (1992) have recommended health education for school level as an area of utmost care and attention. In order to achieve the goal set out for the year 2000 A.D namely "Health For All" it is imperative that young children should acquire knowledge, attitudes and skills which would shape their health and make a positive impact on their life styles. They can play a vital role in improving the health status of their community and Nation at large. Emphasizing the importance of the school health programme, the Government of India has made major efforts with the help of many international organizations like UNICEF, WHO and others to implement school health programmes at the primary school level. The NCERT and the respective SCERT of the various States have taken significant steps to formulate health education curricula at different levels. Research studies conducted in India and abroad, clearly indicate that an effective school health programme is very essential to improve the health status of the children. Thus it leads to better scholastic achievement.
Inspite of various efforts taken for improving children's health during the formative years through the existing school health programmes, the results are not encouraging. The prevailing health status of children also bear witness the same. In the existing school health programme, very little service is rendered by the primary health centres' personnel, which is mostly curative rather than for health promotion. Further the teachers are not effectively involved in the existing programme.

Hence there is a need to develop and study the effectiveness of school health programme involving teachers and students. So the problem taken up for the investigation is stated as "Effectiveness of teacher intervention strategy in developing school health programme".

3:3 Definition of the key terms

Effectiveness : According to Oxford Dictionary (1975), the term "Effectiveness", means "being able to bring about the result intended".

Producing or adopted to produce the proper result, and producing a striking impression are the other meanings of the term.
**Intervention:** According to The World Dictionary (Barnhart and Barnhart) the term "Intervention" means "an intervening or interfering in any affair, so as to affect its course or issue".

**Strategy:** In Collins', English Dictionary (Major New Edition 1992) the term "Strategy" means "Skillful planning and measurement of anything".

In Reader's Digest Universal Dictionary (1987) the term "Strategy" means "A plan or design for achieving one's aims".

**Developing:** According to New Webster's Dictionary of English (5th Ed.), the term "Developing" means "to gradually evolve a higher or more useful stage to advance from one stage to another by a process of natural or inherent evolution".

**School health programme:** It is a part of community health programme through which comprehensive care of the health and well-being of children throughout the school years is taken care of (Park and Park).

The school health programme includes all of the activities carried on in a school system in the interest of health.
3:4 Operational definition of the key terms

Effectiveness refers to the enhancement of the level of awareness, that is between pre and post-assessment tests of teachers and students in health promotion.

Intervention strategy, has been used to denote skillful planning and measurement to be effected through the mediation of the teachers in order to communicate health instruction to the students.

Developing here signifies the evolution of health education instruction to a higher level.

School health programme is a process on structuring health education programme to enhance the level of awareness among teachers and students through learning materials on health promotion.

3:5 Objectives of the research study

The following objectives are formulated for the present study.

General Objective

To study the effectiveness of teacher intervention strategy in developing school health programme in primary schools.
Specific Objectives

1. To identify the health status of students studying in class IV in rural primary schools.
2. To identify awareness of students studying in class IV regarding health promotion.
3. To identify the training needs of class IV teachers in health promotion.
4. To orient the class IV teachers and students towards health promotion.
5. To devise training programme for teachers and students on health promotion, and
6. To assess the effectiveness of teacher intervention strategy.

3:6 Assumptions

1. The existing school health programme is not effective.
2. Health status and Nutritional status of the primary school students are low.
3. The morbidity pattern among primary school children is same in the entire district.
4. The level of awareness on health promotion among teachers and students is low.
5. The awareness level of students and teachers can be measured.

6. Orientation of teachers and students towards health promotion will enhance the level of awareness, and

7. Improvement in the awareness level of teachers will have an impact on improving students' awareness.

3:7:1 Hypotheses

For the present investigation the following hypotheses have been formulated.

1. The level of awareness of class IV teachers in health promotion is low.

2. There will be a significant improvement in the level of awareness regarding health promotion of class IV Primary School teachers in experimental schools after implementing the teacher intervention strategy.

3. The level of awareness of class IV students in health promotion is low in the pre-assessment test.

4. The level of awareness of class IV students in health promotion varies with the sex of the students.

5. The level of awareness of class IV students in health promotion varies with their religion and caste groups.
6. The level of awareness of class IV students in health promotion varies with their parents' educational levels.

7. The level of awareness of class IV students in health promotion varies with their parents' occupation.

8. The level of awareness of class IV students in health promotion varies with their economic status.

9. The level of awareness of class IV students does vary with the number of siblings the students have.

10. There will be a significant improvement in the awareness of class IV students in health promotion between the pre and post-assessment tests.

3:7:2 Null hypotheses

In order to test the significant differences between/ among teachers and students with respect to the major variables manipulated, the above stated hypotheses were restated in null form.

1. There is no significant improvement in the level of awareness regarding health promotion of Class IV teachers working in experimental schools after implementing teacher intervention strategy.

2. The levels of awareness of Class IV students in health
promotion does not vary with the sex of the students.
3. The levels of awareness of Class IV students in health promotion does not vary with their religion and caste groups.
4. The levels of awareness of Class IV students in health promotion does not vary with their parents' educational levels.
5. The levels of awareness of Class IV students in health promotion does not vary with their parents' occupation.
6. The levels of awareness of Class IV students in health promotion does not vary with their economic status.
7. The levels of awareness of Class IV students in health promotion does not vary with the number of siblings the students have.
8. There is no significant improvement in the level of awareness of Class IV students in health promotion between pre and post-assessment tests.

3:8 Delimitations of the study

The following are the delimitations of the present study.
1. The schools have been selected for the study in Dindigul educational district only.
2. The schools have been selected for the study in one community development block only.
3. Two primary health centres have been selected for the study in Dindigul health unit district only.
4. The two primary health centres have been selected for the study in one community development block only.
5. Teachers who are exclusively teaching Class IV in primary schools are selected.
6. Students who are studying in class IV in rural primary schools only have been selected, and
7. The school health programme is restricted to school health education instruction only in this study.

3.9 Population and sample

For administrative purposes, each revenue district in Tamil Nadu is divided into a number of educational districts. The Dindigul (Mannar Thirumalai) District is divided into two educational districts namely, Dindigul educational district and Palani educational district. Dindigul educational district consists of 7 community development blocks. Each community development block has 4-6 primary health centres. In each primary health
centre area, there are 15 - 20 primary schools. The target population of the present study has been identified as the Class IV rural primary school teachers and students.

**Sampling distribution**

![Diagram of Sampling Distribution]

**3:9:1 Sampling**

Among two educational districts, Dindigul educational district was selected randomly. In the selected Dindigul educational district, there are 7 community development blocks. Out of these 7 community development blocks, one community development block was selected randomly. The selected community development block has 4 PHCs. Out of these 4 PHCs, 2 PHCs were selected randomly, one for experimental and other for control purposes. Out of 18 primary schools in experimental PHC area, 6 primary schools were selected randomly. Out of 18 primary schools are
in control PHC area 4 primary schools were selected randomly. Six schools in the experimental area constituted 155 students and in the control area only 4 schools constituted 150 students.

Only teachers who were exclusively teaching Class IV were selected for the present investigation. The reason for selecting Class IV teachers is, in the Class V teachers in most of the schools are functioning as headmasters / headmistresses. So these Class V teachers could not spare much of their time for this experimentation due to their administrative functions along with academic work.

All the students who are studying in the selected section of Class IV and Schools were included for the study. The details of selected schools, teachers and students are given in Table 3:1.
<table>
<thead>
<tr>
<th>Number of schools</th>
<th>No. of Teachers</th>
<th>No. of Students</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
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<tr>
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<td>Boys</td>
<td>Girls</td>
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<td>17</td>
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<td>1</td>
<td>1</td>
<td>9</td>
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<td>4</td>
<td>67</td>
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</tr>
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<td>1</td>
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</tr>
<tr>
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<td>3</td>
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<tr>
<td><strong>G.Total</strong> 10</td>
<td>3</td>
<td>7</td>
<td>10</td>
<td>143</td>
<td>162</td>
<td>305</td>
</tr>
</tbody>
</table>

Exptl.* - Experimental, G.Total* - Grand Total

3:10:1 Experimentation

Experimentation is the classic method followed in the science laboratory, where elements are manipulated and effects are controlled. Although the experimental method finds the greatest utility in the laboratory, it has been effectively applied within non-laboratory settings such as the classroom, where significant factors or variables can be controlled to some degree. If two
situations are alike in every respect and one element is added/removed to/from one but not the other, any difference that develops is the effect of the added/subtracted element.

In this experimentation the line of treatment is in terms of development of knowledge and awareness on health promotion with reference to the units like 1) eye, 2) ear, 3) angular stomatitis, 4) tooth, 5) anaemia, 6) skin, 7) head lice and dandruff, 8) environmental sanitation and 9) school health programme for teachers in experimental schools. For experimental school students only the first 8 units were included. Health promotion awareness in the above units were not given to the control school teachers and students.

3:10:2 Experimental and control groups

An experiment involves the comparison of the effects of a particular treatment with that of a different treatment or of no treatment. In a simple conventional experiment, reference is usually made to an experimental group and to a control group. The experimental group is exposed to the influence of the factor under consideration, the control group is not. Observations are then made to
determine what differences appear on what changes or modifications occur in the experimental as contrasted with the control group. In the present experimentation the teacher intervention strategy was implemented only for experimental school teachers and students and not for control school teachers and students. The groups are equated in terms of their achievement scores in health promotion assessment tests.

3:10:3 Group matching

On the basis of the pre-assessment test scores in awareness regarding health promotion of teachers and students in both experimental and control groups, the equality was ensured. The mean scores and standard deviations of teachers and students in each unit and for total and 't' tests were calculated. The analysis revealed that there is no significant mean difference between experimental and control school teachers and students in pre-assessment test. By this method, the equality among the groups was maintained in this experimentation.

3:10:4 Experimental validity

In any educational or behavioural experiment, a number of extraneous variables are present in the situation
generated by the experimental design and procedures. These variables influence the results of the experiment in ways that are difficult to evaluate. To make a significant contribution to the development of knowledge, an experiment must be valid. Campbell and Stanley (1966) described two types of threats to experimental validity, which are internal and external. The quality of experiment depends on how well various threats to internal and external validity are controlled. The researcher can control these possible threats to establish experimental validity.

3.10:5 Threats to internal experimental validity

1. Maturation

Subjects change in many ways over a period of time, and these changes may be confused with the effect of the independent variables under consideration. Between initial and subsequent observations subjects may be influenced by the incidental learnings or experiences that they encounter through maturation.

This maturation threat was eliminated by conducting the post-test within 3 months of pre-test.

2. History

Specific external events occurring between the
first and second measurements that are beyond the control of the researcher may have a stimulating or disturbing effect upon the performance of subjects.

During this experimentation no such events occurred. So this threat was also eliminated.

3. Testing

The effect of taking one test upon the scores of a subsequent test is called testing. Testing presents a threat to internal validity that is common to pre-test, Post-test experiments.

Since the students were tested on two occasions, and many class tests were also conducted during this period, the testing threat was eliminated.

4. Subject characteristics

The subjects in a group to be compared may differ on some variables such as age, gender, ability, socio-economic status and so on. These are called subject characteristics threat.

The students selected for this study were from Class IV in rural primary schools. Most of the students were of the same age and they had the same socio-economic status.
So this threat was also controlled in this experimentation.

5. Loss of subjects

Though the researcher carefully selected the subjects, he lost some, as the study progressed. This is known as Mortality threat (eg) drop-outs, absentees and the like.

The investigator included all the subjects who were available in the selected schools for the study. No such loss of subjects was noticed during this experimentation. So this threat of loss of subjects was also controlled.

6. Location

The particular location in which data are collected or in which an interaction is carried out, may create alternative explanations for results.

This threat was controlled by the investigator during this experimentation, by using a regular classroom and the teacher.

7. Unstable instrumentation

Unreliable instruments or techniques used to describe and measure aspects of behaviour are threats to the validity of an experiment.
This threat was controlled by using valid and reliable research tools for instrumentation.

8. Regression

It is a phenomenon that sometimes operates when subjects are selected on the basis of extremely high or extremely low pre-test scores.

The pre-test assessment of teachers and students on awareness of health promotion was uniformly low. Almost all the selected students have scored below 40 per cent marks in the pre-test. So this threat was also controlled.

9. Selection bias

This bias is represented by the non-equivalence of experimental and control groups and its most effective deterrent in the random assignment of subjects to treatments. This threat was eliminated by selecting the experimental and control groups without any significant difference in the awareness level of health promotion.

10. Implementation

The treatment or method in any experimental study must be administered by some one - the researcher, the teacher or some other person. This threat was eliminated by using the same regular teacher who teaches the regular
classes for the selected subjects.

3:10:6 Experimental design

Experimental design is the blueprint of the procedures that enable the researcher to test hypotheses by reaching valid conclusions about relationships between independent and dependent variables. Selection of a particular design is based upon the purposes of the experiment, the type of variables to be manipulated, and the conditions or limiting factors under which it is conducted.

For this experimentation one group design (single group-pretest-treatment-post-test) was followed. In this design pre-tests were administered to test the level of awareness of health promotion among the teachers and the students. The teachers' and students' pre-assessment awareness scores on health promotion were analysed and test of significance with 't' tests were computed. It was found that there was no significant mean differences between teachers and students of control and experimental groups.

Since there was no on-going school health programme proposed in the experimentation, the investigator selected one group design (Pre-test-treatment-post-test). The post-tests were administered at the end of 3 month period of
pretests, for teachers and students. Gain scores compared in pre and post-tests of experimental group students and teachers, were subjected to test of significance.

The following experimental design was used in the present experimentation.

**3:10:7 Experimental design for teachers**

**Experimental**
1. Pre-test on awareness in health promotion was administered to 6 teachers.

2. An intervention of 3 days orientation training on health promotion was conducted for 6 teachers.

3. A post-test was conducted on awareness in health promotion for 6 teachers at the end of 3 month period of pre-test.

**Control**
Pre-test on awareness in health promotion was administered to 4 teachers.

No intervention of training on health promotion was conducted for 4 teachers.

No post-test was conducted for 4 teachers.

(* For conducting this experimentation the investigator decided to include atleast 150 students due to the constraints of resources. In experimental Schools, 150 students were found in 6 schools whereas in control schools only 4 schools constituted 150 students).
3:10:8 Experimental design for students

Experimental

1. A pre-test on awareness in health promotion was conducted for 155 students studying in 6 Schools.

2. The intervention approach was carried out by the respective teachers on health promotion for 155 students in 6 Schools for 3 months.

3. A post-test on awareness in health promotion was conducted for 155 students studying in 6 schools after a period of 3 months.

Control

A pre-test on awareness in health promotion was conducted for 150 students studying in 4 Schools.

No such teachers' intervention on health promotion was carried out for control school students.

No post-test on awareness in health promotion was conducted for 150 control school students.

3:10:9 Experimental phases

The present study is broadly divided into 3 different phases, namely

1. Diagnostic phase
2. Intervention phase
3. Assessment phase

1. Diagnostic phase

During the diagnostic phase the relevant basic data (Morbidity pattern of primary school students) required for the study were collected from the authorities concerned. The investigator contacted educational and health authorities and requested their formal approval and participation in the study.
Based on the information collected, a pilot study was planned and conducted among 25 Class IV teachers and 50 Class IV students in a similar population of the sample selected. This pilot study was useful for the investigator to select the topics to be oriented to the teachers and the students in promotion of health of students in primary schools. The researcher also screened the existing curricula of Primary school and teacher education.

2. Intervention phase

In this experimentation, two types of interventions were attempted, one for teachers and the other for students.

For teachers

Based on the training-need assessment of the teachers a training intervention was selected. A training curriculum on health promotion for 3 days was designed. Learning material on the selected units were prepared in the regional language (Tamil). It consisted of the following units: 1. Unit 2. Topic 3. Time 4. Instructional objectives 5. Contents 6. Learning method 7. Learning aids 8. Evaluation
The learning material prepared by the investigator was finalised in consultation with experts in public health, nursing, nutrition, sanitation, health education and education. The learning materials were also shown to the Primary school teachers and their opinions and suggestions were incorporated appropriately.

The existing curricula of teacher education and Primary school, consisted of some basic elements of health education and it is found that it will not help the teachers and students to play an effective role in school health programme.

Based on the experiences of the Pilot study, a pre-test questionnaire on awareness of health promotion was developed for teachers and the students separately. In the teachers' awareness questionnaire there are nine units namely, eye, ear, angular stomatitis, tooth, skin, anaemia, headlice and dandruff, environmental sanitation and school health programme. For the students' awareness questionnaire on health promotion only eight units are included, namely eye, ear, angular stomatitis, tooth, scabies, anaemia, headlice and dandruff and environmental sanitation.

The pre-tests were administered to teachers (10)
and students (305) selected. Based on the analysis, the training needs of teachers were identified.

Training

It was decided to conduct 3 days orientation training on health promotion for the selected 6 primary school teachers in experimental groups. Since the teachers were more involved in all extra activities like electoral duty, enumeration for ration card, census, deputation for inservice training and the like, they could not be deputed for more than 3 days for this training.

A training curriculum was prepared (Appendix-III) on the basis of need assessment and it was finalised in consultation with experts and teachers. The venue for the training was chosen in one of the selected experimental schools. It provided a real and familiar situation for the teachers.

The entire training programme was conducted in an informal environment and it facilitated the teachers' active participation. The classes were taken by the experts in the fields of public health, nursing, nutrition, sanitation and health education. A variety of participatory teaching methods like brain-storming, discussion, demonstration and so on
were used. The appropriate visual aids like photo-folders, film strips, slides, transparencies, models and specimens were sparingly used. To illustrate deficiency diseases, real cases were demonstrated to the teachers for better understanding. At the end of the training the teachers identified the major roles to be played by them in school health programme.

1. After the training, the teachers learnt to orient the students on the topics of health promotion, at least two sessions per week.
2. to maintain health records,
3. to observe the personal hygiene of the students,
4. to provide healthful school living,
5. to provide health education,
6. to conduct parents' meetings, and
7. to assist the PHC staff in school health programme.

Apart from the formal training of the teachers continuously on the job, the teachers were also educated during the regular visit of the investigator at least once in a week on selected days. These opportunities were utilised to clarify the doubts raised by the teachers and also enlist the co-operation of the PHC staff for the effective
implementation of school health programme.

After the intervention of training the teachers started to take classes on selected health promotion topics (eye, ear, angular stomatitis, tooth, scabies, anaemia, headlice and dandruff and environmental sanitation). The teachers prepared a lesson plan for each selected topic in the above mentioned units of health promotion. The teachers were started taking classes two sessions per week for a period of 3 months. During the sessions the appropriate visual aids like photofolders, filip charts, flash card and charts were used by the teachers for better understanding.

The teachers also actively involved the students in health promotional activities like daily screening of the students for personal hygiene, keeping the inside and outside of the class rooms neat and tidy and coaching the selected students for presentation of health topics during the assembly in the morning hours.

The teachers regularly conducted the parent's meeting and discussed the health status of their children. For effective implementation of health promotion, not only knowledge is necessary but the effective utilisation of
health messages for the formation of desirable behaviour, and for this parental support is very much essential.

3. Assessment phase

The post-tests were administered to the teachers and the students to assess the impact of intervention. The same questionnaire used in the pre-test was administered for the post-test also. Totally the post-test was administered for 6 teachers and 155 students. The details are presented in the data analysis chapter of this report. The result of the post-test was compared with the result of the pre-test of teachers and students.
3:10:10 **Major activities carried out during the Experimentation**

The following activities were carried out during this experimentation.

1. Pilot study conducted

   For teachers of class IV:
   - Formulation of a questionnaire on awareness of health promotion for teachers

   For students of Class IV:
   - Formulation of a questionnaire on awareness of health promotion for students

2. Pre-testing of a questionnaire for teachers

3. Finalisation of a questionnaire for teachers

4. Administration of pre-assessment questionnaire to teachers in experimental (6) and control (4).

5. Preparation and finalisation of learning material for teachers.

6. Conducting training for experimental teachers (6).

7. Monitoring of the teachers' intervention.

8. Conducting post-assessment for teachers in experimental Schools after 3 months interval

   Conducting post-assessment for students in exptl. schools after 3 months interval.
3:11:1 Construction and validation of research tools

A questionnaire is very useful when factual information is desired. For the present study, the investigator used questionnaires to study the level of awareness of teachers/students regarding health promotion. The questionnaires were prepared based on the experiences of the investigator and morbidity pattern/deficiency diseases prevalent among primary school students. Based on the research findings, and experiences of programme personnel/teachers the following units were selected to be included in the questionnaire. To promote health among primary school students the teachers should have thorough knowledge of these selected units, so that they can play a meaningful role in school health programme. The units included for teachers' questionnaire were 1. Eye, 2. ear, 3. angular stomatitis, 4. tooth, 5. skin, 6. anaemia, 7. headlice and dandruff 8. environmental sanitation and 9. school health. The units included in the students questionnaire were 1. Eye, 2. ear, 3. angular stomatitis, 4. tooth, 5. scabies, 6. anaemia, 7. headlice and dandruff and 8. environmental sanitation.
3.11:2 Pilot study

In this investigation, a pilot study was conducted with the awareness questionnaire on health promotion for 25 class IV teachers and 50 Class IV students in primary schools, in a similar population of the sample. The investigator formulated the student pre-assessment questionnaire with multiple choice, filling in the blanks and true or false type questions. When it was administered to the students during the pilot study, it was found that most of the students in Class IV could not understand the questions properly. The teachers also opined that the format of the questionnaire might be modified, taking into consideration the rural students studying in Class IV. Accordingly the pre-evaluation questionnaire was modified and simple questions were included on testing the awareness of students regarding health promotion. Based on the results, these two questionnaires were suitably altered and finalised for students and teachers separately.

3.11:3 Pre-Test

Pre-test is essential for any type of research study to finalise the research tools. The research tools before finalisation should be pre-tested because the
questionnaire could be too lengthy, or questions could be ambiguous or beyond the capacity of the respondent to answer. It might have other discrepancies also which have to be taken care of.

The questionnaire was again administered to the sample of 25 class IV teachers and 50 class IV students in Primary schools, in a similar population of the sample. A separate questionnaire was administered to the teachers and the students. For pre and post-assessment tests the same questionnaire was used in each case. Based on the experiences of the pre-test, the questionnaires were finalised. The questionnaires were prepared in the local regional language (Tamil).

3:11:4 Teacher's questionnaire

The finalised questionnaire for the teachers consisted of the following parts (Appendix - I):
1. Appeal to the teachers by the investigator
2. Identification particulars of the teachers like sex, age, educational training status, religion, marital status, type of school.
3. Instructions for filling the questionnaire.
4. Knowledge assessment units on health promotion
### TABLE 3 : 2

**BLUE PRINT ON TEACHERS' AWARENESS QUESTIONNAIRE ON HEALTH PROMOTION**

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<tr>
<th>Units</th>
<th>Type/Number of questions</th>
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<th>M.C*</th>
<th>F.B*</th>
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<th>Total marks</th>
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<td>0</td>
<td>3</td>
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<td>0</td>
<td>0</td>
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<td>4</td>
</tr>
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<td>1</td>
<td>1</td>
<td>3</td>
<td>6</td>
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<tr>
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</tr>
<tr>
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<tr>
<td>E.S.**</td>
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<td>3</td>
<td>1</td>
<td>2</td>
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<td>18</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>

* S.A. Short Answers, M.C. Multiple choice, FB.Fill in the blanks.
** A.S. Angular stomatitis, H.D Head lice and dandruff, E.S. Environmental Sanitation, SHP: School Health Programme.

**Sample items:** Unit. I. Eye

What are the causes for the following eye diseases?

a) Conjunctivitis  b) Night blindness
Unit II. Ear

Mention two preventive measures to arrest ear discharge

Unit III. Angular Stomatitis

Angular stomatitis is due to ___ Vitamin deficiency

Unit IV. Tooth

Mention four dental problems?

Unit V. Skin

The causative organisms of scabies is
a) Mosquito; b) House; c) itehmite d) hook worm

Unit VI Anaemia

Write four common signs and symptoms of anaemia.

Unit VII: Head lice and dandruff

Mention two preventive measures of head lice and dandruff.

Unit VIII: Environmental sanitation

Mention four water-borne diseases

Unit IX: School health programme

Write any two objectives of the school health programme.

Scoring Procedures

Each question carried two marks. The maximum score for the individual was 50 and the minimum was 0. The scores were given for each question in the unit and
percentages were calculated for each unit. An overall percentage was computed from the percentage score on each unit for every individual teacher.

3:11:5 Students' questionnaire

To assess the knowledge level of the students regarding health promotion among class IV students studying in Primary schools, a separate questionnaire was used, in both experimental and control group of students. The questionnaire consisted of the following parts (Appendix-II):

1. students background information:
   Name, school, sex, age, class, religion, caste, number of siblings, parents' occupation, education and income.

2. Knowledge assessment part:

   The units included in the questionnaire were
### TABLE 3:3

**BLUE PRINT ON STUDENTS' AWARENESS QUESTIONNAIRE ON HEALTH PROMOTION**

<table>
<thead>
<tr>
<th>Units</th>
<th>Type/Number of questions</th>
<th>No. of Questions</th>
<th>Total Marks</th>
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<td>F.B*</td>
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</tr>
<tr>
<td>Ear</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
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<td>2</td>
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</tr>
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<tr>
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</table>

* S.A. Short Answers, FB: Fill in the blanks.
** A.S. Angular stomatitis, H.D Head lice and dandruff, E.S. Environmental sanitation.

**Sample items**

**Unit I Eye**  
Mention any two rich sources of vitamin `A'.

**Unit II Ear**  
Mention two correct materials that can be used for cleaning the ears.
Unit III Angular stomatitis

Mention any two rich sources of Vitamin 'B'.

Unit IV Tooth Name two reasons for dental caries.

Unit V. Scabies Mention two methods of preventing scabies.

Unit VI Anaemia Mention two sources of iron-rich food stuff.

Unit VII Head lice and Dandruff

Give two reasons for the presence of head lice and dandruff.

Unit VIII Environmental sanitation

1. Mention two Water-borne diseases
2. Mention two proper methods of sullage water disposal.

Scoring Procedures

Each question carried two marks. The maximum score for the individual was 50 and the minimum was 0. The scores were given for each question in the unit and percentages were calculated for each unit. An overall percentage was computed from the percentage score on each unit for every individual student.

3:11:6 Validity of research tools

The validity of research tool is determined by the extent to which it measures and what it is supposed to measure. Different types of validity are considered. Content
validity refers to the degree to which the test actually measures or is specifically related to the traits for which it is designed. The criterion of content validity is often assessed by a panel of experts in the field who judge its adequacy, but there is no numerical way to express it (Best and Khan 1986). Content validity is based upon careful examination of course text books, syllabi, objectives and the judgments of subject matter specialists.

To establish the content validity of the tools used in this study, the investigator sought the opinion of experts in the fields of public health, nursing, nutrition, sanitation, health education and education. Further the investigator himself is a qualified health educator working in a public health institute. In addition, the teachers working in the primary school were consulted for the finalisation of tools. Since there is no standardised tools available for the assessment of knowledge of teachers/students, the investigator developed the questionnaire to suit the local needs, after ascertaining the content validity of the tools with the experts.
3:11:7 Reliability of the research tools

The reliability is the degree of consistency that the instrument or procedure demonstrates, whatever it is measuring which it does so consistently. In tests that have a high co-efficient of reliability, errors of measurement have been reduced to a minimum. Reliable tests are stable in whatever they measure and they yield comparable scores upon repeated administration. The reliability or stability of a test is usually expressed as a correlation coefficient. To establish the reliability of the tools, the researcher used test-retest method and found the reliability coefficient for the teachers' awareness questionnaire and the students' awareness questionnaire which were 0.91, 0.89 respectively. The reliability coefficients were found to be significant. Hence the tools are declared to be reliable.

3:12 Variables of the study

The present study is an attempt to determine the effectiveness of teacher intervention strategy in developing school health programme. Since the study is an experimental one, a small sample of 10 teachers were used. Only 10 teachers (experimental 6 and control 4) were included for the
experimentation. So it was decided not to consider any variables regarding teachers' performance in pre / post-assessment tests regarding health promotion.

The following variables were considered for students' achievement scores in pre/post-assessment tests regarding health promotion. To find out any influence of variables on students' awareness levels the following variables were considered.

**Independent variables**

Following were the independent variable for students, namely Sex, religion and caste groups, parents educational and occupational levels, number of siblings and family income.

**Dependent variable**

The achievement scores of students in pre and post-assessments tests on health promotion were considered dependent variable.

**3:13 Data collection**

Since the present study is related to assess the awareness regarding health promotion of teachers/students, much care was taken in collecting the reliable data. The data collection for pre/post-assessment was done personally by the
investigator by administering the questionnaire to the teachers and students. To ensure the reliable data, the investigator requested the teachers and the students to write their answers without any reservations and not to have any discussion with others or copy the answers from any book. The investigator was present till all the teachers and the students completed the questionnaire. The time taken by the teacher to complete the questionnaire was between 30 to 45 minutes whereas for the students' it was 30 to 40 minutes. The filled-in questionnaires were collected from the teachers/students and completeness was ascertained. The pre-test evaluation was conducted for 10 teachers (experimental 6, control 4) and 305 students (155 in experiment group, 150 in control group) during the month of July 1996.

Likewise, the post-assessment tests were conducted for teachers/students in experimental schools only, after the intervention, at the end of 3 months from pre-test. Totally the post-test was administered for 6 teachers and 155 students.

To assess the nutritional status and morbidity condition of the students (305) in both experimental and control schools, a team consisting of a medical doctor,
nurse, and a nutritionist, visited the schools and screened the cases. The anthropometry measurements like height and weight were taken for each student by using the relevant tools. The height of the student was taken to the nearest 0.5 cm and weight to the nearest 0.5 kg. To assess the morbidity condition and deficiency diseases the doctor with the help of the nurse and nutritionist screened the cases for

1. Vitamins 'A' and 'B' deficiencies
2. Ear discharge and hearing
3. Tooth problems - dental caries, cavities, bleeding-gums
4. Presence of scabies
5. Signs and symptoms of anaemia
6. Presence of headlice and dandruff
7. General condition of the student

3.14 Scheme of data analysis

The collected data were analysed under three areas, namely descriptive, differential and relational. In the descriptive analysis, the demographic and personal characteristics of teachers and students were analysed. After descriptive analysis these data were compared to identify the effect of teacher intervention strategy in developing school health programme by appropriate statistical technique. For differential analysis ANOVA and 't' tests for small/very small group were applied. To test the association between teachers' level of awareness with students' level of awareness regarding health promotion, the relational analysis was attempted.