CHAPTER III

METHODOLOGY
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METHODOLOGY

3.1 Introduction

The present chapter signifies the methodological framework of the study, which consists of the following aspects.

ii. Statement of the problems.

iii. Scope of the study.

iv. Operational Definitions.

v. Research Design.

vi. Hypothesis.

vii. Variables of the study.

viii. Sampling Design.

ix. Description of the Tools of Research.

x. Collection of the Data

xi. Statistical Techniques Used in Analysis of the Data.

3.2 Statement of the Problem

"The problem taken up for the present investigation is as follows:

"A Study of Values of Secondary School Teachers in Relation to their Competence, Attitude towards Profession and Personality."
3.3 Scope of the Study

In the present investigation an attempt has been made to study factors like Sex, Age, Marital Status, Teaching experience, Area of the teaching, Educational qualifications, Type of Institution, Location of the School which may affect values of Secondary School Teachers of Belgaum district.

The Study is also finds out the relationship between:

(a) Values of Secondary School Teachers and the Teaching Competence.
(b) Values of Secondary School Teachers and the attitude towards profession.
(c) Values of Secondary School Teachers and the Personality of the teachers are the major areas of the study.

3.4 Operational Definitions

Although a number of definitions are put forth by different scholars, the researcher has selected only such of the definitions, which are operationally relevant to the present study.

Values:

1. According to Allport Vernon Lindze (1961) values are operationally defined as 'a belief upon which man acts by performances. It is thus a cognitive motor and above all a deeply properiate disposition.
Six types of values are considered for the present study. They are theoretical, economic, aesthetic, social, political, and religious values:

1) Theoretical value refers to the dominate interest in the discovery of truth and by an empirical, rational "intellectual" approach.

2) Economic values are emphasizing, useful and practical values characterized by a dominant in money matters.

3) Aesthetic values is placing the highest values in the form and harmony, showing an interest in and enjoying fine arts and Music, etc.

4) Social-Love of and service to people, consisting mainly of Altruism.

5) Political values are primary interested in personal power influence and renown.

6) Religious faith in God and interest in activities and rituals concerned with one's one Religion. (This description differs from that of Allport-Vernon's Religious values in the sense that more and more outward rituals have been emphasized which was felt necessary in keeping Indian conditions in mind).

(2) Teacher Competence

(a) Competence:

(i) "Competencies are characteristics that are casually related to effect and/or superior performance that is in a job". This means that
there is evidence that indicates that possession of the Characteristic Precedes and leads to effective and/or Superior performance in that Job (Boyatzis Richard; 1982).

(ii) "A competency is an underlying characteristic of a person, which enables them to deliver superior performance in a given job, role or situation": (Marshall, Patricia 1996).

(b) Teacher Competence:

"It refers to the set of knowledges, abilities and beliefs a teacher possesses and brings to the teaching situation. Teacher competence differs from teacher performance and teacher effectiveness in that it is a stable characteristic of the teacher that does not change appreciably when the teacher moves from situation to another. It resembles teacher as a basis from which teacher effectiveness can be inferred."

(Encyclopedia of Educational Research–pp.1834.)

(3) Teacher Attitude towards Profession

The quantitative expansion and qualitative improvement of Secondary education has raised problems of selection of right type of teachers and enriching programmes of teacher-preparation. This necessitates not only improving the knowledge and teaching competence of a teacher but also to
inculcate in him healthy professional attitudes and desirable teacher like qualities.

(a) Attitude

"Attitude is considered a predisposition to behaviour, a learned and more or less of generalized and affective tendency to respond in a rather persistent and characteristic manner usually positively or negatively (for or against) in reference to some situations, idea, value, material object or class of such objects or person or group of persons" (Young; 1851).

(b) Teacher attitude towards Profession

"The Teachers predisposition of behaviour, a learned and more or less generalized and affective tendency usually positively or negatively in reference to Teaching profession, classroom teaching, child centred practices, Educational process, pupils and Teachers." (Ahluwalia; 1978).

(4) Personality

(i) "The personality is the total psychological and social reactions of an individual; the synthesis of his subjective, emotional and mental life, his behaviours, and his reactions to the environment; the unique or individual
traits of a person are connoted to a lesser degree by personality than by the term Character." (Dictionary of Education; 1959).

(ii) "Personality is the dynamic organization within the individual of those psychological system that determine his unique adjustment with the environment" (Allport; 1960).

(iii) "Personality is the system of his or her constructs that are developed, elaborated, revised, discarded and replaced in the continuous interplay between the person and the environment" (Kelly; 1955).

(iv) "Personality is that which permits a prediction of what a person will do in a given situation." (Cattell; 1967).

**Locality:**

In the present investigation, two locations viz., Urban and rural are studied. 2001 Census defines the terms Urban and Rural as follows:

(a) **Urban**

The Urban locality constitutes an area where there is a Municipality or Corporation with a density of population of at least 400 per Square Kilometer. In addition to this, there should be a minimum population of 5,000 and at
least 75 percent of the male working population engaged in non-agricultural pursuits.

(b) Rural

A locality is considered as rural, which has definite surveyed boundaries with inadequate transport and communication facilities, which has no hospital, bank, government offices and recreational facilities.

Secondary Schools

Schools having classes from VIII to X are called Secondary Schools.

Type of Schools

"Type of School refers to the type of management of Schools". Schools managed by the Government of Karnataka are categorized under Government Schools, Schools managed by private managements are categorized as Private Schools and schools manage by private management alongwith Government Grants are categorized as private aided (Granted) Schools.

Teaching Experience

This refers to the length of service rendered in the school by the teacher from the date of his appointment is known as the total years of teaching experience.
Educational Qualification

This refers to the kind of education got from the formal educational institution along with the certificate. Here in this study, the teachers of Secondary schools will be having B.A./B.Sc., Degree along with Teaching professional Degree that is B.Ed.

3.5 Research Design

The present study was a Correlational study. It was meant for finding out the relationship between (a) values of Secondary school teachers and their teaching competence, (b) Values of Secondary school teachers and their attitude towards profession, (c) Values of Secondary school Teachers and their personality.

It was designed to examine the influence of some selected socio-psychological variables on values of Secondary school teachers.

In the present investigation the descriptive survey method was utilized to survey the Teacher population to gather data and information about their acquisition of values.
3.6 Hypotheses

Research hypothesis is a predictive statement, capable of being tested by scientific methods, that relates one independent variable to some dependent variable. A hypothesis states what we are looking for and it is a proposition which can be put to test to determine its validity. According to Websters New Dictionary, (1976) hypothesis is an unapproved or unverified assumption that can be accepted as probable in the light of established facts. In a research activity, a hypothesis is a tentative generalization, the validity of which remains to be tested. In simple words, hypothesis is an educational hunch or a guess or an expectation. That is a guess about a probable solution to a problem, and an expectation that is nearer to conclusion. To conclude, hypothesis leads to an empirical test, whatever the outcome, the hypothesis is a question put in such a way that an answer of some kind can be forthcoming.

Null Hypothesis

A tentative conclusion logically drawn concerning any parameter of the population is a statistical hypothesis. A commonly used method of stating hypothesis in research, is known as the 'null hypothesis', often symbolized as “Ho”. Therefore, a statistical hypothesis which is stated for the purpose of possible acceptance is called “null hypothesis”. This way of phrasing
hypothesis postulates that there is no relationship between the variables under analysis.

The null hypothesis is, generally, in the form of equality of means or no difference in the means for the different treatment groups. The term ‘no difference’ means that the differences, if any, is merely due to sampling fluctuation or that minor differences can occur due to chance variation and thus are not real differences. The purpose of stating a null hypothesis is to have a hypothesis that can be tested. A tested hypothesis is often called a "null hypothesis" (Guilford, 1965).

On the basis of a statistical test, if it is found, that there is a significant mean difference, the null hypothesis is rejected. If, on the other hand, it is found that whatever mean difference exists may occur frequently because of mere chance the null hypothesis is accepted.

Any hypothesis other than the null hypothesis is called an ‘alternative hypothesis’ and is denoted by "HA".

Based upon the variables discussed, the researcher formulated fifty-nine null hypotheses for verification.
1. **Hypothesis:** There is no significant difference between male and female teachers of Secondary schools with respect to their total values and its dimensions

1. Theoretical values
2. Economic values
3. Aesthetic values
4. Social values
5. Political values
6. Religious values

2. **Hypothesis:** There is no significant difference between male and female teachers of Secondary schools with respect to their teaching competence and its dimensions that is

- Planning
- Presentation
- Closing
- Evaluation

3. **Hypothesis:** There is no significant difference between male and female teachers of Secondary schools with respect to their attitudes and its dimensions that is

   i. Attitude towards profession

   ii. Attitude towards classroom teaching
iii. Attitude towards child centered practices
iv. Attitude towards educational process
v. Attitude towards pupils
vi. Attitude towards teachers

4. **Hypothesis**: There is no significant difference between male and female teachers of Secondary schools with respect to their personality and its dimensions that is A, B, C, E, F, G, H, I, L, M, N, O, Q1 Q2, Q3 and Q4.

5. **Hypothesis**: There is no significant difference between married and unmarried teachers of Secondary schools with respect to their total values and its dimensions

1. Theoretical values
2. Economic values
3. Aesthetic values
4. Social values
5. Political values
6. Religious values

6. **Hypothesis**: There is no significant difference between married and unmarried teachers of Secondary schools with respect to their teaching competence and its dimensions that is

   - Planning
   - Presentation
7. **Hypothesis**: There is no significant difference between married and unmarried teachers of Secondary schools with respect to their attitudes and its dimensions that is

1. Attitude towards profession
2. Attitude towards classroom teaching
3. Attitude towards child centered practices
4. Attitude towards educational process
5. Attitude towards pupils
6. Attitude towards teachers

8. **Hypothesis**: There is no significant difference between married and unmarried teachers of Secondary schools with respect to their personality and its dimensions that is A, B, C, E, F, G, H, I, L, M, N, O, Q1 Q2, Q3 and Q4.

9. **Hypothesis**: There is no significant difference between age groups (25-34 years, 35-45 years and 46-58 years) of teachers of Secondary schools with respect to their total values and its dimensions

1. Theoretical values
2. Economic values
3. Aesthetic values
4. Social values
5. Political values
6. Religious values

10. **Hypothesis**: There is no significant difference between age groups (25-34 years, 35-45 years and 46-58 years) of teachers of Secondary schools with respect to teaching competence and its dimensions that is
   - Planning
   - Presentation
   - Closing
   - Evaluation

11. **Hypothesis**: There is no significant difference between age groups (25-34 years, 35-45 years and 46-58 years) of teachers of Secondary schools with respect to attitudes and its dimensions that is
   i. Attitude towards profession
   ii. Attitude towards classroom teaching
   iii. Attitude towards child centered practices
   iv. Attitude towards educational process
   v. Attitude towards pupils
   vi. Attitude towards teachers

12. **Hypothesis**: There is no significant difference between age groups (25-34 years, 35-45 years and 46-58 years) of teachers of Secondary schools with respect to personality scores and its dimensions that is
13. **Hypothesis**: There is no significant difference between science and arts subject teaching teachers of Secondary schools with respect to their total values and its dimensions

   1. Theoretical values
   2. Economic values
   3. Aesthetic values
   4. Social values
   5. Political values
   6. Religious values

14. **Hypothesis**: There is no significant difference between science and arts subject teaching teachers of Secondary schools with respect to their teaching competence and its dimensions that is

   ➢ Planning
   ➢ Presentation
   ➢ Closing
   ➢ Evaluation

15. **Hypothesis**: There is no significant difference between science and arts subject teaching teachers of Secondary schools with respect to their attitudes and its dimensions that is

   1. Attitude towards profession
   2. Attitude towards classroom teaching
3. Attitude towards child centered practices
4. Attitude towards educational process
5. Attitude towards pupils
6. Attitude towards teachers

16. **Hypothesis:** There is no significant difference between science and arts subject teaching teachers of Secondary schools with respect to their personality and its dimensions that is A, B, C, E, F, G, H, I, L, M, N, O, Q1 Q2, Q3 and Q4.

17. **Hypothesis:** There is no significant difference between teachers with undergraduate and postgraduate degree of Secondary schools with respect to their total values and its dimensions
   1. Theoretical values
   2. Economic values
   3. Aesthetic values
   4. Social values
   5. Political values
   6. Religious values

18. **Hypothesis:** There is no significant difference between teachers with undergraduate and postgraduate degree of Secondary schools with respect to their teaching competence and its dimensions that is
   - Planning
19. **Hypothesis:** There is no significant difference between teachers with undergraduate and postgraduate degree of Secondary schools with respect to their attitudes and its dimensions that is

1. Attitude towards profession
2. Attitude towards classroom teaching
3. Attitude towards child centered practices
4. Attitude towards educational process
5. Attitude towards pupils
6. Attitude towards teachers

20. **Hypothesis:** There is no significant difference between teachers with undergraduate and postgraduate degree of Secondary schools with respect to their personality and its dimensions that is A, B, C, E, F, G, H, I, L, M, N, O, Q1 Q2, Q3 and Q4.

21. **Hypothesis:** There is no significant difference between teaching experiences (0-10 years, 11-20 years, 21-31 years) of teachers of Secondary schools with respect to their total values and its dimensions

1. Theoretical values
2. Economic values
3. Aesthetic values
4. Social values
5. Political values
6. Religious values

22. **Hypothesis:** There is no significant difference between teaching experiences (0-10 years, 11-20 years, 21-31 years) of teachers of Secondary schools with respect to teaching competence and its dimensions that is
   - Planning
   - Presentation
   - Closing
   - Evaluation

23. **Hypothesis:** There is no significant difference between teaching experiences (0-10 years, 11-20 years, 21-31 years) of teachers of Secondary schools with respect to teaching competence and its dimensions that is
   - Planning
   - Presentation
   - Closing
   - Evaluation

24. **Hypothesis:** There is no significant difference between teaching experiences (0-10 years, 11-20 years, 21-31 years) of teachers of Secondary
schools with respect to personality scores and its dimensions that is A, B, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3 and Q4.

25. **Hypothesis:** There is no significant difference between type of management (private aided, private unaided and government) of teachers of Secondary schools with respect to their total values and its dimensions

1. Theoretical values
2. Economic values
3. Aesthetic values
4. Social values
5. Political values
6. Religious values

26. **Hypothesis:** There is no significant difference between type of management (private aided, private unaided and government) of teachers of Secondary schools with respect to teaching competence and its dimensions

   ➢ Planning
   ➢ Presentation
   ➢ Closing
   ➢ Evaluation

27. **Hypothesis:** There is no significant difference between type of management (private aided, private unaided and government) of teachers of Secondary schools with respect to attitudes and its dimensions
1. Attitude towards profession

2. Attitude towards classroom teaching

3. Attitude towards child centered practices

4. Attitude towards educational process

5. Attitude towards pupils

6. Attitude towards teachers

28. **Hypothesis:** There is no significant difference between type of management (private aided, private unaided and government) of teachers of Secondary schools with respect to personality and its dimensions that is A, B, C, E, F, G, H, I, L, M, N, O, Q1 Q2, Q3 and Q4.

29. **Hypothesis:** There is no significant difference between urban and rural Secondary school teachers with respect to their total values and its dimensions

   1. Theoretical values
   2. Economic values
   3. Aesthetic values
   4. Social values
   5. Political values
   6. Religious values
30. **Hypothesis:** There is no significant difference between urban and rural Secondary school teachers with respect to teaching competence and its dimensions

- Planning
- Presentation
- Closing
- Evaluation

31. **Hypothesis:** There is no significant difference between urban and rural Secondary school teachers with respect to attitudes and its dimensions

1. Attitude towards profession
2. Attitude towards classroom teaching
3. Attitude towards child centered practices
4. Attitude towards educational process
5. Attitude towards pupils
6. Attitude towards teachers

32. **Hypothesis:** There is no significant difference between urban and rural Secondary school teachers with respect to personality and its dimensions that is A, B, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3 and Q4.

33. **Hypothesis:** There is no significant difference between high and low teaching competence of Secondary school teachers with respect to their total values and its dimensions
1. Theoretical values
2. Economic values
3. Aesthetic values
4. Social values
5. Political values
6. Religious values

34. Hypothesis: There is no significant difference between high and low attitudes of Secondary school teachers with respect to their total values and its dimensions
   1. Theoretical values
   2. Economic values
   3. Aesthetic values
   4. Social values
   5. Political values
   6. Religious values

35. Hypothesis: There is no significant difference between high and low personality of Secondary school teachers with respect to their total values and its dimensions
   1. Theoretical values
   2. Economic values
   3. Aesthetic values
4. Social values
5. Political values
6. Religious values

36. **Hypothesis:** There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and teaching competence and its dimensions (Planning, Presentation, Closing, Evaluation and Management) of Secondary school teachers.

37. **Hypothesis:** There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and attitude and its dimensions (Attitude towards profession, Attitude towards classroom teaching, Attitude towards child centered practices, Attitude towards educational process, Attitude towards pupils and Attitude towards teachers) of Secondary school teachers.

38. **Hypothesis:** There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and personality and its factors (A, B, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3 and Q4) of Secondary school teachers.
39. **Hypothesis**: There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and teaching competence and its dimensions (Planning, Presentation, Closing, Evaluation and Management) of Secondary school female teachers.

40. **Hypothesis**: There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and attitude and its dimensions (Attitude towards profession, Attitude towards classroom teaching, Attitude towards child centered practices, Attitude towards educational process, Attitude towards pupils and Attitude towards teachers) of Secondary school female teachers.

41. **Hypothesis**: There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and personality and its factors (A, B, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3 and Q4) of Secondary school female teachers.

42. **Hypothesis**: There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and teaching competence
and its dimensions (Planning, Presentation, Closing, Evaluation and Management) of Secondary school male teachers.

43. **Hypothesis**: There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and attitude and its dimensions (Attitude towards profession, Attitude towards classroom teaching, Attitude towards child centered practices, Attitude towards educational process, Attitude towards pupils and Attitude towards teachers) of Secondary school male teachers.

44. **Hypothesis**: There is no significant relationship between total values and its dimensions (Theoretical values, Economic values, Aesthetic values, Social values, Political values and Religious values) and personality and its factors (A, B, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3 and Q4) of Secondary school male teachers.

45. **Hypothesis**: Sex, marital status, age, teaching subjects, educational qualification, teaching experience, type of managements and location would not be significant predictors of total values of Secondary school teachers.

46. **Hypothesis**: Teaching competence, Attitude of teachers and Personality would not be significant predictors of total values of Secondary school teachers.
47. **Hypothesis:** Teaching competence, Attitude of teachers and Personality would not be significant predictors of dimension of total values that is theoretical values of Secondary school teachers.

48. **Hypothesis:** Teaching competence, Attitude of teachers and Personality would not be significant predictors of dimension of total values that is economic values of Secondary school teachers.

49. **Hypothesis:** Teaching competence, Attitude of teachers and Personality would not be significant predictors of dimension of total values that is aesthetic values of Secondary school teachers.

50. **Hypothesis:** Teaching competence, Attitude of teachers and Personality would not be significant predictors of dimension of total values that is social values of Secondary school teachers.

51. **Hypothesis:** Teaching competence, Attitude of teachers and Personality would not be significant predictors of dimension of total values that is political values of Secondary school teachers.

52. **Hypothesis:** Teaching competence, Attitude of teachers and Personality would not be significant predictors of dimension of total values that is Religious values of Secondary school teachers.

53. **Hypothesis:** There is no significant direct and indirect effect of teaching competence, attitude of teachers and personality of Secondary school teachers on their total values.
54. **Hypothesis:** There is no significant direct and indirect effect of teaching competence, attitude of teachers and personality of Secondary school teachers on dimension of total values that is theoretical values.

55. **Hypothesis:** There is no significant direct and indirect effect of teaching competence, attitude of teachers and personality of Secondary school teachers on dimension of total values that is economic values.

56. **Hypothesis:** There is no significant direct and indirect effect of teaching competence, attitude of teachers and personality of Secondary school teachers on dimension of total values that is aesthetic values.

57. **Hypothesis:** There is no significant direct and indirect effect of teaching competence, attitude of teachers and personality of Secondary school teachers on dimension of total values that is social values.

58. **Hypothesis:** There is no significant direct and indirect effect of teaching competence, attitude of teachers and personality of Secondary school teachers on dimension of total values that is political values.

59. **Hypothesis:** There is no significant direct and indirect effect of teaching competence, attitude of teachers and personality of Secondary school teachers on dimension of total values that is Religious values.
3.7 Variables of the Study

(a) Independent variables of the study are as follows:

(i) Teacher competence
(ii) Teacher Attitude towards profession
(iii) Teacher personality
(iv) Teaching experience of the Teacher
(v) Education Qualification of the Teacher
(vi) Location of the School
(vii) Type of Institution where teacher working

(b) Dependent variables of the study is:

(i) Values of the Secondary School Teachers.

3.8 Sampling Design

3.8.1 Population of the Study

The population of this study consists of all the teachers who were working in the Secondary Schools of Belgaum District of Karnataka State. The population, being very large in number and vastly distributed in space, it was very difficult to contact it within the limited resources of the investigator. Moreover, it seemed not necessary to carry on the study with the whole
population, when only a small but representative sample could furnish the results.

3.8.2 Sampling Procedure

The authenticity of results obtained depends upon the true representativeness of the sample selected. A sample is a small portion of a population selected for analysis. It should be representative of the population. Therefore, samples are selected deliberately so that the influence of chance or probability can be estimated.

The efficiency of the investigation depends largely on the proper selection of the sample on which the test is to be administered. The investigator used the stratified random sampling method for drawing the sample. This is the technique designed to ensure representative sample to avoid bias by the use of random selection within each sub group.

3.8.2.1 Selection of Schools and Teachers for Study

In order to study the values of Secondary School Teachers, the investigator selected three type of managements of the Schools in Belgaum District-Government, Private aided (Granted) and Private Management Schools. In Belgaum Sub Division out of 292 Secondary Schools, Only 26 are government managed schools, 162 are private aided (Granted) schools and
104 are private unaided (ungranted) schools are there and in case of Chikkodi Sub Division out of 260 high schools, only 37 schools belongs to Government Management, 111 are Private aided (Grated) and 112 are Private Unaided (Ungranted) schools are there. The total schools in Belgaum Districts are 552.

**Table-3.1: Showing Total Number of Government, Private Aided and Private (Unaided) Schools in Belgaum District**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Belgaum District. Divisions</th>
<th>No. of Govt. Schools.</th>
<th>No. of Private Aided Schools.</th>
<th>No. of Private Un-aided Schools.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chikkodi.</td>
<td>37</td>
<td>111</td>
<td>112</td>
<td>260</td>
</tr>
<tr>
<td>2.</td>
<td>Belgaum.</td>
<td>26</td>
<td>162</td>
<td>104</td>
<td>292</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>---</strong></td>
<td><strong>63</strong></td>
<td><strong>273</strong></td>
<td><strong>216</strong></td>
<td><strong>552</strong></td>
</tr>
</tbody>
</table>

The above mentioned number of schools represents the population of the study. The researcher selected the schools for the study by applying the methods of proportionate random sampling technique. The below tables gives the clear idea of the selection of sample (schools) for the study.
Table 3.2: Showing the Total Number of Samples (Schools) Selected for the Study

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type of Schools</th>
<th>Edn Ranges of the Sub Division.</th>
<th>Govt High Schools</th>
<th>Private Aided High Schools</th>
<th>Private Unaided High Schools</th>
<th>Rangewise Total Sample (Schools)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chikkodi</td>
<td>Hukkeri</td>
<td>02</td>
<td>03</td>
<td>02</td>
<td>07</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chikkodi</td>
<td>03</td>
<td>02</td>
<td>03</td>
<td>08</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nippani</td>
<td>--</td>
<td>04</td>
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<td>01</td>
<td>02</td>
<td>02</td>
<td>05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kagawad</td>
<td>--</td>
<td>07</td>
<td>02</td>
<td>17</td>
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<tr>
<td></td>
<td></td>
<td>Raibag</td>
<td>01</td>
<td>02</td>
<td>02</td>
<td>05</td>
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<tr>
<td></td>
<td></td>
<td>Gokak</td>
<td>--</td>
<td>01</td>
<td>02</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mudalagi.</td>
<td>--</td>
<td>01</td>
<td>01</td>
<td>02</td>
</tr>
<tr>
<td>2</td>
<td>Belgaum</td>
<td>Savadatti</td>
<td>01</td>
<td>02</td>
<td>02</td>
<td>05</td>
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<tr>
<td></td>
<td></td>
<td>Bailhongal</td>
<td>01</td>
<td>03</td>
<td>02</td>
<td>06</td>
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<td></td>
<td>Ramdurga</td>
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<td>02</td>
<td>01</td>
<td>04</td>
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<td></td>
<td>Khanapur</td>
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<td>07</td>
<td>04</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Belgaum(Tal)</td>
<td>01</td>
<td>06</td>
<td>05</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Belgaum(City)</td>
<td>01</td>
<td>06</td>
<td>03</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL:</td>
<td></td>
<td></td>
<td>14</td>
<td>40</td>
<td>29</td>
<td>83</td>
</tr>
</tbody>
</table>

The Schools were selected for the study in the proportion of 4:7:7 (government, private aided, private unaided) by giving equal preferences to the different areas of the Sub-division of Chikkodi and Belgaum of Belgaum District. From Chikkodi Sub-Division out of 39. Government Schools-7, Private aided-17, Private unaided-15 and out of 44 schools of Belgaum Sub-division, Government Schools-7, Private Aided-23, and Private Unaided-14 schools were selected for the study.
3.8.2.2 Selection of Sample of Teachers from Different Secondary Schools for the Study

The sample of teachers from the Secondary Schools of Belgaum District have been selected by adopting stratified Random Sampling Technique. The proportion is maintained in respect of Rural-Urban, Chikkodi and Belgaum sub-divisions, Government, aided and Unaided schools, Ranges/Areas of Chikkodi and Belgaum Sub-Divisions, Male and Female Teachers, while selecting the sample (Teachers) for the study from the Belgaum District.

The following separate tables (Belgaum and Chikkodi) of Sub-Division sjws proportion of selected sample.

Table-3.3: Composition of Total Sample of Teachers: (Belgaum Sub-Division) (A)

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Areas</th>
<th>Aided Schools</th>
<th>Unaided Schools</th>
<th>Government Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Samples</td>
<td>No of Schools</td>
<td>Male Trs</td>
<td>Female Trs</td>
</tr>
<tr>
<td>1</td>
<td>Savadatti</td>
<td>02</td>
<td>10</td>
<td>05</td>
</tr>
<tr>
<td>2</td>
<td>Bailhongal</td>
<td>03</td>
<td>11</td>
<td>08</td>
</tr>
<tr>
<td>3</td>
<td>Ramdurga</td>
<td>02</td>
<td>08</td>
<td>05</td>
</tr>
<tr>
<td>4</td>
<td>Khanapur</td>
<td>04</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Belgaum (Tal)</td>
<td>06</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>Belgaum (city)</td>
<td>06</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>23</td>
<td>69</td>
<td>58</td>
</tr>
</tbody>
</table>
(A) The Composition of Sample of Teachers for Belgaum Sub Division

Under 'Belgaum Sub-division of Belgaum District shows that the 245 Teachers were selected from the 44 schools of Belgaum Sub-Division at rate of or average 06 number of Teachers from each school. Out of 245 Teachers, the 39 (Male-21 and Female-18) Teachers from Government High Schools, the 127 Teachers (Male-69+Female-58) from the Private Aided Schools and the 79 Teachers (Male-44 and Female-35) from Un-aided schools of Savadatti, Bailhongal, Ramadurg, Khanapur, Belgaum (Tal) and Belgaum (City) areas of Belgaum Sub-Division were selected for the study from Belgaum District.

Table-3.4: Composition of Total Sample of Teachers (Chikodi Sub-Division) (B)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Areas</th>
<th>Aided Schools</th>
<th>Unaided Schools</th>
<th>Government Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hukkeri</td>
<td>3</td>
<td>7+</td>
<td>8+</td>
</tr>
<tr>
<td>2</td>
<td>Chikkodi</td>
<td>2</td>
<td>10</td>
<td>7+</td>
</tr>
<tr>
<td>3</td>
<td>Nippani</td>
<td>4</td>
<td>14</td>
<td>10=</td>
</tr>
<tr>
<td>4</td>
<td>Athani</td>
<td>2</td>
<td>8+</td>
<td>5+</td>
</tr>
<tr>
<td>5</td>
<td>Yagwad</td>
<td>2</td>
<td>7+</td>
<td>5+</td>
</tr>
<tr>
<td>6</td>
<td>Raitag</td>
<td>2</td>
<td>5+</td>
<td>5+</td>
</tr>
<tr>
<td>7</td>
<td>Gokak</td>
<td>1</td>
<td>05+</td>
<td>03+</td>
</tr>
<tr>
<td>8</td>
<td>Mudalgi</td>
<td>1</td>
<td>03+</td>
<td>02+</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>17</td>
<td>59</td>
<td>45</td>
</tr>
</tbody>
</table>
The Composition of sample of Teachers for Chikodi Sub-Division

Under Chikkodi Sub-division of Belgaum district shows that the 220 teachers were selected from the 39 schools of Chikodi sub-division at the rate of one or average 06 Teachers from each school. (Average enhance where more divisions found) out of 220 Teachers, the 34 (Male-18 and Female-16) Teacher from Government High Schools, the 104 Teachers (Male-59 and Female-45) from Private Aided Schools and 82 Teachers (Male-43 and Female-39) from the Private unaided schools of Hukkeri, Chikkodi, Nippani, Athani, Kagwad, Raibag, Gokak and Mudaigi areas of Chikkodi sub-division were selected for the study from the Belgaum District.

3.9 Description of the Research Tools

Teacher Values Inventory (TVI) Scale Constructed and standardized by Singh and Ahluwalia (1994). The Baroda General Teaching Competence Scale (BGTC) constructed and standardized by Lalita (1975). The Teacher Attitude Inventory (TAI) Scale constructed and standardized by Ahluwalia (1978). The sixteen personality Factor Questionnaire (16 PF) Scale constructed and standardized by Cattell. 1987) are briefly described.

The present study attempted to study the values of Secondary School Teachers of Belgaum District in relation to their competence, attitude towards
profession and personality. The "Values of Secondary School Teacher" was considered as a dependent variable while sex, teaching experience, subject teaching, educational qualifications, location of the school, type of institution, affecting the dependent variable in the study. To collect the data pertaining to the dependent and independent variables the following tools were employed:

1) Teacher values Inventory (TVI) scale by Singh and Ahluwalia (1994).
2) The Baroda General Teaching Competence Scale (BGTC) by Lalita. (1975).
3) The Teacher Attitude Inventory (TAI) Scale by Ahluwalia (1978).

3.10 Descriptions of Tools Used in Research

1. Teacher Values Inventory (TVI)

Values lie at the core of life and human action. These have been considered important and fundamental dimensions of an individual. Values may be regarded as importance ratings which people attach to things, conditions and circumstances. They may also be regarded as goal objects to
which people orient their thinking, actions and feelings. As such they become important organizing themes in the behaviour of individuals.

A number of attempts have been made at the measurement of values, the first and so far the most prominent among these being the Allport-Vernon Study of Values first constructed in 1931 and in its third edition and known as the Allport-Vernon-Lindzey Study of Values. The authors proclaim it to a scale for measuring the dominant interests in personality. Originally standardized on student samples, the Study of Values although provides norms for various occupational groups "has not been much used with men and women actually engaged in occupations even in more recent years." (Super, 1965).

In Indian, Raychowdhry (1958) adapted the original Study of Values in English to be used in Indian conditions. A couple of Hindi versions were prepared later on (Ohja, 1971; Kulsirestha, 1971).

The present Teacher Values Inventory has been originally constructed for teachers specially and standardized on teachers working in schools. It has been based on the six values, the theoretical, economic, aesthetic social, political and religious. The classification is based directly upon Edward Spranger's "Types of Man." (1928).
The values categories may be described briefly as follows:

1. Theoretical—characterized by a dominant interest in the discovery of truth and by an empirical, critical, rational, "intellectual" approach.

2. Economic—empowering useful and practical values, characterized by a dominant in money matters.

3. Aesthetic—Placing the highest values on form and harmony, sowing an interest in enjoying fine arts and music, etc.

4. Social—love of and service to people, consisting mainly of altruism and philanthropy.

5. Political—primarily interested in personal power, influence and renown.

6. Religious—faith in God and interest in activities and rituals concerned with one’s own religion. (This description differs from that of Allport-Vernon’s Religious value in the sense that more outward rituals have been emphasized which was felt necessary keeping Indian conditions in mind.

Description of the Inventory

The inventory, in the form of a re-usable booklet consists of 25 questions each followed by six plausible answers (one answer corresponding
It is a forced choice type of instrument. The respondents are required to arrange all the six alternatives in order of his preference. The reason for adopting this format was to ensure that all values could be tested under similar conditions. Care was however taken that each alliterative answer be made equally plausible and attractive.

**Instructions for Administering**

1. The Teacher values Inventory is self-administering. The inventory can be administered individually as well as in group. Detailed directions for filing in the answers to the inventory have been provided in the TVI booklet. It has been found that teachers can fill in responses themselves after reading the directions. However, it is desirable that following few instructions be given.

   (a) Make it clear that the answers are written in the answer-sheet only in which numbers corresponding to the question numbers have been provided. Nothing is to be written in the TVI booklet by the respondents and no marks are to be made.

   (b) It should be pointed out clearly that the first preference has to be marked as ‘T’ and the last preference as ‘6’.
2. There is no time-limit, but it generally requires 25-30 minutes to answer the questions in the inventory. The testees are not to be stopped before they finish but they should be encouraged to work as quickly as they can.

3. Asking of too many questions should be discouraged. It is sufficient to tell them about the purpose of the test that it intends to find out what teachers do or would like to do in various situations. More explanations can be given after the test has been taken.

4. Make sure that the respondents answer all the questions in the inventory.

Instructions for Scoring

Six scoring keys have been provided for the inventory, one for each of the values.

**Step 1.** Place key "T" on the answer-sheet. To check that the key is placed properly, count the number of digits in any one of the five big boxes of squares. It should show 5 digits only.

**Step 2.** Count all the 1's and multiply the number by '6'. Count all the 2's and multiply the number by '5', count all the 3's and multiply the number by '4', count all the 5's and multiply the number by '2' and finally count all 6's and multiply the number by '1'.
Step 3. Add up all the numbers and write the total in the box “T” against raw scores (RS) provided at the bottom of the answer-sheet.

Step 4. Follow the same procedure for the rest of the keys.

Step 5. To verify, Check up the grand total of all the scores which should be 525.

Interpretation of Scores

Mean, S.D. and Normalized Standard Scores have been provided for different categories of teachers. A subject score can be interpreted in the light of norms of the group to which he/she belongs.

Reliability

Split-Half Reliability-The questions were divided into two sub-scale whereas the odd-numbered questions formed the other. As the total number of questions in the TVI is 25, question No.25 was included in both the sub-scales to keep the number of questions equal that is 13 in the two sub-scales. For a sample group of 100 cases the product-moment correlations. (Interpreted by means of the S-B Formula) are shown in Table 1.
Table-3.5: Reliability Coefficients of the TVI

<table>
<thead>
<tr>
<th>Values</th>
<th>Coefficient of correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical</td>
<td>.74</td>
</tr>
<tr>
<td>Economic</td>
<td>.81</td>
</tr>
<tr>
<td>Aesthetic</td>
<td>.87</td>
</tr>
<tr>
<td>Social</td>
<td>.79</td>
</tr>
<tr>
<td>Political</td>
<td>.77</td>
</tr>
<tr>
<td>Religious</td>
<td>.87</td>
</tr>
</tbody>
</table>

The mean reliability coefficient, using a Z transformation, is 8.1.

Validity

The final form of the Inventory was validated against Kulshrestha’s Hindi Version of the study of values. The following coefficients of correlation were found for the six values: Theoretical = .48, Economic = .55, Aesthetic = .61, Social = .47, Political = .59, and Religious = .36 (all significant at .01 level of confidence).

Norms

The Inventory provides norms based on sex, age and subjects taught by the teachers. These are resented in the following table.
Table-3.6: Norms of TVI for Male Teachers

\[ N = 234 \]

<table>
<thead>
<tr>
<th>Raw Scores</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
<th>Raw Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>95.29</td>
<td>80.57</td>
<td>78.36</td>
<td>104.2</td>
<td>80.84</td>
<td>86.02</td>
<td></td>
</tr>
<tr>
<td>S.D.</td>
<td>16.52</td>
<td>19.40</td>
<td>19.50</td>
<td>16.85</td>
<td>16.80</td>
<td>23.20</td>
<td></td>
</tr>
<tr>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>25</td>
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</tr>
</tbody>
</table>
Table 3.7: Norms of TVI for Female Teachers

<table>
<thead>
<tr>
<th>Raw Scores</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
<th>Raw Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=270</td>
<td>91-52</td>
<td>77-68</td>
<td>88-09</td>
<td>106.72</td>
<td>74.72</td>
<td>86.29</td>
<td>150</td>
</tr>
<tr>
<td>S.D. 15.55</td>
<td>15.90</td>
<td>16.85</td>
<td>14.75</td>
<td>13.40</td>
<td>19.70</td>
<td>19.70</td>
<td>150</td>
</tr>
</tbody>
</table>

| Raw Scores | 150 | 145 | 140 | 135 | 130 | 125 | 120 | 115 | 110 | 105 | 100 | 95  | 90  | 85  | 80  | 75  | 70  | 65  | 60  | 55  | 50  | 45  | 40  | 35  | 30  | 25  |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|            | -   | -   | -   | 76.5| -   | -   | -   | 81  | -   | 75  | -   | 73  | 100 | 54  | 57  | 51  | 50  | 45  | 40  | 5   | 35  | 30  | 25  | 153 |

153
Table -3.8: Norms of TVI for Teachers of Age Group 35 Years and Less

<table>
<thead>
<tr>
<th>Raw Scores Mean</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
<th>Raw Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-342</td>
<td>93.55 16-15</td>
<td>84.49 16.55</td>
<td>84.69 17.85</td>
<td>104.55 15.25</td>
<td>78.18 14.95</td>
<td>83-79 19.95</td>
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</tr>
<tr>
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<td>47</td>
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<td>70</td>
<td>34</td>
<td>43</td>
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<td>-</td>
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<td>25</td>
<td></td>
</tr>
</tbody>
</table>

2. Teaching Competence Scale

Teaching Skills

As already mentioned, this idea of viewing teaching as a group of skills was first taken up in the teacher training programme at the Stanford
A teaching skill has been defined differently by different exponents. All those definitions specify that a teaching skill is a group of teaching acts/behaviours intended to facilitate pupils' learning directly or indirectly.

There are many approaches for identifying teaching skills. Firstly, it can be done by observing a number of teachers in varieties of classroom situation. As a result of this approach, many observation procedures have been evolved to analyze classroom intention-verbal and nonverbal (Simon and Boyer, 1967-69) and attempts have been made to develop a taxonomy of teaching behaviours (Patel et al. 1968). Certain teaching skills may be identified by analyzing them. Even the situations in which these are used may also be found out. Secondly, it can be done by analyzing the teaching task through interviews and discussions with the teacher. The first approach would supplement this. Thirdly, it can be done by analyzing the school curriculum and objectives and thinking what teaching acts would help in achieving them. This judgement is done based on experience, research findings, and conceptualizing a model of good teaching based on opinions of teachers, pupils, headmasters, etc. Attempts of this nature have not given fruitful results on account of subjectivity and lack of consensus regarding role expectations.
Attempts have been made to list teaching skills following one approach or the other and further to develop them among student teachers. (Fourteen teaching skills have been listed at the Stanford University (Allen and Ryan, 1969). They are given here:

1. Stimulus variation.
2. Set induction.
3. Closure
4. Teacher silence and non-verbal cues.
5. Reinforcing pupil participation.
6. Fluency in questioning.
7. Probing questions.
8. Use of higher order questions.
9. Divergent questions.
11. Illustrating and use of examples.
12. Lecturing.
13. Planned repetition.

The following are the eighteen teaching skills, listed at the Far West Laboratory, California (Borg et al., 1970).
1. Establishing set.
2. Establishing appropriate frames of reference.
3. Achieving closure.
4. Recognizing and obtaining attending behaviour.
5. Providing feedback.
7. Control of participation.
8. Redundancy and repetition.
9. Illustrating and use of examples.
10. Asking questions.
11. Use of higher order questions.
12. Use of probing questions.
13. Teacher silence and nonverbal cues.
14. Student initiated questions.
15. Completeness of communication.
16. Varying the stimulus situation.
17. Lecturing.
18. Pre-cueing

The Stanford model of teaching skills has been criticized for the rationale underlying it. The only information related to the issue is given by Allen and Ryan (1969). According to them, "The decisions as to what skills
should be developed in the clinic were not made in the light of any set rules about what good teaching consists of or what teachers need to know, but resulted from the discussions and debates of the microteaching staff. In the last analysis, the skills that were chosen as the clinic’s objectives were those that we felt would be of most use to beginners and that we felt could be effectively trained for in the clinic."

This does not overrule the importance of component-skills approach to training. Many advantages of this approach have already been discussed. Rosenshine and Furst (1972) have pointed out in their review of studies on teacher effectiveness, the emphasis is analysis and on specific and denotable teacher behaviours is wholly admirable, but the selection of the specific behaviours to be taught is still based on private criteria.

The attempts have been made at the Centre of Advanced Study in Education (CASEO, Baroda. Lalita (1975) has listed various skills required for a Secondary teacher in a school, by interviewing headmasters of several high schools and listing out various tasks that a teacher does in a school. Under the task of teaching, various skills have been thought of by going through the literature and through discussions. They have been classified under three headings: pre-instructional skills, instructional skills, and post-instructional skills. A few examples for pre-instructional skills are: (i) Skill of writing
instructional objectives; (ii) skill of sequencing and organizing knowledge to be presented in order to achieve specified objective; (iii) skill of locating situations where the learning of the unit find applications; and (iv) of skill of planning for differential assignment. A few examples for instructional skills are: (i) skill of introducing a lesson; (ii) skill of obtaining feedback from pupils' (iii) skill of diagnosing pupil difficulties in understanding a concept during teaching; (iv) skill of increasing pupil participation; and (v) skill of reacting to pupil response and initiation. A few examples for post-instructional skills are: (i) skill of writing preparing variety of test items in order to test the objectives listed; (ii) skill in making plausible interpretations about each pupil's performance on a test; and (iii) skill of planning remedial measures for the designated difficulty. There are other skills involved to the maintenance of classroom school discipline which indirectly affect pupils' learning in the classroom. A few examples may be given: (i) skill of maintaining classroom discipline; and (ii) skill of interpreting pupils' behaviours in the light of their social, economic and psychological backgrounds.

Thus, the analytical approach to teacher training has led to the emergence of various lists of teaching skills.
General Teaching Competence

Based mostly on the lists of teaching skills developed at the Stanford University and the Far West Laboratory and the list of teaching skills developed at the CASE (Lalita, 1975), twenty-one skills which are essential for general teaching competence were conceptualized.

The Baroda General Teaching Competence Scale (BOTC Scale) has been developed and measuring criteria for each of the skills included in it has been provided. For thirteen of these skills, instructional materials in the form of teachers’ handbooks have been developed. The BGTC Scale and the glossary of the key terms are given below for better understanding of each of these skills.

CENTRE FOR ADVANCED STUDY IN EDUCATION, FACULTY OF EDUCATION AND PSYCHOLOGY, THE M.S. UNIVERSITY OF BARODA, BARODA.

BARODA GENERAL TEACHING COMPETENCE SCALE.

Procedure of Scoring (BGTCS)

The respondent (Secondary school teachers) responding to the items of teaching competence scale from not at all to very much under six points scale that is 0, 1, 2, 3, 4, 5 and 6. The scale has five stages i.e, planning (pre-instruction), 4 items, presentation (instructional), 11 items, closing, 2
items. Evaluation – 2 items and managerial-2 items. The responses in the scale is to be marked by the researcher (observer) based on the observations of the teaching of a teacher. The marking of the observation is to be calculated stagewise and mentioned under each stage head of the scale. At the end of marked observation results are to be taken for statistical analysis.

3. **Teacher Attitude Inventory**

The quantitative expansion and qualitative improvement of Secondary education has raised problems of selection of right type of teacher and enriching programmes of teacher-preparation. This necessitates not only improving the knowledge and teaching competence of a teacher but also to inculcate in him healthy professional attitudes and desirable teacher-like qualities.

For the professional preparation of teachers the study of attitudes held by them is very important. How a teacher performs his duty as a teacher is dependent, to a great extent, on his attitudes, values, and beliefs. A positive favourable attitude makes the work not only easier but also more satisfying and professionally rewarding. A negative and unfavourable attitude makes the teaching task harder, more tedious and unpleasant.
In addition, a teacher's attitudes not only affect his behaviour in the classroom but also influence the behaviour of his students. Moreover, the effect and productive learning on the part of the pupils can be achieved by employing teachers with desirable attitudes or by shaping their attitudes in the desired direction.

Hence, it appears relevant to develop a dependable multidimensional attitude inventory for measuring attitudes of prospective and practicing teachers towards teaching profession and its allied aspects.

Description

This inventory has 90 item Likert instrument consisting of six sub-scales. These substances 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 Procession.
(ii) Class-room Teaching.
(iii) Child-centre Practices.
(iv) Educational process.
(v) Pupils.
(vi) Teachers.
The inventory has been constructed and standardized by Ahuliwalla, Hindu University, Varanasi, under a project of the National Council for Educational Research and Training, New Delhi. The form of the item is akin to the usual Likert format. The items were selected from a larger 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 with 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 130 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 judgment 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 Edwards 1959, p.152).
Keeping the rationale of attitude scale construction in mind, prochomatically "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 46 in unfavourable direction. Thus, the favourable-unfavourable continuous adequately measures the aforesaid six selected areas.

Table given here shows the total number of favourable and unfavourable items and their distribution in each sub-scale.

**Table-3.9: 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. UF*: 13, 34, 46, 48, 60, 72, 79, 86.</td>
<td>7</td>
</tr>
<tr>
<td>II</td>
<td>F: 2,9,14,17,42, 47,53,67 UF: 35, 38, 59, 61, 65, 73, 84</td>
<td>8</td>
</tr>
<tr>
<td>III</td>
<td>F: 3,11,16,27,37,39,49,62,64,80 UF: 25,54,75,83,90</td>
<td>10</td>
</tr>
<tr>
<td>IV</td>
<td>F: 15,28,36,43,50,55,71,87 UF: 4,7,10,32,63,74,76</td>
<td>8</td>
</tr>
<tr>
<td>V</td>
<td>F: 5,44,81,82,89 UF: 18,22,29,31,37,51,56,58,70,77</td>
<td>5</td>
</tr>
<tr>
<td>VI</td>
<td>F: 6,23,40,52,88 UF: 12,19,24,26,30,45,57,68,69,78.</td>
<td>10</td>
</tr>
</tbody>
</table>

F*=Favourable – SA=4, A=3, U=2, E=1, SD=0
Instructions

The researcher will distribute the text-booklet and answer sheet to each subject. After all subjects have received the proper test materials the experimenter will say "don't open it unless told to do so. This inventory consists of 90 statements aimed to identify the professional attitudes of the teachers. 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 genera. 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 say:

"If you strongly agree, put 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 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 to make 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 that is : 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-even method and found to be .79(corrected to .88) for a sample of 239 prospective teachers. The test-retest reliability coefficients after the interval of 3 months and 9 months are found to be .59 (N=102) and .84 to .20). The details of reliability coefficients, indices of reliability connected reliability coefficient and standard errors of measurement.
Validity

Determination of validity of an attitude inventory is a hard task.

The inventory appears to have content validity, and the method of collecting items supports the supposition. In addition, differences in mean scores were found among some selected 'known' groups. The mean scores for B.A. Part 1 and II students offering and not offering Education as an Elective subject, B.Ed., trainees and practising teachers were computed and compared. The observed differences were found to be in the expected direction. The observed differences are found to be in the expected direction. The validity was also combined through stimulus group technique. Table No. 3.10 presents at once a summary of the obtained results.

**Table-3.10: Mean, Standard Deviation and other measures of some selected groups.**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Group</th>
<th>N</th>
<th>M</th>
<th>SE</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B.A. Part 1 (Not offering Education Elective)</td>
<td>56</td>
<td>230.53</td>
<td>2.94</td>
<td>21.98</td>
<td>2.09</td>
</tr>
<tr>
<td>2</td>
<td>B.A. Part II (Not offering Education elective)</td>
<td>53</td>
<td>230.73</td>
<td>3.44</td>
<td>28.74</td>
<td>2.44</td>
</tr>
<tr>
<td>3</td>
<td>B.A. Part I (Offering Education Elective)</td>
<td>70</td>
<td>237.88</td>
<td>3.41</td>
<td>23.36</td>
<td>2.41</td>
</tr>
<tr>
<td>4</td>
<td>B.A. Part II (Offering Education elective)</td>
<td>47</td>
<td>252.91</td>
<td>4.65</td>
<td>33.91</td>
<td>3.30</td>
</tr>
<tr>
<td>5</td>
<td>Practicing Teacher.</td>
<td>122</td>
<td>251.41</td>
<td>2.78</td>
<td>30.70</td>
<td>1.97</td>
</tr>
<tr>
<td>6</td>
<td>Prospective Teachers [At the time of B.Ed., Admission.]</td>
<td>86</td>
<td>251.45</td>
<td>3.36</td>
<td>31.12</td>
<td>2.39</td>
</tr>
<tr>
<td>7</td>
<td>Prospective Teachers [After 9 months of B.Ed. training.]</td>
<td>86</td>
<td>256.29</td>
<td>3.60</td>
<td>33.38</td>
<td>2.56</td>
</tr>
</tbody>
</table>
For determining the concurrent validity the scores on TAI were compared with the scores on the Hind Adaptation of the MTAI developed by Joshi (1999). The obtained correlation coefficient for prospective teachers (N=79) came out to be positive but low. This may be due to the fact that the MTAI is meant for elementary teachers, is largely culture-based and has become perhaps out of date to some extent. Table No. 3.11 shows the obtained correlation coefficient in a summary from.

Table-3.11: Correlation between scores on TAI and the MTAI

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTAI Scores and Scores on Factor I of TAI</td>
<td>+.42</td>
</tr>
<tr>
<td>MTAI Scores and Scores on Factor II of TAI</td>
<td>+.32</td>
</tr>
<tr>
<td>MTAI Scores and Scores on Factor III of TAI</td>
<td>+.02</td>
</tr>
<tr>
<td>MTAI Scores and Scores on Factor IV of TAI</td>
<td>+.27</td>
</tr>
<tr>
<td>MTAI Scores and Scores on Factor V of TAI</td>
<td>+.23</td>
</tr>
<tr>
<td>MTAI Scores and Scores on Factor VI of TAI</td>
<td>+.07</td>
</tr>
<tr>
<td>MTAI Scores and TAI Scores.</td>
<td>+.23</td>
</tr>
</tbody>
</table>

The high discriminatory power of the items is a testimony of its internal consistency.
Usefulness

The TAI appears to have reasonably high reliability and validity. As such it is a quite adequate scale for measuring attitudes towards reaching professions, class-room teaching, chief child centered practices, educational process, attitude towards pupils and teachers.

This is a new inventory and the content of its items seem appropriate for extensive use for purposes of research with teachers.

Use of the scores from the TAI should be cautious and should show due regard for the sensitive nature of self-reports.

The evidence concerning the characteristics of this inventory is limited, it is desired that additional evidence of reliability and validity be obtained before the inventory is used for any purpose other than research.

The inventory is easy to administer and score and its wide usage is reasonably long and has appreciably high reliability and validity.

A brief Orientation to the 16 PF test

The Sixteen Personality Factor Questionnaire (16 PF) is an objectively scoreable test devised by basic research in psychology to give the most complete coverage of personality possible in a brief time. The test was designed for use with individual’s aged 16 and above. Forms A, B, C and D.
which are the subject of this manual, are most appropriate for individuals whose educational level is roughly equivalent to that of the normal high school student. Form E is designed for individuals with marked educational, and/or reading deficits. A separate manual for the 16 PF, Form E, is available through IPAT.

The 16 PF can be scored by hand or by computer, and various types of answer sheets are available for this reason. Additionally, extensive computer interpretation services described in Section 6 of this Manual are available through IPAT.

The personality factors measured by the 16 PF are not just unique to the test, but instead rest within the context of a general theory of personality. Nearly 10 years of empirical, factor-analytic research preceded the first commercial publication of the test in 1949, since this time, five major revisions of items and many additional improvements, such as supplementary validity scales, have been incorporated into the 16 PF.

These 16 dimensions or scales are essentially independent. Any item in the test contributes to the score on one and only one factor so that no dependencies were introduced at the level of scale construction. Moreover, the experimentally obtained correlations among the 16 scales are generally quite small so that each scale provides some new piece of information about the person being tested.
<table>
<thead>
<tr>
<th>Factor</th>
<th>Low Sten Score Description (1-3)</th>
<th>High Sten Score Description (8-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Cool, reserved, impersonal, detached, formal, aloof. Sizothymia</td>
<td>Warm, Outgoing, kindly, easygoing, Participating likes people. Affectothymia.</td>
</tr>
<tr>
<td>B</td>
<td>Concrete-thinking, less intelligent Lower scholastic mental capacity.</td>
<td>Abstract-thinking, more intelligent, bright Higher scholastic mental capacity.</td>
</tr>
<tr>
<td>C</td>
<td>Affected by feelings, emotionally less stable, easily annoyed, Lower ego strength.</td>
<td>Emotionally stable, mature, faces reality, calm Higher ego strength.</td>
</tr>
<tr>
<td>E</td>
<td>Submissive, humble, mild, easily led, accommodating submissiveness.</td>
<td>Dominant, assertive, aggressive, stubborn, competitive, bossy, Dominance.</td>
</tr>
<tr>
<td>F</td>
<td>Saber, restrained, prudent, taciturn, serious, Desurgency</td>
<td>Enthusiastic, spontaneous, headless, expressive, cheerful, Surgency.</td>
</tr>
<tr>
<td>H</td>
<td>Shy, threat-sensitive, timid, hesitant, intimidated, Threctia</td>
<td>Bold, Venturesome, Uninhibited, Can take stress, Stress, Premsia.</td>
</tr>
<tr>
<td>I</td>
<td>Tough-minded, self-reliant, no-nonsense, rough, realistic, Harria</td>
<td>Tender-minded, sensitive, overprotected, intuitive, refined, Premsia</td>
</tr>
<tr>
<td>L</td>
<td>Trusting, accepting conditions</td>
<td>Suspicious, Hard to fool, Distrustful, Skeptical Protension.</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Easy to get on with Alaxia.</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Practical Concerned with 'down-to-earth' issues, steady, Praxemia.</td>
<td>Imagination, absent-minded, absorbed-in Thought, impractical, Autia.</td>
</tr>
<tr>
<td>N</td>
<td>Forthright, unpretentious, open, Genuine, artless, Artlessness.</td>
<td>Shrewed, Polished, Socially aware, diplomatic, calculating, Shrewdness.</td>
</tr>
<tr>
<td>Q1</td>
<td>Conservative, respecting traditional Ideas, Conservatism of temperament.</td>
<td>Experimenting, Liberal, critical, open to change, Radicalism.</td>
</tr>
<tr>
<td>Q2</td>
<td>Group-oriented, a :“Joiner” and sound follower, listens to others, Group adherence.</td>
<td>Self-sufficient, resourceful, prefers own decisions, Self-sufficiency.</td>
</tr>
<tr>
<td>Q4</td>
<td>Relaxed, Tranquil, composed, has low drive, unfrustrated Low ergic tension.</td>
<td>Tense, frustrated, overwrought, has high drive, High ergic tension.</td>
</tr>
</tbody>
</table>

**Design and Construction of the Test**

**Arrangement of Questions:** Ten to thirteen items are provided for each scale in Form A and Form B. In Form C and Form D, there are eight items for the
Factor B scale. Seven items for the motivational distortion scale, and six items for each of the remaining scales. The questions are arranged in a roughly cyclic order determined by a plan to give maximum convenience in hand scoring situations and to insure variety and interest for the examinee.

**Method of Answering:** Three-alternative answers are provided for each of the questions, since the two-alternative "forced-choice" situation, forbidding any "middle-of-the-road" compromise, tends to force a distorted distribution and may produce aversion to the test on the part of the examinee. This is particularly the case with adults of average or higher intelligence for whom Forms A, B, C and D are designed. With children, or with less intelligent, less competent, or culturally deprived adults, a two-choice design appears better, and such a design is used in the "low-literate" scales of the 16 PF constructed for use with such populations (Form E).

**Reliability**

Reliability is a general term that describes a class of statistical techniques addressing the precision of a scale. The Standards for Educational and Psychological Testing (hereafter referred to as the Standards: AERA/APA/NCME, 1985) describes reliability as an index that measures "the degree to which test scores are free from errors of measurement."
While there are many ways to estimate reliability, the test-retest method seems especially appropriate. With this method, the 16 PF is administered to a sample of people on two separate occasions; the correlations between the sets of scores from the two administrations are the reliability estimates. It is useful to make a further distinction in test-retest reliability, based on the time interval between test and re-test. If the interval is short, from an immediate retest to a delay of two weeks, the dependability of the scale is being evaluated. Since personality traits are not expected to change (that is: assuming no intervention) in such a brief interval, departures from perfect reliability reflect inconsistencies in the scale as well as in the individuals under study. Should the interval between administrations be long, from several weeks to several years, the reliability is called the stability of the scale. Here, the test-retest reliability not only reflects errors in measurement, but also real changes that occur in the trait being measured. As a consequence, there will be less agreement between test and retest.

The short-interval reliabilities and long-interval reliabilities are shown in table. Table contains the short-and long-interval reliabilities of the second-order and selected composite scales. These values were estimated using the procedure described in Guilford (Psychometric methods. New York: McGraw-Hill, 1954). Overall, the average (across primary scales and samples) short-interval reliability for Forms (A+B) is .80. Similarly, the
average long-interval reliability is .78. For Form A alone, the average short-interval reliability is .80; the long-interval reliability is .52.

Another way of looking at the precision of the 16 PF scale is to calculate the Standard error of measurement (SEM). This provides an indication of the error made when an actual (that is: observed score) is substituted for the theoretically meaningful (but unobservable) "true" score. Thus, the SEM defines a theoretical range of scores within which the person's "true" score lies. As a practical matter, higher the scale's reliability, narrower the range of scores will be. Using the averaged short-interval reliability of .80 (Forms A+B), the SEM equals .89 (the range of SEMs is from 63 to 1.34).

Contains the equivalence coefficients between various forms of the 16 PF. These values indicate the extent to which there is agreement between different forms. The forms of the 16 PF should not be thought of as alternate or parallel forms. Rather, they are better thought of as extension forms. That is, the four forms, A through D, comprise the extended 16PF assessment. Each form by itself is a component of this extension. This format enables greater flexibility in administration, allowing the professional to determine what form(s) to administer that maximize(s) the reliability and validity of that particular assessment. One major benefit to this design is that one can
balance the critical factors of assessment time and reliability. As a practical matter, if an assessment employs a retest component, the same form(s) used in the first administration should be used as the retest.

**Validity**

As the Standards (AREA/APA/NCME, 1985) point out, test validation is the process by which evidence is accumulated to support inferences that may be drawn from a test score. Various types of evidence may be produced, depending on the type of test and the purposes to which the test scores may be put.

In the case of the 16 PF, there are two important classes of evidence that need to be considered. The first, usually described as construct validity, focuses on the extent to which the test scores correctly measure the underlying traits that were developed to measure. The second focuses on the extent to which test scores relate to external outcomes such as success in a job, performance in school, or response to treatment. This type of evidence is described as criterion-related test validity.

Establishing the construct validity of a test score is a complex procedure. Relationships between the test score and other measures of the
same construct must be examined to see whether they show the hypothesized structure.

The 16PF was developed to measure a core set of factorially independent personality traits. These factors represented primary dimensions of the universe of words available in the English language to describe personality. The first issue, related to the construct validity of the 16 PF, is the extent to which the test itself is faithful to the original factor model.

In terms of criterion-related validity, it is important to note that the test has been widely used in a variety of research applications. These results have been reported in several thousand different publications in the professional literature.

Instructions for Administration

General. Simple and clear instructions are printed for the examinee on the cover page of the test booklet. Although the test can be virtually self-administering, it is always important to establish good "rapport" with the examinees, whether tested individually or in groups. Further, it is good to reinforce the instructions by orally retreating that the examinees will, in the long run, be doing themselves most good by being frank and honest in describing themselves.
To the trained psychologist, the importance of this brief but intimate talk with the client cannot be easily exaggerated, for the creation of a favourable test-taking attitude is worth as much as or possibly more in the production of accurate data than any number of "lie" or "correction" scales. If there is serious doubt of the client's correctness of response, it may be well to reconsider the programme in terms of introducing objective tests as in the 0-A Battery. Some demonstration of the degree to which distortion can be reduced in a potentially uncooperative group by appropriate instruction has been demonstrated by some significant lowering of average scores of a large client group upon the "MD" (motivational distortion) scale of the 16 PF, after good rapport was obtained.

Principles and Machines of Scoring

Handscoring the 16PF. A complete set of scoring materials for the 16PF hand-scorable answer sheet consists of a set of scoring keys, norm tables for the appropriate test form(s), and a profile sheet for each answer sheet to be scored. In addition, use of a special worksheet for calculating second-order factors and selected criterion scores is strongly recommended.

Detailed instructions for obtaining raw scores for the 16PF are provided on the scoring keys. Each of two stencil keys scores half the 16 primary scales. Depending on which form is used, the availability of
distortion scales will be discussed on one of the keys. Scoring begins by fitting and aligning the first stencil key over the answer sheet and counting the marks visible through the holds for Factor A, allowing either 23 or 1, as indicated by the number adjacent to the whole. Sum these scores, and enter the total in the space indicated by the arrow on the stencil for Factor A (raw score). But note that Factor B (intelligence) is peculiar in that each correct mark visible in a hole gives a score of 1 only. Continue scoring each factor on each scoring key until all raw scores have been entered in the column on the extreme right-hand side of the answer sheet.

The raw scores are now ready to be converted to standard scores (sten scores) and the results profiled for easier review and interpretation.

Careful selection of the most appropriate norm reference group (general population, undergraduate college students, or high school students) is required.

Each of the primary factors measured by the 16PF has an alphabetic designation (a through Q,) and a brief title, which the practitioner will most commonly use.

The definitions and interpretations of the factors, as given below, are short, non-technical, and, of course, less exact than the more intensive
discussions available in the Handbook and other 16PF SOURCES-BOOKS. Furthermore, the large number of profiles given in the Handbook for well defined occupational and clinical groups provide the psychologist with additional insights into the meaning and operation of the factors.

### Capsule Descriptions of the 16 Primary Personality Factors

#### Factor-A

<table>
<thead>
<tr>
<th>Low Score Direction</th>
<th>V/s</th>
<th>High Score Direction</th>
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People who score low (sten of 1 to 33) on Factor A tend to be stiff, cool, skeptical) and aloof. They like things rather than people, working alone, and avoiding compromises of viewpoints. They are likely to be precise and "rigid" in their way of doing things and in their personal standards. In many occupations these are desirable traits. They may tend, at times, to be critical, obstructive, or hard.

People who score high (sten of 8 to 10) on Factor A tend to be good natured, easy going, emotionally expressive, ready to cooperate, attentive to people, softhearted, kindly, adaptable. They like occupations dealing with people and socially impressive situations, and they readily form active groups. They are generous in personal relations, less afraid of criticism, and better able to remember names of people.
Concrete-thinking, Less Intelligent

Factor - B

Vs. Abstract-thinking, More Intelligent, Bright.

The person scoring low on Factor B tends to be slow to learn and grasp, dull and given to concrete and literal interpretation. This dullness may be simply a reflection of low intelligence, or it may represent poor functioning due to psychopathology.

The person who scores high on Factor B tends to be quick to grasp ideas, a fast learner, intelligent. There is some correlation with level of culture, and some with alertness. High scores contraindicate deterioration of mental functions in pathological conditions.

Factor - C

Affected by Feelings, Emotionally V/s Less Stable, Easily Annoyed

Emotionally Stable, Mature. Faces Reality, Calm.

The person who scores low on Factor C tends to be low in frustration tolerance for unsatisfactory conditions, changeable and plastic, evading necessary reality demands, neurotically fatigues, fretful, easily annoyed and emotional, active in dissatisfaction, having neurotic symptoms (Phobias, sleep disturbances, psychometric complaints, etc.) Low Factor C-score is common to almost all forms of neurotic and some psychotic disorders.

The person who scores high on Factor C tends to be emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale. This person may be making a resigned adjustment "to unsolved emotional problems."

"Shrewd clinical observers have pointed out that a good C level sometimes enables a person to achieve effect adjustment despite an underlying psychotic potential."
**Factor E**

Submissive, Humble, Mild, Easily Lead, Accommodating  
V/s. Dominant, Assertive, Aggressive, Stubborn, Competitive, Bossy.

Individuals scoring low on Factor E tend to give way to be docile, and to conform. They are often dependent, confessing, anxious for obsessional correctness. This passivity is part of many neurotic syndromes.

Individuals scoring high on Factor E are assertive, self-assured and independent-minded. They tend to be austere, a law unto themselves, hostile or extrapunitive, authoritarian (managing others), and disregarding of authority.

**Factor F**

Sober, Restrained, Prudent, Taciturn, Serious.  
V/s. Enthusiastic, Spontaneous, Heedless, Expressive, Cheerful.

Low scores on Factor F tend to be restrained, reticent, and introspective. They are sometimes dour, pessimistic, unduly deliberate, and considered smug and primly correct by observers. They tend to be sober dependable people.

High scores on this trait tend to be cheerful, active, talkative, frank, expressive, effervescent, and carefree. They are frequently chosen as selected leaders. They may be impulsive and mercurial.
Factor –G


People who score low on Factor G tend to be unsteady. They are often casual and lacking in effort for group undertakings and cultural demands. Their freedom from group influence may lead to antisocial acts, but at times makes them more effective, while their refusal to be bound by rules causes them to have less somatic upset from stress.

People who score high on Factor G tend to be exacting in character, dominated by sense of duty, preserving, responsible, planful. “fill the unforgiving minute.” They are usually conscientious and moralistic, and they prefer hard-working people to witty companions. The inner “categorical imperative” of this essential superego. (in the psychoanalytic sense) should be distinguished from the superficially similar “social ideal self” of Q3+.
Factor-H

Shy, Threat-Sensitive, Timid, Hesitant, Intimidated

Individuals who score low on this trait tend to be shy, withdrawing, cautious, retiring. “Wallflowers.” They usually have inferiority feelings and tend to be slow and impeded in speech and in expressing themselves. They dislike occupations with personal contact, prefer one or two close friends to large groups, and are not given to keeping in contact with all that is going on around them.


Individuals who score high on Factor H are sociable, bold, ready to try new things, spontaneous, and abundant in emotional response. Their “thick-skinnedness” enables them to face wear and tear in dealing with people and grueling emotional situations, without fatigue. However, they can be careless of detail, ignore danger signals, and consume much time talking. They tend to be “purely” and actively interested in the opposite sex.

Factor-I

Tough-minded, Self-reliance, No-nonsense, Rough, Realistic.

People who score low on Factor I tend to be tough, realistic, “down to earth,” independent, responsible, but skeptical of subjective, cultural elaborations. They are sometimes unmoved, hard, cynical, and smug. They tend to keep a group operating on a practical and realistic “no-nonsense” basis.

V/s. Tender-minded, Sensitive, Over-protective, Intuitive, Refined.

People who score high on Factor I tend to be emotionally sensitive, day-creaming, artistically fastidious, and fanciful. They are sometimes demanding of attention and help, impatient, dependent, temperamental, and not very realistic. They dislike crude people and rough occupations. In a group, they often tend to slow up group performance and to upset group morals by undue fussiness.
Factor-L


The person who scores low on Factor L, tends to be free of jealous tendencies, adaptable, cheerful, uncompetitive, concerned about others, a good team worker. They are open and tolerant and usually willing to take a chance with people.

People who score high on Factor L tend to be mistrusting and doubtful. They are often involved in their own egos and are self-opinionated and interested in internal, mental life. Usually they are deliberate in their actions, unconcerned about other people, and poor team members.

N.B. This factor is not necessarily paranoia. In fact, the data on paranoid schizophrenics are not clear as to typical factor L value to be expected of them.

Factor-M


Low scores on Factor M tend to be anxious to do the right things, attentive to practical matters, and subject to the dictation of what is obviously possible. They are concerned over detail, able to keep their heads in emergencies, but are sometimes unimaginative. In short, they are responsive to the outer, rather than the inner world.

High scorers on Factor M tend to be unconventional, unconcerned over everyday matters, self-motivated, imaginatively creative, concerned with "essentials", often absorbed in thought, and oblivious of particular people and physical realities. Their inner-directed interests sometimes lead to unrealistic situations accompanied by expressive outbursts. Their individuality can cause them to be rejected in group activities.
Factor-N

Forthright, Unpretentious, Open, Genuine, Artless.

Individuals who score low on Factor N have a lot of natural warmth and a genuine liking for people. They are uncomplicated, sentimental, and unvarnished in their approach to people.

Shrewd, Polished, Socially Aware, Diplomatic, Calculating.

Individuals who score high on Factor N tend to be polished, experienced, and shrewd. Their approach to people and problems is usually perceptive, hard-headed, and efficient—an unsentimental approach to situations, an approach akin to cynicism.

Factor-O


Persons with low scores on Factor O tend to be unruffled and to have unshakable nerve. They have a mature, unanxious confidence in themselves and their capacity to deal with things. They can, however, be secure to the point of being insensitive to the feedback of others.

Apprehensive, Self-blaming, Guilt-prone, Insecure, Worrying.

Persons with high scores on Factor O have a strong sense of obligation and high expectations of themselves. They tend to worry and feel anxious and guilt-stricken over difficulties. Often they do not feel accepted in groups or free to participate. High Factor O score is very common in clinical groups of all types (see Handbook).
Factor- Q1

Conservative, Respecting Traditional Ideas V/s. Experimenting, Liberal, Critical, Open to Change.

Low scores Factor Q1 are confident in what they have been taught to believe, and accept the "tried and true" even when something else might be better. They are cautious and compromising in regard to new ideas. Thus, they tend to oppose and postpone change, are inclined to go along with tradition, are more conservative in Religion and politics, and tend not to be interested in analytical "intellectual" thought.

High scorers on Factor Q1 tend to be interested in intellectual matters and to have doubts on fundamental issues. They are skeptical and inquiring regarding ideas, either old or new. Usually they are more well informed, less inclined to moralize, more inclined to experiment life generally, and more tolerant of inconvenience and change.
Factor-Q2


Individuals who score low on Factor Q2 prefer to work and make decisions with other people and like and depend on social approval and admiration. They tend to go along with the group and may be lacking in individual resolution. They are not necessarily gregarious by choice; rather they might need group support.

Individuals who score high on Factor Q2, are temperamentally independent, accustomed to going their own way, making decisions and taking action on their own. They discount public opinion, but are not necessarily dominant in their relations with others (see Factor E); in fact, they could be hesitant to ask others for help. They do not dislike people, but simply do not need their agreement or support.
Factor-Q3


People who score low on Factor Q3 will not be bothered with will control and have little regard for social demands. They are impetuous and not overly considerate, careful, or painstaking. They may feel maladjusted, and many maladjustments (especially the affective, but not the paranoid) show Q3.

Following Self-Image, Socially Precise, Compulsive.

People who score high on Factor Q3 tend to have strong control of their emotions and general behavior, are inclined to be socially aware and careful, and evidence what is commonly termed “Self-respect” and high regard for social reputation. They sometimes tend, however, to be perfectionistic and obstinate. Effective leaders, and some paranoids, are high on Q3.

Factor-Q4

RELAXED, Tranquil, Composed, Has Low Drive, Unfrustrated.

Individuals who score low on Factor Q4 tend to be sedate, relaxed, composed and satisfied (not frustrated). In some situations, their over satisfaction can lead to laziness and low performance, in the sense that low motivation produces little trial and error.

Tense, Frustrated, Overwrought, Has High Drive.

Individuals who score high on Factor Q4 tend to be tense, restless, fretful, impatient, and hard driving. They are often fatigued, but unable to remain inactive. Their frustration represents an excess of stimulated, but undischarged, drive. Extremely high tension level may disrupt school and work performance.
3.11 Collection of Data

3.11.1 Preliminary Steps taken to Facilitate Collection of Data

In order to obtain permission from the heads of the schools, which were selected for the collection of the data, a letter to each school was sent. Necessary information was provided in the letter to the heads of schools regarding the objectives of the study. Co-operation was solicited for collection of data from the teachers.

Before administering the scales, the teachers were given all the necessary information about the Tools to be filled by the teachers. The Investigator observed the lessons of various Teachers according to his requirements and got filled the General Teaching Competence Scale (Baroda). The Investigator had taken maximum care to get the actual data from teachers in the sample of this study.

3.12 Statistical Techniques Used in Analysis of the Data

The following statistical techniques were used in the analysis of the data.
i. Descriptive Analysis

a) Mean: Mean is a relatively stable measure of central tendency. It has importance in the further statistical analysis and quite amendable to algebraic treatment.

b) Standard Deviation: Standard Deviation is most widely used and popular measure of variability. It is understood as a very satisfactory measure of dispersion.

ii. Differential Analysis

The analysis of variance (ANOVA) is a good technique to ascertain whether two or more than two groups differ significantly in their means in the simplest possible manner, whereas the Multiple Classification of Analysis of Variance verifies the significance of combined effect of two or more variables on one dependent variable.

Multiple classifications ANOVA helps the researcher to determine the relationship between one dependent variable and two or more independent variables. The researcher can test the relationship between the dependent variable and various interactions of the independent variables (Popham, 1967).
Main Effects: In the present investigation the independent variables self-concept, Academic Achievement, achievement motivation of subjects are taken as main effects (at two level high and low) on vocational interest and its ten vocational areas/dimensions.

Interaction Effects: When two or more set of variables have got the combined effect on the criterion variable, it is said that interaction effect exist on criterion variable.

iii. Correlation Analysis

When for each measurement of one variable (X) there is a corresponding value of a second variable (Y), then it is said that there is a correlation between these two variables (X and Y).

When the relationship between two sets of measures is "linear" that is, can be described by a straight line, the correlation between scores may be expressed by the "product moment" coefficient of correlation, designated by the letter ‘r’ Garrett; (1981).

Coefficient of Correlation: Coefficient of correlation is the ratio, which shows the extent to which changes in one variable are accompanied or dependent upon changes in a second variable.
The product moment coefficient of correlation is also known as Karl Pearson's coefficient of correlation and represented by letter 'r'. 'r' can take the values numerically from -1 to 1. The numerical value of 'r' shows the strength of relationship whereas sign indicates the direction of relationship.

In the present study the Karl Pearson's Coefficient of Correlations (r) have been computed between Vocational Interest along with its dimensions and personality traits. Academic achievement, self-concept and achievement motivation of the subjects taken for the study.

iv. Regression Analysis

The term 'regression' means the act of returning or going back. The term 'regression' first came into use when Francis Galton was studying the relationship between height of fathers and sons.

In the study of the height of about one thousand fathers and sons, very interesting fact surfaced; tall fathers tend to have tall sons and short fathers short sons. But the average height of the sons of all fathers was less than that of the fathers and the average height of the sons of short fathers was greater than that of the fathers. The line describing this tendency to 'regress' or going back was called by Galton as 'regression line' (Gupta 1975).
Regression is the determination of a statistical relationship between two or more variables in which one variable (defined as independent) is the cause of the behaviour or another one (defined as independent variable) (Kothari; 1985).

The correlation coefficient merely measures the degree of relationship between two variables (X and Y) whereas the nature of relationship that is, cause and effect relation can be ascertained by regression analysis only.

When two or more than two variables are having correlations, then by using the known values of the variables, the unknown value of another variable can be predicted and estimated by regression. In this prediction the most probable value of unknown variable can be estimated.

v. Path Analysis

In simple, multiple regression analysis, empathizes is on the study of the extent to which the dependent variable(s) get affected by the contribution of the independent variable(s) on original scales measurements being standardized for comparison of the scores with the studies being carried out by others with the same variables(s). The regression coefficients obtained carrying out simple, multiple regression analysis are found to get affected by the unit of measurement. In other words, the values of the
regression coefficients of the variables get affected with the change of unit of measurement of the variable(s). In order to understand the true relation between the dependent and independent variables it becomes necessary to have regression coefficients independent of the unit of measurement of the variables.

Thus, the regression coefficients in the regression models of the standardized variables have come to be named path (directional) coefficients, with the path (direction) being from an independent variable towards the corresponding dependent variable. Hence the regression analysis carried out with the help of standardized variables have come to be known as path analysis. It is worth noting that, one value of the path coefficients as regression coefficients of the standardized variables, are the same in their values as those of the corresponding correlation coefficients. In the magnitude, the path coefficients are directional, but correlation coefficients are not directional. Though both are independent of the units of measurement of the corresponding variables.