CHAPTER-III

THE PROBLEM AND STRATEGY OF ENQUIRY

3.1 NEED AND SIGNIFICANCE OF THE PRESENT STUDY

The development of a nation along with a conscious and productive citizenry depends upon the standard of education. To a large extent, this depends on the standard of teachers because teachers are undoubtedly the most important component of our educational system and in fact teacher is the top most academic and professional personal in the educational pyramid under whose charge the destiny of our children is placed by the parents and society.

The word “School teacher” evokes a variety of images and ideas depending on the experiences a person recalls from his school life. These visions will range from a warm, kindly, sympathetic individual with a genuine interest in people, to a tyrannical taskmaster who understands little, and careless about the welfare and development of his pupils.

Students, who have pleasant memories of their teachers, usually recall individuals who took a personal interest in them, knew their subject thoroughly and came to class well prepared. These teachers were well adjusted emotionally, and had excellent control of the class and themselves. Students who have unpleasant memories of their teachers usually remember individuals who were either too lax or too strict, who were not conscientious about their work, who did not inquire into their students problems or had no sense of humor (Drayer, 1970).

The factors that make a good teacher cannot be categorized. Successful teachers represents a variety of personalities, levels of mental ability, types of training and of course their commitment toward job.
A competent and committed teacher is in demand for today’s revolutionary era. Teacher’s commitment has been identified as one of the most crucial factors for the success of the education, Schools and colleges. Teacher’s commitment is closely associated with their work performance.

Teacher is expected to be committed to his profession, to learner, School, parents, society and nation. If quality education is a goal, it cannot be achieved without the sincere efforts of dedicated and committed teachers.

The role of science teacher has become very challenging and complex in new technological era. His qualities, teaching efficiency, personality, attitude and character help the pupils to become good human beings. A teacher can perform his duties if he has committed role towards students, school, profession, society and nation. It has been seen that strength of science students in government schools is decreasing day by day whereas the strength of science students in private schools is increasing in spite of the fact that private schools are more expensive. The reason for this may be that the science teachers in private schools are more dedicated and providing more quality oriented education. The results of Xth class (Meenakshi, 2003) have also revealed that private schools have better results than the government schools. There is a need to explore the reason, why science teachers are more committed to their roles in private schools than the government schools? Are science teachers in private schools more caring, dedicated, committed and get a lot of enjoyment from their work? There is another question, Are science teachers of government schools limit their commitment and engagement with their job for the survival only? These are three very relevant questions which this study will try to answer.

Personality of the teacher is another area which carries importance in quality education. Teachers who have balanced
personalities can only help the students to develop their personalities. Role commitment has relationship to personality, but what relationship it carries is the need of the study.

Attitude towards teaching plays an important role in science teaching. The positive attitude may evoke brilliant and effective results in science teaching while negative attitude may evince diametrically the opposite. Hence, results of the present study will throw light on science teacher’s attitude towards teaching in our schools.

The significance of studying the role of science teacher in today’s scenario is very relevant in view of the fact that country is progressing and trying to compete the developed countries. The teachers can contribute much in this regard.

3.2 STATEMENT OF THE PROBLEM

The problem in measured language can be stated as under:

ROLE COMMITMENT AMONG SCIENCE TEACHERS IN RELATION TO PERSONALITY MAKE-UP AND ATTITUDE TOWARDS TEACHING.

3.3 OBJECTIVES

The study has been conducted on the basis of the following objectives:

1. To study incidence of role commitment, personality make-up and attitude towards teaching of male and female science teachers of private and government schools.

2. To study the personality make-up of male and female (separately and total) government and private (separately and total) science teachers at high, average and low levels of role commitment.

3. To study the attitude towards teaching of male and female (separately and total) government and private (separately and total) science teachers at high, average and low levels of role commitment.
4. To study role commitment as a function of personality make-up and attitude towards teaching of science teachers.

3.4 HYPOTHESES

1. There is no significant difference in personality make-up of science teachers at different levels of role commitment.

2. There is no significant difference in personality make-up of male and female science teachers at different levels of role commitment.

3. There is no significant difference in personality make-up of government and private school teachers at different levels of role commitment.

4. There is no significant difference in attitude towards teaching of science teachers at different levels of role commitment.

5. There is no significant difference in attitude towards teaching of male and female science teachers at different levels of role commitment.

6. There is no significant difference in attitude towards teaching of government and private school teachers at different levels of role commitment.

3.5 DELIMITATIONS

1. The study was confined to only four districts of Punjab.

2. The study was delimited to high school teachers only.

3. The study was delimited to science teachers only.

3.6 OPERATIONAL DEFINITIONS OF THE TERMS USED

3.6.1 Role commitment

Role commitment of teachers is the pledge or promise or obligations of teacher’s behaviour pattern according to certain
rules and norms, concerning mainly with people's own profession, school, society, parents and nation as measured by Role Commitment Scale by Dr. Meena Buddhisagar Rathod and Madhulika Varma.

3.6.2 Personality

Personality is that which permits a prediction on what a person will do in a given situation. A more or less stable and enduring organization of a person's character, temperament, intellect and physique which determines his unique adjustment to the environment as measured by the Eysenck Personality Questionnaire-Revised (E.P.Q.-R) Scale by Eysenck (1968).

3.6.3 Attitude towards Teaching

Attitude towards teaching is an enduring perceptual organization of teacher's belief and learned tendency to react favourably or unfavourably in different degrees which determines his response towards teaching as measured by Teaching Attitude Inventory (TAI) Scale by Dr. S.P. Ahluwalia.

3.7 SAMPLE OF THE STUDY

The present study was conducted on 200 science teachers, of high schools of four different districts. These districts were further divided into two classes on the basis of government and private schools in which equal number of males and females were selected. Out of these four districts two were having high literacy rate and two were having low literacy rate. Two districts namely Ropar and S.B.S.Nagar were selected for high literacy rate and two districts namely Mansa and Sangrur were selected for low literacy rate. Out of four districts 200 science teachers were selected. It was decided to take 50% science teacher from high literacy and 50% from low literacy districts.
From Ropar District 52 schools were randomly selected. Out of 52 schools 26 were government and 26 were private. Out of 26 government schools 25 government science teachers were selected and out of 26 private schools 25 science teachers were selected. From these 25 private and 25 government science teachers, equal number of males and females were selected for the sample of the study.

For the selection of schools, random sampling technique was used and male and female teachers were given equal weightage.

From S.B.S.Nagar district 52 schools were randomly selected. Out of 52 schools 26 government schools were randomly selected and 26 private schools were randomly selected. Out of 26 government schools 25 government science teachers were selected and out of 26 private schools 25 private science teachers were selected. From these 25 government science teachers and 25 private science teachers equal number of males and females were selected for the sample of the study.

From Mansa district 52 schools were randomly selected. Out of 52 schools 26 government schools were randomly selected and 26 private schools were randomly selected. Out of 26 government schools 25 government science teachers were selected and out of 26 private schools 25 private science teachers were selected. From these 25 government science teachers and 25 private science teachers equal number of males and females were selected for the sample of the study.

From Sangrur district 52 schools were randomly selected. Out of 52 schools 26 government schools were randomly selected and 26 private schools were randomly selected. Out of 26 government schools 25 government science teachers were selected and out of 26 private schools 25 private science teachers were selected. From these 25 government science teachers and 25 private science teachers equal number of males and females were selected for the sample of the study.
The distribution of the sample literacy wise, district wise, type of School wise and gender wise is shown in table 3.1.

### TABLE-3.1
**Sampling Distribution of Science Teachers**

<table>
<thead>
<tr>
<th>Literacy</th>
<th>Districts</th>
<th>Type of School</th>
<th>Gender</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Literacy Rate (100)</td>
<td>Roop Nagar (50)</td>
<td>Government (25)</td>
<td>Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private (25)</td>
<td>Male</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>S.B.S.Nagar (50)</td>
<td>Government (25)</td>
<td>Male</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private (25)</td>
<td>Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>12</td>
</tr>
<tr>
<td>Low Literacy Rate (100)</td>
<td>Mansa (50)</td>
<td>Government (25)</td>
<td>Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private (25)</td>
<td>Male</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Sangrur (50)</td>
<td>Government (25)</td>
<td>Male</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private (25)</td>
<td>Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Female</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>200</strong></td>
</tr>
</tbody>
</table>
3.8 RESEARCH TOOLS

For collecting new unknown data required for any research problem, one may use various devices. For each and every type of research we need certain tools to gather facts or to explore new fields, which act as “means” called research tools. The selection of suitable tools is of vital importance for successful research.

The following tools were used for the collection of data:

i) Teacher’s Role Commitment Scale (TRCS) has been by M. B. Rathod and M. Varma in 2003.

ii) Eysenck Personality Questionnaire-Revised (E.P.Q.R) has been developed by Eysenck in 1978.

iii) Teaching Attitude Inventory (TAI) has been developed by Dr. S.P. Ahluwalia in 2001.

3.8.1 TEACHER’S ROLE COMMITMENT SCALE (TRCS)

For measuring role commitment among teachers the Teacher’s Role Commitment Scale has been developed by Dr. Meena Buddhisagar Rathod, Senior Lecturer, I.O.E., D.A.V.V. INDORE and Madhulika Varma, Research Scholar, I.O.E., D.A.V.V. INDORE was used. It was constructed and designed in 2003 to measure the role commitment of teachers. Teacher’s Role Commitment Scale is shown in Appendices-I.

Construction of Items

The role of teachers was categorized under six major dimensions. Commitment towards:

i) Students,

ii) Parents,

iii) School,

iv) Society,
v) Nation and

vi) Own Profession.

These six major dimensions have different item numbers which are shown in table 3.2.

<table>
<thead>
<tr>
<th>Area</th>
<th>Sub-scale</th>
<th>Items No.</th>
<th>Total Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Student</td>
<td>1,2,4,5,6,10,11,12,13,14,15,16,17,18, 19,20,21,22,23,24,30,34,52,53</td>
<td>24</td>
</tr>
<tr>
<td>B</td>
<td>School</td>
<td>3,9,29,37,38,44,46,47</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>Parent</td>
<td>31,32,33,54</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>Society</td>
<td>25,35,39,40,45,57</td>
<td>6</td>
</tr>
<tr>
<td>E</td>
<td>Nation</td>
<td>26,36,55,58</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>Profession</td>
<td>7,8,27,28,41,42,43,48,49,50,51,56</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>58</td>
</tr>
</tbody>
</table>

Each response was critically probed and assessed. More items were also added on the basis of discussion with the experienced teachers, retired teachers, school administrators and students. Thus, 130 (in hindi) items were constructed. Apart from this the information collected through the survey of the concerned literature were also considered.

After this, items were developed in the form of statement and a three point rating scale was developed for each of them. To decide weightage of these situations literature on the role of teacher was studied. The mode of scoring was also formulated. Instructions to the subjects were then developed.
A team comprising of five experts was entrusted the task of ascertaining content validity of the Scale in general and the items in particular. These items were also discussed with 17 teachers of different schools of Indore City to know their reactions. After discussions, items were modified accordingly and only those items which could be easily answered were finally retained. Thus, the preliminary draft consisted of 60 items.

**Preliminary Try-Out**

The modified draft of Teacher’s Role Commitment Scale consisted of 60 items. It was administered to 229 teachers of 12 different Schools of Indore City. These Schools were affiliated to Board of Secondary Education, M.P. Bhopal. There were 139 female and 90 male teachers. Most of the teachers belonged to middle and lower socio-economic status and were minimally graduates. Some of them were postgraduates too. They ranged from 20 to 60 years of age. The teachers were given clear instructions as to how the test was to be answered. There was no time limit, but they were asked to complete it as early as possible. The teachers were also told about the main aim of administering the Test. Once they were clear about all these, the copy of the TRCS was given to each teacher. Before starting the Test, the teachers read the instructions, and took their own time to complete the Test. On an average, teachers took 35 minutes in completing the Scale. The data obtained from this try out were used for item analysis.

**Final Draft**

The purpose of item analysis was to select items from those included in the preliminary draft. As the items did not involve difficulty, only their discrimination index were ascertained by calculating the ‘t’ values (for this, the obtained scores were arranged in the descending order. From this, the teachers belonging to the
upper 27% (62) and lower 27% (62) were identified). The mean role commitment score of those two groups were compared. The significant t-values indicated that the item discriminated between the mean role commitment scores of these two extreme groups. Items having significant t-values were accepted. On the other hand, the item was rejected if the calculated t-value was not significant. Thus, the final draft of Teacher’s Role Commitment Scale consisted of fifty-eight items.

**Directions for Administration**

The Teacher’s Role Commitment Scale is a self administering scale. The purpose of this scale is frankly explained to the subjects. It is assured that their responses will be kept confidential. The subject is requested to read the instructions carefully and to ask the tester, if there is any difficulty in understanding the instructions. It is emphasized that no item should be omitted and there is nothing “right” or “wrong” about these items. There is no time limit for the Scale. However, it takes approximately 35 minutes to complete it.

**Directions for Scoring**

The Teacher’s Role Commitment Scale comprised of total 58 items. Items were developed in the form of statements and a three point rating scale was developed for each of them. The three alternative situations were provided in front of each item. The three alternative situations ranged from most committed to least committed situations. For response of most committed situation a score of “3” is given for committed and least committed scores “2” and “1” are given respectively. The total score varies from 58 to 174, showing lowest and highest role commitment for the teachers.
Reliability

Reliability of the Teacher’s Role Commitment Scale was established through test-retest method and split-half method. For establishing the reliability of the Teacher’s Role Commitment Scale, the Scale was administered to 229 teachers of 12 different Schools of Indore City. To the same teachers, the same scale was administered after the gap of 8 days. At the time of first administration 229 teachers were present while at the second administration 187 teachers were available. For the test-retest reliability, the correlation coefficient was worked out on the basis of the scores of 187 teachers on two testings. The correlation coefficient was found to be 0.843. The split-half reliability coefficient was also worked out. It was found to be 0.879. Both the reliability coefficients were found to be high. Therefore, the Teacher’s Role Commitment Scale was considered to be adequately reliable.

Interaspect Reliability

Interaspect Reliability of Teacher’s Role Commitment Scale is shown in table 3.3.

Table 3.3

<table>
<thead>
<tr>
<th>Interaspect Reliability of Teacher’s Role Commitment Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
</tr>
<tr>
<td>Profession</td>
</tr>
<tr>
<td>School</td>
</tr>
<tr>
<td>Society</td>
</tr>
<tr>
<td>Students</td>
</tr>
<tr>
<td>Nation</td>
</tr>
</tbody>
</table>

**Significant at .01 level (2-tailed)
Validity

The content validity involves essentially the systematic examination of test content to determine whether it covers a representative sample of the behaviour to be measured. The content validity of the Scale was established by having discussion with the experts from the field of both teacher education and school education. Thus, Teacher’s Role Commitment Scale was found to be valid. The face validity refers to know whether Teacher’s Role Commitment Scale looks valid to the subjects who take it (Anastasi, 1970). The face validity of the same Test was established by having the reactions of subjects of whom the Test was meant. On the basis of this, the Teacher’s Role Commitment Scale was found to be valid. Thus, Teacher’s Role Commitment Scale was found to possess both face as well as content validity.

Norms

Percentile Norms for Teacher’s Role Commitment Scale and its Aspects are shown in Table 3.4.

Table 3.4
Percentile Norms for Teacher’s Role Commitment Scale and its Aspects

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Overall</th>
<th>Nation</th>
<th>Parents</th>
<th>Profession</th>
<th>School</th>
<th>Society</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>P95</td>
<td>164</td>
<td>12</td>
<td>12</td>
<td>35</td>
<td>24</td>
<td>24</td>
<td>58</td>
</tr>
<tr>
<td>P90</td>
<td>162</td>
<td>12</td>
<td>12</td>
<td>34</td>
<td>23</td>
<td>23</td>
<td>57</td>
</tr>
<tr>
<td>P75</td>
<td>155</td>
<td>12</td>
<td>12</td>
<td>32</td>
<td>23</td>
<td>22</td>
<td>55</td>
</tr>
<tr>
<td>P50</td>
<td>146</td>
<td>11</td>
<td>11</td>
<td>30</td>
<td>21</td>
<td>20</td>
<td>51</td>
</tr>
<tr>
<td>P25</td>
<td>134</td>
<td>10</td>
<td>9</td>
<td>27</td>
<td>19</td>
<td>17</td>
<td>46</td>
</tr>
<tr>
<td>P10</td>
<td>119</td>
<td>8</td>
<td>8</td>
<td>24</td>
<td>17</td>
<td>16</td>
<td>43</td>
</tr>
<tr>
<td>P5</td>
<td>114</td>
<td>7</td>
<td>7</td>
<td>21</td>
<td>16</td>
<td>14</td>
<td>41</td>
</tr>
</tbody>
</table>
3.8.2 EYSENCK’S PERSONALITY QUESTIONNAIRE-REVISED (EPQ-R)

The Eysenck Personality Questionnaire-Revised (EPQR) has been developed by Eysenck, Eysenck and Barrett in 1985. The Eysenck Personality Questionnaire is the result of many years of developmental work. It was originally constructed and designed by Eysenck and Eysenck (1975) to measure psychoticism (P), extraversion (E), and neuroticism (N). It was designed to give rough and ready measure of three important personality dimensions. Each of these three traits are measured by means of 90 questions, carefully selected after lengthy item analysis and factor analysis. The Eysenck Personality Questionnaire-Revised (EPQR) is shown in Appendices-II.

The Psychoticism is an independent dimension which describes the personality as solitary, unkind, troublesome, lacking feeling and empathy, hostile to others, sensation seeking and liking odd and unusual things. Neuroticism refers to a tendency to be worried, depressed, emotional liability of a person, emotional over responsiveness and tendency to neurotic breakdown under stress. Extraversion as opposite to introversion refers to a tendency of a person to be outgoing, informal, cordial, uninhibited, impulsive, carefree and socially inclined. These three dimensions are conceived of as being quite independent. Thus all the theoretically possible combinations of scores may in fact be observed.

The questionnaire was revised by Eysenck and Barrett (1985) to improve psychometric weakness of the psychoticism scale. This revised version of the scale consists of one hundred dichotomously responded items, thirty two items for the psychoticism scale, twenty three for the Extraversion scale, twenty four items to measure Neuroticism and twenty tendency on the part of some individuals to ‘fake good’.
The final version of the EPQ is described in considerable detail in the book entitled, “Psychoticism: A Dimension of Personality” (Eysenck and Eysenck, 1975). It has always tried to include members of all social classes.

The loadings of all the items on four factors extracted and rotated into oblique simple structure. The population on which the analysis was carried out consisted of 1,796 males and 2,565 females, this is an unusually large number. The use of somewhat different sets of items indicated that by and large items have retained their loadings with considerable accuracy.

**Psychoticism**

Those who are High on this dimension are aggressive, egocentric, impersonal, impulsive, anti-social, unempathic, creative and tough minded.

**Neuroticism**

Those who are high on this dimension are anxious, depressed, suffering from guilty feelings, have low self-esteem, tense, irrational and emotional. Those who have low score on the measure of neuroticism tend to respond emotionally and slowly. They are calm, even-tempered and controlled.

**Extraversion-Introversion**

Those who are high (extroverts) on this dimension are sociable, lively, active, assertive, sensation seeking, carefree, dominant, venturesome, tends to be aggressive and not always reliable persons. Those who are introvert are retiring sort of persons, introspective, fond of books, reserved and distant, take matters of daily life seriously, plan in advance, seldom behave aggressively, are reliable and do not loose temper easily.
The typical introvert is retiring sort of person, introspective and reserved. He keeps his feelings under close control, does not lose his temper, “looks before he leaps”, and places great value on ethical standards.

**Lie Score**

There is no doubt that personality questionnaires are subject to faking and that in fact such “faking good” or “faking bad” is relatively easy. Lie score was used to detect, tendency to fake good and some degrees of social naivety.

**Administration of Test**

A questionnaire of 90 questions was used to assess the personality variables i.e. psychoticism, neuroticism, extraversion and a lie score. Questionnaire was distributed among the subjects and instructions were given to them as, “Please answer each question by putting (x) mark in the box following “Yes” or “No”. There are no right or wrong answers or no trick questions. Work quickly and do not think too long about the exact meaning of the questions.”

**Scoring**

A scoring key was used to check the answers. Check that each question had only one answer. Key was placed on the booklet so that the (*) mark on the booklet was visible through the circle on the key. There were scores (Psychoticism, Neuroticism, extraversion and lie-score) to be obtained. Scores of each variable were added at the end of the page.

**Reliability**

The results for various groups were tested and retested with an interval of one month, a time interval long enough for subjects to have
forgotten their original replies, but not long enough for any serious personality changes to have occurred. The Alpha reliabilities for the revised scale (Eysenck et al., 1985) have been found to range between 0.78 to 0.90 for males and 0.76 to 0.85 for females.

**Validity**

This of course, like all problems of validation, is a complex matter but we may perhaps start with the simple (or atleast apparently simplest) deduction from the hypothesis elaborated that psychotics and criminals should have elevated P scores. We shall deal with the question of the various psychotic groups tested and their P scores, as related to various male and female groups who underwent the test. The term ‘psychotics’ means largely schizophrenics, both outpatients and impatient (there were no significant differences between these two groups or the various subgroups of schizophrenia). Endogenous depressive have been kept separate from schizophrenics because they showed significant differences in P scores.

The Eysenck Personality Questionnaire has been extensively used in India by Sehgal (1984), Bhandari and Khan (1987), Arora (1990) and Gujral (1990) who found the inventory to be fairly reliable and valid.

**3.8.3 TEACHER ATTITUDE INVENTORY (TAI)**

To evaluate teacher attitude, S.P. Ahluwalia’s, “Teacher Attitude Inventory (TAI)” was used. The author has pointed that it is a dependable multidimensional attitude inventory for measuring teaching professional and its allied aspects. It is further added that it is a worthwhile tool for the educational training institutions not only for diagnostic and prognostic purposes but also for the possibility of its use in changing the attitudes of the teachers through a positive programme of inculcating favourable attitudes in teacher-trainees by
changing the organizational climate of training institutions and by enriching the social and emotional climate of their class-rooms. He also added that the most direct use to which the TAI can be put, is the selection of better teacher and students for teacher preparation. Due to the above facts this inventory was selected and used as one of the tools to know the attitude of teacher-trainees which is shown in Appendices-III.

**Description**

This inventory is a 90 item Likert instrument consisting of six sub-scales. These sub-scales were developed by the Likert summated ratings procedure. Each scale has 15 statements that pertain to a particular aspect of prospective and practicing teacher’s professional attitudes. The six aspects dealt within the inventory are, attitude towards

(i) teaching profession,
(ii) class-room teaching,
(iii) child-centred practices,
(iv) educational process,
(v) pupils and
(vi) teachers.

The inventory has been constructed and standardized by Dr. S.P. Ahluwalia, then reader in Education, Banaras Hindu University with the help of research assistants under a project of the National Council for Educational Research and Training, New Delhi. The form of the items is akin to the usual Likert format. The items were selected from a longer list by a scientific statistical procedure. The items in the final sub-scales were selected by item analysis.
Originally 300 attitude statements, 50 on each sub-scale were collected from diverse sources. After careful discussions and cautious deliberations in two seminars of educators, teacher-educators, measurement specialists and persons knowledgeable in the fields of education, psychology and sociology, weak and poor items were either modified and improved or dropped. The selected 180 attitude statements, 30 on each sub-scale were discussed in a small group (N=25) of pupil-teachers and teachers. On the basis of their judgement and reasoning, only 150 attitude statements, 25 on each sub-scale, were retained for inclusion in the preliminary form of the Teacher Attitude Inventory (TAI) for wide scale tryout.

The answer-sheets were scored and arranged in descending order. The upper 27% and lower 27% of cases were taken to find out the t-value of each attitude statement by using the formula given by Edward (1959-, p. 152).

Keeping the rationale of attitude scale construction in mind 90 psychometrically “good” attitude statements, 15 on each sub-scale were selected to constitute the final form of the TAI. Out of 90 items 56 are in positive declarative form and 34 of them are in negative form. Again 43 items are meant to assess attitude in favourable direction and 47 in unfavourable direction. Thus the favourable-unfavourable continuum adequately measures the aforesaid six selected areas.

The TAI consists of a bilingual (English and Hindi) re-usable test-booklet with a separate answer-sheet.

The following table 3.5 shows the total number of favourable and unfavourable items and their distribution in each sub-scale.
TABLE 3.5
Total Number of Favourable and Unfavourable Items and Scale-Wise Their Serial Numbers

<table>
<thead>
<tr>
<th>Sub-Scale</th>
<th>Serial Numbers</th>
<th>Total No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>F 1,8,20,33,41,66,85</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>UF 13,34,46,48,60,72,79,86</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>F 2,9,14,17,42,47,53,67</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>UF 35,38,59,61,65,73,84</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>F 3,11,16,27,37,39,49,62,64,80</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>UF 25,54,75,83,90</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>F 15,28,36,43,50,55,71,87</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>UF 4,7,10,32,63,74,76</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>F 5,44,81,82,89</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>UF 18,22,29,31,37,51,56,58,70,77</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td>F 6,23,40,52,88</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>UF 12,19,24,26,30,45,57,68,69,78</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Total 90 90

F = Favourable - SA=4, A=3, U=2, D=1, SD=0

UF = Unfavourable - SA=0, A=1, U=2, D=3, SD=4

Response Mode

Likert continuum, strongly agree, agree, undecided, disagree and, strongly disagree has been provided for each item. The subject responds to each item by putting a tick mark in the square of the chosen alternative against the serial number of the attitude statement.
in the answer-sheet. Subjects are required to respond to all the items like-wise. They do not have the option to leave any item unanswered. The subjects are not permitted to mark any mark on the test-booklets as they are re-usable.

**Instructions**

The experimenter will distribute the test-booklet and answer-sheet to each subject. After all subjects have received the proper test material, the experimenter will say, “Don’t open it unless told to do so. This inventory consists of 90 statements aimed at identifying the professional attitudes of the teacher. There is considerable disagreement as to what these attitudes should be, therefore, there are no right or wrong answers. What is wanted is your own individual feeling about the statements. Read each statement and decide how you feel about it. Then mark your answer in the space provided on the answer sheet.

Think in terms of the general situation rather than specific one. There is no time limit but work as rapidly as you can. Please respond to every item.”

After giving the instructions the experimenter will ask them to turn over the page and will say, “If you strongly agree, put a tick (‘) mark in the space under strongly agree. If you agree, put a tick mark (‘) in the space under agree. If you are undecided or uncertain, put a tick (‘) mark in the space under undecided. If you disagree, put a tick (‘) mark in the space under disagree. If you strongly disagree, put a tick (‘) mark in the space under strongly disagree.” “Remember you are not required to mark any mark on this booklet. Now read each statement carefully and record your response on the answer-sheet.”

**Scoring**

Each item alternative is assigned a weight ranging from 4 (strongly agree) to 0 (strongly disagree) for favourable items. In the case of unfavourable items range of weights is reversed i.e. from 0
(strongly agree) to 4 (strongly disagree). The attitude score of a subject is the sum total of item scores of all the six sub-scales. The theoretical range of scores is from 0 to 360 with the higher score indicating the more favourable attitude towards teaching and allied aspects.

**Reliability**

Reliability was estimated by the split-half (odd even) method and found to be 0.79 (corrected to 0.88) for a sample of 239 prospective teachers. After the interval of 3 months and 9 months the test retest reliability co-efficients were found to be 0.59 (N=102) and 0.64 (N=290), respectively.

**Validity**

The inventory appears to have content validity, and the method of selecting items supports this supposition. In addition, differences in mean scores were found among some selected “known” groups. The mean scores for B.A. Part I and II students offering and not offering Education as an elective subject, B.ED. trainees and practicing teachers were computed and compared. The observed differences were found to be in the expected direction. The validity was also determined through stimulus group technique. The content validity of the inventory has been established (vide manual for the MTAI).

**3.9 Method and Procedure**

In drawing out the results of the study, it is necessary to plan the procedure and method to be used as it helps the researcher in acquiring the result of the study. The purpose of the present study was to study personality make-up of science teachers at various levels of role commitment i.e. high, medium and low. Further, attitude towards teaching at various levels of role commitment i.e. high, medium and low was selected.
The study was conducted through descriptive method of research. The descriptive method has undoubtedly been the most popular and most widely used research method in education. The method requires certain sample and research tools for conduct of the study.

The investigator has thoroughly studied the literacy rate in Punjab. According to that investigation two districts namely Ropar and S.B.S.Nagar were selected for high literacy districts. Mansa which having the lowest literacy rate was selected and Sangrur which is next to Mansa for lowest literacy rate was selected.

The investigator studied the list of various Schools from these four districts. Out of these four districts equal number of government and private Schools were selected. The investigator visited the four districts to collect information from science teachers with regard to role commitment, personality make-up and attitude towards teaching. All these three tools (Appendices-I, II, III and IV) employed in the study were administered to the science teachers by investigator herself. The principals of respective schools were requested for permission to collect data.

The testing conditions, environment and procedure for all the subjects were kept constant and uniform as far as possible to have true and correct required information. Every effort was made to create a good rapport with the teachers so that correctness of information could be assured. They were made clear about the purpose of collecting data and were told that the results of test would be kept strictly confidential so that they could respond to the test items without any hesitation.

The filled-in test booklets/answer sheets were collected from each teacher and grouped in their respective category for scoring. The answer sheets were kept consciously and studiedly by investigator
according to the serial number.

The scoring of the answer sheets was done strictly according to the directions and instructions given in the respective test manuals. This was also done with the help of scoring keys especially prepared and designed for this purpose.

Data were analyzed by using different techniques of statistics such as Mean, Median, Mode, S.D., t-ratio, Correlation and ANOVA. Mean, standard deviation, skewness of the variables, personality dimensions and attitude towards teaching were calculated. The t-test was used to find out the statistical significance of the differences between means for all the variables separately. The significant differences were also studied between different levels.