CHAPTER III

METHODOLOGY

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3.0.0. Introduction

The review of the available related literature provides an insight into the appropriate research method, sample, tools variables etc. for the problem in hand. Accordingly, the methodology adopted in carrying out the present investigation follows in this chapter.

The methodology of this research work has been described here with the details of the sample - selection, tools of measurement, data collection, statistical techniques used for the analysis of the data and the design, under separate captions.

3.1.0 Sample

The selection of the sample has a very significant effect on the entire research. The population of the present study comprised the teacher trainees studying in the colleges of education. The sample was selected by employing purposive sampling technique. This was an experimental study wherein the teacher trainees were to be given the treatment through NDM for a long period of time in the specific situation. An important consideration, therefore, in the selection of the sample was the willingness of the college authorities to allow the experiment to be conducted in their colleges. Thus two colleges, viz. Vivekanand College of Education, Raipur Amdavad and M.N.Shukla College of Education, Shahpur, Amdavad were selected due to the active and enthusiastic co-operation on the part of the college authorities. S.M.N.K.
Dalai College of Education was not selected because it was merely a women's college, though the authorities of the college were willing to co-operate. Both the selected colleges out of nine colleges of Amdavad city were situated in and around walled city area. Rest of the colleges, situated away from the main city area, might represent the teacher trainees coming from specific areas of the city and particular socio-economic strata of the society. Whereas both the selected co-education colleges represented the teacher trainees coming from all the areas of the city as well as the district and all socio-economic status and religious. Hence, the teacher trainees from both the colleges had the appropriate representation of the population. The highest number of teacher trainees were enrolled in these colleges. Hence it was easy for the investigator to find out more number of maladjusted teacher trainees.

There were 227 teacher trainees enrolled in Vivekanand College of Education and 108 in M.N. Shukla College of Education. Since the treatment had to be given to the maladjusted teacher trainees, the Bell Adjustment inventory (BAI) was first administered to the volunteer teacher trainees in both the above colleges to find out maladjusted teacher trainees among them. Thus 173 teacher trainees (98 males and 75 females) of Vivekanand College of Education and 98 teacher trainees (58 males and 40 females) of M.N. Shukla College of Education, who were administered BAI constituted as the total sample in the beginning. The teacher trainees who secured excellent adjustment (23 teacher trainees)
good adjustment (36 teacher trainees) and average adjustment (109 teacher trainees) were excluded from the initial sample of 271 teacher trainees. The scores on BAI showed that 74 (41 males and 33 females) teacher trainees from Vivekanand College of Education and 29 (15 males and 14 females) teacher trainees from M.N.Shukla College of Education were maladjusted. Thus, 103 teacher trainees (56 males and 47 females) were selected as the sample of the study. As 49 teacher trainees from both the colleges showed their willingness for NDM treatment, they were included in experimental group and rest of 103 e.i. 54 teacher trainees constituted controlled group. These groups were formed irrespective of teacher trainees' college status. Among 49 teacher trainees of experimental group, 6 trainees (2 males and 4 females) did not complete the treatment so they were excluded while analysing the data. Thus the sample shrunk to 97 (54 males and 43 females) teacher trainees. Besides treatment, sex and marital status of the teacher trainees were the independent variables of the study. The sample profile of the teacher trainees with respect to treatment, sex and marital status is given in Table -3.1

Table 3.1 : Sample Profile

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Experimental Group</th>
<th>Controlled Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Married</td>
<td>12</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Unmarried</td>
<td>14</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>17</td>
<td>28</td>
</tr>
</tbody>
</table>
Table - 3.1 indicates that the sample comprised 97 teacher trainees. Of these 43 teacher trainees (12 married males; 14 unmarried males; 8 married females; and 9 unmarried females) were in experimental group and 54 teacher trainees (11 married males; 17 unmarried males; 14 married females and 12 unmarried females) were in controlled group.

The teacher trainees selected in the sample belonged to rural and urban areas. They presented the middle and the upper middle classes. They belonged to the age groups of 23 to 32 years. The teacher trainees in both the groups were studying in coeducational afternoon Colleges, where the medium of instruction was Gujarati. They were graduated and/or postgraduated in Arts, Commerce and/or science faculty.

3.2.0 Design

The present investigation was experimental in nature. It was designed on the pretest - posttest control group design. The layout of the design is as follows:

```
  0 0 0 0 0 0 0 0 0 0 0
  0 0 0 0 0 0 0 0 0 0 0
  x 0
```

It is evident from the layout that there were two groups, Experimental and controlled. The broken line indicates that the subjects were not selected randomly. The teacher trainees who showed their willingness for NDM treatment were selected for experimental group and rest of the teacher trainees constituted the controlled group.
The independent variables of the present study were treatment, sex and marital status. The dependent variables were A, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3, and Q4, personality factor as well as home, health, social, emotional and total adjustment.

The maladjusted teacher trainees on the basis of BAI of both the groups were selected from two colleges, vivekanand college of Education and M.N. shukla college of Education. Besides BAI, the selected teacher trainees were administered 16PFQ as pretest. The task of pretesting been over, the teacher trainees of experimental group were treated by following the phases of NDM for developing their adjustment and personality. Initially, there were 49 teacher trainees in experimental group who showed their willingness for NDM -treatment But 6 (2 males and 4 females) teacher trainees did not complete the treatment, so they were excluded from the sample. Thus, the sample shrunk to 43 teacher trainees , who completed the treatment and nicely cooperated the investigator in conducting the experiment.

The teacher trainees were treated by interviewing them in 8 to 10 sessions of 25 to 40 minutes each, per subject. Every teacher trainee of experimental group took approximately 4 to 6 hours of treatment. Thus , the experimental group needed 200 hours spread over seven and a half months to complete the experiment. The investigator was given special sitting arrangement by the authorities of both the colleges, for conducting the experiment.
She treated five to seven teacher trainees per day. The time factor varied from subject to subject, as it depended on the needs of the teacher trainees. The investigator could notice the behavioural changes in the teacher trainees. Initially, they looked tense, less confident, less aware of themselves and largely dissatisfied with the environment around them. They hesitated a little in expressing themselves and their problems, in the beginning. But after a few sessions, they tried frankly to express and discuss their problems. They started exposing themselves. They themselves were very keen to reveal their facts and problems. A few teacher trainees became emotional while expressing themselves and their eyes were full of tears. Gradually, the teacher trainees came to know about their abilities and confessed their disabilities too. They tried to improve their maladjusted areas. They strengthened their positive factors of personality and tried to mould the negative factors of their personality into positive manner. The investigator supported the teacher trainees in developing their adjustment and personality. When teacher trainees felt him/herself confident about coping up with the problems of life, the treatment was over.

The teacher trainees of the controlled group were not given any such treatment. It was assumed that they will learn from the environment around them and will develop themselves on their own. Therefore, they were left free.
The treatment being over, both the groups were administered BAI and 16PFQ. The experimental group was administered the reaction scale with a view to find out their reaction towards NDM. The schematic presentation of the experiment is given in Table 3.2.

Table 3.2 schematic view of the experiment

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Activity</th>
<th>Time (in hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>pretesting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Bell Adjustment Inventory</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td>2. 16 PF questionnaire</td>
<td>2 1/2 hours</td>
</tr>
<tr>
<td>2.</td>
<td>Treatment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Experimental Group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treatment through NDM</td>
<td>200 hours</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Post testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Bell Adjustment Inventory</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td>2. 16 PF Questionnaire</td>
<td>1 1/2 hours</td>
</tr>
<tr>
<td></td>
<td>3. Reaction Scale for NDM</td>
<td>1/2 hours</td>
</tr>
<tr>
<td></td>
<td>(Experimental Group)</td>
<td></td>
</tr>
</tbody>
</table>

3.3.0 Tools.

There are two schools of thought with respect to means or tools. Some people believe that ends justify the means. Others believe that tools justify the ends. Research stresses equal importance to both. Hence, the tools are to be selected with total care.

The variable to be measured in the present investigation were personality factors, adjustment and reaction towards NDM of the teacher trainees. In order to measure reaction of the teacher
trainees towards NDM, the tool in the form of reaction scale was prepared by the investigator specifically for the use in the present investigation. The other variables were measured by using the appropriate standardised tools.

In order to select appropriate tools for measuring personality factors and adjustment of the teacher trainees, the investigator had consulted prominent psychologists of Amdabab city, Department of Education and Psychology, Guj. Uni., B.M.Institute, Amdabad and Vocational Guidance Bureau, Amdavad and referred books on Testing. The detailed descriptions of the measurement tools are given below.

3.3.1. 16 personality Factor Questionnaire:

The investigator found more appropriate tool of an adaptation and standardization of Cattell's sixteen personality Factor Questionnaire (16PFQ) for the Gujarati population by Emmanual (1986) than the other tools available in Gujarati for measuring personality factor of the teacher trainees.

Patel (1965) had made an attempt to translate 16PFQ in Gujarati. Since, it was not standardized, it was not used for this study.

Bhatt (1971) prepared Incomplete Sentences Blank (ISB) for diagnosis of the area and degree of conflict among upper high school and college students. A semi projective test cannot give proper understanding of the personality of the subjects, as a
whole. Hence, the investigator did not use this test. Bhatt (1971) also prepared a self-perception inventory to measure attitude towards self for adolescents. It can also not be applicable for the present study.

Jotwani (1979) adapted and standardized Minnesota Multiphasic personality Inventory (MMPI) for Gujarati population. MMPI can be more useful for clinical and diagnostic purposes. Jotwani (1979) adapted three factors out of nine factors of personality of MMPI viz, depression, hysteria and schizophrenia. The present investigation was related to normal persons. Hence, MMPI cannot be appropriate for this study.

Desai (year is not mentioned in the manual) adapted Junior Eysenck Personality Inventory in Gujarati for the students of 8th std to adults. As the test measures only two factors, extroversion and neuroticism, the investigator did not use it for the present study.

Patel (1985) adapted and standardized Early school Personality Questionnaire (ESPQ). Since ESPQ can be used for the children of the age group of 5 to 8, it was not appropriate for this study.

Thakur (1990) adapted and standardized Cattell's High school personality Questionnaire for Gujarati children of 12 to 18 years of age. Since the sample of the present study comprised teacher trainees of 22 to 30 years of age, HSPQ cannot be applicable to them.
Personality can also be measured through projective techniques, such as Rorschach Inkblot Test, Thematic Apperception Test (TAT) and Rosenzweig Picture Frustration Test (P-F Test). Desai (1978) reported Indian adaptation of TAT by Parikh, which can be administered individually and were time consuming in administration. Moreover the objective interpretation of the tests was difficult. Only an experienced psychologist can do it with more reliability. This was the reason why these tests were not used for the present study.

The investigator found 16PFQ by Emmanuel (1986) the most appropriate tool among the tests available and mentioned above as it objectively measures 16 factors of personality and can be applicable to the teacher trainees. The detailed description of 16PFQ is given below.

The 16PFQ was first published in the institute of personality and Ability Testing in Illinois, U.S.A. in 1949 by Cattell.

The 16PFQ prepared in Gujarati can be applied on higher secondary school students and college going students. The researcher had selected the sample of about 1890 students from higher secondary schools and colleges of five urban and six semi-urban areas from selected ten districts of gujarat state, for standardization.

The questionnaire has two forms: Form - A and Form - B. The investigator had used the form - A for the present study. Both the forms contain 187 items for 16 personality factors. Each
factor carries 10 to 13 items in each form. The items are arranged in a roughly cyclic order.

Before giving further details of 16PFQ, it is necessary to give the concept of personality and the brief description of 16 personality factors.

Concept of Personality:
The term personality has been defined in numerous ways, yet there seems to be a lack of universal and internally consistent conceptual language for adequate personality description in contemporary psychology. In fact, each major personality theorist has attempted to develop his own conceptual system which has little integration with any other system. However, the definitions of personality given by three main factor theorists Guilford, Eysenck and Cattell are presented.

Guilford (1959) defined personality as:
"An individual’s personality is his unique pattern of traits."

According to Eysenck (1960):
"personality is more or less stable and enduring organization of person's character, temperament, intellect and physique, which determines his unique adjustment to the environment."

According to Cattell (1965):
"personality is that which permits a prediction of what a person will do in a given situation". He then adds, "The goal of psychological research in personality is thus to establish locus
about what different people will do in all kinds of social and
genral environmental situation ..... personality is ..... concerned
with all the behaviours of the individual both over and under the
skin".

Emmenual (1986) discussed the meaning of each of the sixteen
factors as follows.

Factor - A

<table>
<thead>
<tr>
<th>Low score A -</th>
<th>High score A +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sizothymia</td>
<td>Affectothymia</td>
</tr>
<tr>
<td>Reserved</td>
<td>outgoing</td>
</tr>
</tbody>
</table>

The A - role is referred to as sizothemia which means flatness and
dryness of the emotionality in the person. The sizothyme
individual is in no sense abnormal but has a temperamental
inclination to be cautious in emotional expressions,
uncompromising and critical in outlook and awkwardly aloof in
manner. He likes things rather than people.

While A + role is affectothymia referring to the appropriate but
fullsome expression in feeling. The person who scores high on
this factor tends to be good natured, easy going, emotionally
expressive, ready to co-operate, attentive to people and soft­
hearted. He likes occupations dealing with people. He readily
forms active groups. He is generous in personal relations and
less afraid of criticism.

Factor - B

<table>
<thead>
<tr>
<th>Low score B -</th>
<th>High score B +</th>
</tr>
</thead>
<tbody>
<tr>
<td>less intelligent</td>
<td>More intelligent</td>
</tr>
</tbody>
</table>
The person scoring low on factor B tends to be slow to learn and grasp, dull, given to concrete and literal interpretation. His 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 contra indicate deterioration of mental functions in pathological conditions.

Factor - C :

<table>
<thead>
<tr>
<th>Low score C -</th>
<th>High score C +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotionally less stable</td>
<td>Emotionally stable</td>
</tr>
<tr>
<td>Easily upset</td>
<td>Faces reality calm, mature</td>
</tr>
</tbody>
</table>

The C - person is easily annoyed by things and people. He is dissatisfied with the world situation, his family, the restriction of life and his own health and he feels unable to cope with life. He shows generalised neurotic responses in the form of phobias, psychosomatic disturbances, sleep disturbances and hysterical and obsessional behaviour.

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 social group morale. A good C level sometimes enables a person to achieve affective adjustment despite on underlying psychoic potential.
Factor - E:
Low score E - Submissiveness vs High score E + Dominance
Humble vs Assertive

The person who scores low on factor E tends to give way to others, to be docile and conform. He is often dependent, confessing, anxious for obsessional correctness. This passivity is part of many neurotic syndromes.

The person who scores high on factor E is assertive, self-assured and independent minded. He tends to be a law to himself, hostile, managing others and disregards authority.

Factor - F:
Low score F - Desurgency vs High score F + Surgency
Sober vs Happy-go-lucky

The F- person tends to be restrained, reticent and introspective. He is sometimes dour, pessimistic, unduly deliberate and considered smug and primarily correct by observers. He tends to be a sober and dependable person.

The F+ person tends to be cheerful, active talkative, frank, expressive and carefree. He is frequently chosen as an elected leader. He may be impulsive and mercurial.

Factor - G:
Low score G - Expedient vs High score G + Conscientious
Weaker super ego strength vs Stronger super ego strength
The person who scores low on factor G tends to be unsteady in purpose. He is often casual and lacking in effort for group undertaking and cultural demands. His freedom from group influence may lead to anti-social acts but at times makes him more effective while his refusal to be bound by rules causes him to have less somatic upset from stress.

The person who scores high on factor G tends to be exacting in character, dominated by sense of duty, persevering responsible and planful. he is usually conscientious and moralistic and prefers hard working people to witty companions. The inner categorical imperative of this essential super ego should be distinguished from the superficially similar, social ideal self of Q3 factor.

Factor - H :

<table>
<thead>
<tr>
<th>Low score H</th>
<th>High score H +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shy</td>
<td>Venturesome</td>
</tr>
<tr>
<td>Restrained, timid</td>
<td>Socially bold, spontaneous</td>
</tr>
<tr>
<td>Thteria</td>
<td>Parmia</td>
</tr>
</tbody>
</table>

The H - person tends to be shy, withdrawing, cautious and retiring. He usually has inferiority feelings. He tends to be slow, dislikes occupations with personal contacts prefers one or two close friends to large groups.

The H + person is sociable, bold ready to try new things, spontaneous and abundant in emotional response. His 'thick - skinnedness' enables him to face wear and tear in dealing with people and gruelling emotional situations without fatigue.
However, he can be careless of detail, ignore danger signals and consume much time in talking. He is actively interested in opposite sex.

Factor - I :

Low score I - High score I +
Tough minded vs Tender minded
Self - reliant, realistic vs Dependent, over protected

The person who scores low on factor I tends to be practical, realistic, masculine, independent, responsible but skeptical of subjective, cultural elaborations. He is sometimes unmoved, hard, synical and smug.

The person who scores high on factor I tends to be tender minded, day - dreaming, artistic, fastidious and feminine. He is sometimes demanding of attention and help, impatient and impractical. He dislikes crude people and rough occupations.

Factor - L :

Low score L - High score L +
Trusting Adaptable, vs Suspicious, self opinionated,
free of jealousy, hard to fool
Alaxia vs Protension

The L - person tends to be free of jealous tendencies, adaptable, cheerful uncompetitive, concerned about other people and a good team worker.

The L + person tends to be mistrusting and doubtful. He is often involved in his own ego, is self - opinionated and interested in internal mental life. He is usually deliberate in his actions, unconcered about other people and a poor team member.
Factor - M:

Low score M - praxernia vs High score M + Autia
Practical, careful, conventional, regulated by external realities. Imaginative, wrapped up in inner urgencies careless of practical matter

The person who scores low on factor M tends to be anxious to do the right things, attentive to practical matters. He is concerned over detail and unimaginative.

The person who scores high in factor M tends to unconventional, unconcerned over everyday matters, self-motivated, imaginatively creative, concerned with 'essentials' and oblivious of particular people. His individuality tends to cause him to be rejected in group activities.

Factor - N:

Low score N - Forthright, Natural, Artless, Sentimental vs high score N + Shrewd, calculating, Wordly, Penetrating

The person who scores low on factor N tends to be unsophisticated, sentimental and simple. He is sometimes crude and awkward, but easily pleased and content with what comes and is natural and spontaneous.

The person who scores high on factor N, tends to be polished, experienced, worldly. He is often high headed and analytical. He has intellectual unsentimental approach to situations, as approach akin to cynicism.
Factor - 0 :

Low score 0 - Placid, Self-assured, confident vs High score 0 + Apprehensive, Worrying, Depressive

The 0 - person tends to be placid with unshakable nerve. He has a mature, unanxious confidence in himself and his capacity to deal with things. He is resilient and secure, but to the point of being insensitive of when a group is not going along with him.

The 0 + person tends to be depressed, moody, a worrier, full of foreboding and brooding. He has a childlike tendency to anxiety in difficulties, he does not feel accepted in groups or free to participate.

Factor - Q1 :

Low score Q1 - Conservative, Respecting, established ideas, Tolerant of traditional difficulties vs High score Q1 + Experimenting, critical, Liberal, Analytical free thinking

The person who scores Low on factor Q1 - is confident to what he has been taught to believe. He is cautious and compromising in regard to new ideas. Thus he tends to oppose and postpone change, is inclined to go along with tradition, is more conservative in religion and politics and tends not to be interested in analytical intellectual thought.

The person who scores high on factor Q1 + tends to be interested in intellectual matters and has doubts on fundamental issues. He is skeptical and inquiring regarding ideas either old or new. He
tends to be more well-informed, less inclined to moralize, more inclined to experiment in life and more tolerant of inconvenience and change.

Factor - Q2 :

Low score Q2 - vs High score Q2 +
Group dependent and Sound follower
Self-sufficient, prefers own decision, resourceful

The person who scores low on factor Q2 - prefers to work and make decisions with other people, likes and depends on social approval and admiration, he tends to go along with the group and may be lacking in individual resolution. He needs group support.

The person who scores high on Q2 + is temperamentally independent, accustomed to going his own way, making decisions and taking action on his own. He discounts public opinion, but is not necessarily dominant in his relation with others. He does not dislike people but simply does not need their agreement or support.

Factor - Q3

Low scores Q3 - vs High score Q3 +
Undisciplined selfconflict Controlled, socially follows own urges precise, following self image.

The Q3 - person will not be bothered with will- control, and regard for social demands. He is not overtly considerate, careful or painstaking. He may feel maladjusted.

The Q3 + person tends to have strong control over his emotions
and general behaviour, is inclined to be socially aware and
careful and evidences what is commonly termed 'self-respect' and
regard for social reputation.

Factor - Q4:
The person who scores low on factor Q4 - tends to be relaxed,
composed and satisfied. In some situations over - satisfaction
can lead to laziness and low performance, in the sense that low
motivation produces little trial and error.

The person who scores high on Q4 + tends to be tense, excitable,
restless, impatient. He is often fatigued, but unable to remain
inactive. In groups he takes a poor view of the degree of unity,
orderliness and leadership.

Administration and Scoring:
The 16PF Questionnaire contains 187 items. Three alternative
answers are provided for each of the questions. The subject has
to choose only one alternative from them. Simple and clear
instructions are printed on the coverpage of the test booklet. At
the top of the separate answersheet, four examples are given with
space provided for personal information of the subject. Although
the test can virtually be self- administering, it is always
important to establish good report with the subjects whether
tested individually or in groups. Further, it is good to
reinforce the instructions orally reiterating that the subject
will in the long run, be doing himself most good by being frank
and honest in describing himself.
The test has no time limit but the subject should give immediate answers. The test takes usually sixty to seventy minutes per form.

The 16PFQ can either be hand-scored with a window key or machine-scored. A window key makes the hand scoring process quite simple and rapid. Each answer can have the score 0, 1 or 2 points except for the factor -B (Intelligence) items which can have the score either 1 or 0. The scoring key of two card boards window is prepared, one covers the factors A, C, F, H, L, N, Q1, and Q3 and the other one covers the factors B, E, G, I, M, O, Q2 and Q4. The test-user can put the first window key over the responded answersheet of the subject and count the crossmarks visible through the windows for factor A allowing either 2, 1 or 0 indicated by the number printed adjacent to the hole. These scores are summed up and the total is entered in the space on the answersheet indicated by the arrow on the key for factor A. Thus, the subscores for each factor can be calculated.

Reliability:
The reliability of the 16PFQ, for both the forms A and B estimated by Test-Retest method, Equivalence coefficient method and Kuder-Richardson reliability are presented in Table 3.3. (P.104)

Validity:
Content validity was estimated by evaluating the relevance of the test-items. The obtained value ranged from .20 to .89 in both the forms. The test consists of all valid and internally consistent items for each factor.
TABLE 3.3 Reliability Coefficients of 16PFQ

<table>
<thead>
<tr>
<th>No.</th>
<th>Factor</th>
<th>Test Reliability</th>
<th>Retest Reliability</th>
<th>Equivalence Coefficients</th>
<th>Kuder Richardson Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Form - A 16-18 Years</td>
<td>Form - B 16-18 Years</td>
<td>Form - A 19-21 Years</td>
<td>Form - B 19-21 Years</td>
</tr>
<tr>
<td>1.</td>
<td>A</td>
<td>0.53</td>
<td>0.64</td>
<td>0.49</td>
<td>0.45</td>
</tr>
<tr>
<td>2.</td>
<td>B</td>
<td>-</td>
<td>-</td>
<td>0.37</td>
<td>0.36</td>
</tr>
<tr>
<td>3.</td>
<td>C</td>
<td>0.56</td>
<td>0.57</td>
<td>0.45</td>
<td>0.43</td>
</tr>
<tr>
<td>4.</td>
<td>E</td>
<td>0.49</td>
<td>0.53</td>
<td>0.50</td>
<td>0.46</td>
</tr>
<tr>
<td>5.</td>
<td>F</td>
<td>0.50</td>
<td>0.69</td>
<td>0.46</td>
<td>0.45</td>
</tr>
<tr>
<td>6.</td>
<td>G</td>
<td>0.61</td>
<td>0.59</td>
<td>0.47</td>
<td>0.38</td>
</tr>
<tr>
<td>7.</td>
<td>H</td>
<td>0.72</td>
<td>0.62</td>
<td>0.47</td>
<td>0.73</td>
</tr>
<tr>
<td>8.</td>
<td>I</td>
<td>0.64</td>
<td>0.47</td>
<td>0.67</td>
<td>0.59</td>
</tr>
<tr>
<td>9.</td>
<td>L</td>
<td>0.60</td>
<td>0.49</td>
<td>0.42</td>
<td>0.52</td>
</tr>
<tr>
<td>10.</td>
<td>M</td>
<td>0.52</td>
<td>0.50</td>
<td>0.49</td>
<td>0.44</td>
</tr>
<tr>
<td>11.</td>
<td>N</td>
<td>0.46</td>
<td>0.51</td>
<td>0.26</td>
<td>0.46</td>
</tr>
<tr>
<td>12.</td>
<td>O</td>
<td>0.50</td>
<td>0.63</td>
<td>0.64</td>
<td>0.52</td>
</tr>
<tr>
<td>13.</td>
<td>Q1</td>
<td>0.49</td>
<td>0.53</td>
<td>0.48</td>
<td>0.48</td>
</tr>
<tr>
<td>14.</td>
<td>Q2</td>
<td>0.51</td>
<td>0.47</td>
<td>0.45</td>
<td>0.33</td>
</tr>
<tr>
<td>15.</td>
<td>Q3</td>
<td>0.54</td>
<td>0.45</td>
<td>0.43</td>
<td>0.43</td>
</tr>
<tr>
<td>16.</td>
<td>Q4</td>
<td>0.60</td>
<td>0.56</td>
<td>0.59</td>
<td>0.61</td>
</tr>
</tbody>
</table>
The comparative occupational profiles of student nurses and C.P.Ed. students were in harmony.

The concurrent validity was established by correlating 12 common factors of the 16PFQ and High school Personality Questionnaire (HSPQ). The factor-wise coefficients of 16PFQ with HSPQ are presented in Table-3.4. (P.105).

Table -3.4: Correlation between 16PFQ and HSPQ:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>.19</td>
</tr>
<tr>
<td>B</td>
<td>.16</td>
</tr>
<tr>
<td>C</td>
<td>.16</td>
</tr>
<tr>
<td>E</td>
<td>.16</td>
</tr>
<tr>
<td>F</td>
<td>.21</td>
</tr>
<tr>
<td>G</td>
<td>.39</td>
</tr>
<tr>
<td>H</td>
<td>.30</td>
</tr>
<tr>
<td>I</td>
<td>.30</td>
</tr>
<tr>
<td>O</td>
<td>.40</td>
</tr>
<tr>
<td>Q2</td>
<td>.18</td>
</tr>
<tr>
<td>Q3</td>
<td>.32</td>
</tr>
<tr>
<td>Q4</td>
<td>.41</td>
</tr>
</tbody>
</table>

The norms were established sexwise, age-group wise as well as area-wise for 16PFQ. A copy of the from A- of 16PFQ along with answersheet is attached in Appendix A.

3.3.2. Bell Adjustment Inventory:

Following Tests were available in Gujarati for measuring Various areas of adjustment, in Gujarat.

Bhatt, Patel, Patel and Parikh (1960) prepared Emotional Adjustment Inventory for adolescents in Gujarati. As the inventory measures only emotional area of adjustment for
adolescents and is prepared in 1960, it was not used for this study.

Pasricha, Pagedar and Gajjar (1964) prepared a check-list containing 232 items covering 11 areas of adjustment: health and physical, sensitivity and confidence, economic and lack of facilities, self-schedule and independence, mild neurosis, self- and self-image, sex and marriage, social, family, studies, school and teachers, work career and future for college students. Hence, it was prepared in 1964 and for college students only, the investigator did not find it appropriate for this study.

Bhattacharya, shah and Parikh (1967) prepared an inventory in Gujarati and English which consisted of 55 items for adolescent school students. The present study constituted the sample of the teacher trainees. So this test cannot be applicable to them.

Badami (1970) developed family and social adjustment inventory for high school and college students. As the inventory measures only two areas of adjustment of high school and college students, it was not used for this study.

Desai (year not mentioned) prepared an adjustment inventory containing 100 items covering four areas of adjustment - family, self, society and environment for school going students. Secondly, the items of the inventory were selected from Gujarati adaptation of MMPI. Hence this inventory cannot be used for this study.

Shah (year not mentioned) prepared problem checklists for the
students of 8 to 10 grade and 11 to 12 grade separately. These checklists measured general adjustment of high and higher secondary school students. Hence these tests cannot be used for this study.

The investigator found Bell Adjustment Inventory the most appropriate amongst the above mentioned tools in Gujarati, as it measures four areas of adjustment, viz., home, health, social and emotional. Moreover BAI can be applicable to higher secondary school students to adults. Vocational Guidance Bureau, Ahmedabad has established norms for Gujarati speaking population, for their vide use of BAI for counselling and Guidance.

Hence, for measuring the adjustment of the teacher trainees, Bell Adjustment Inventory (BAI) adapted in Gujarati for Gujarati population by Vocational Guidance Bureau, Bombay, was used. This inventory has been designed and developed to study four adjustment areas, viz., home, health, social and emotional of the individual. It is necessary to give the brief description of these areas before giving the details of BAI.

Concept of Adjustment:
Life is a continuous process of adjustment, in which man strives to meet his own needs and maintain harmonious relationship with the environment. When an individual deals with his problems effectively, he is said to be well adjusted and adapts successfully to both the inner and other demands. Conversely, when his problems prove too much for him as shown by anxiety,
inefficiency, unhappiness or more serious symptoms - he is referred to as maladjusted.

Thus, it is very difficult to define 'adjustment'. Man must account himself to psychological and socio-cultural environment in addition to the physical environment.

Lehner and Kube (1964) define that "Adjustment is (1) a process of interaction (2) a continuous and therefore never completed process and (3) a process in which cause and effect relationships can be observed."

Kalugar and Kalugar (1984) define "adjustment as processes and behaviours that satisfy a person's internal needs and enable the person to cope effectively with environmental, social and cultural demands."

Lehner and Kube (1964) describe various areas of adjustment like family adjustment, school adjustment, social adjustment, adjustment of leisure and old age adjustment. Here the investigator has taken four areas of adjustment - home, health, social and emotional adjustment according to the test of BAI.

Home Adjustment:
There are two major things, the structure of the family and the functions of the family which are to be considered as the dynamics of family interaction.

Family structures defer according to the location of authority. In the patriarchal family, the father is the ultimate authority,
his word is almost law to his wife and children. In a matriarchal family, the mother or grand-mother controls, although the father may retain his position of chief provider. In the adult centered family, all major decisions are taken jointly by husband and wife, and many tasks, such as the training of children, are shared. In the democratic, decisions and responsibilities are shared by all members. All the four types of families are found in the society, but rarely in pure form.

Such factors as health, intelligence, temperament affect the interaction among family members and contribute to the variation.

Family functions, like family structures vary from time and place to place. In some societies, for example, most of the functions concerned with satisfying a person's needs are performed in the family. In others, only a few of these functions are carried out by the family, the rest being delegated to the other groups. There are eight main areas where the culture expects the family to assume varying degrees of responsibility. They are:

1. Reproduction
2. Protection and care of children
3. Socialization of children
4. Education of children
5. Conferment of status
6. Assumption of economic obligation
7. Recreation and
8. Satisfaction of psychological needs.

In order to understand better how family relationships affect personal adjustment and the satisfaction of psychological needs,
the focus should now turn towards a consideration of the dynamics of family interaction. Although a family reflects the values and behaviour patterns of its culture, no two families are exactly alike. Each family pattern is divided from the interaction of the distinctive personalities of its members. Families are constantly changing. New members are born into them, grow up and leave to establish careers and families of their own as older members pass away. All these changes affect, to some degree, the adjustment of the other members. It is more important to consider the husband-wife relationship, the parent-child relationship and adjustment to family crisis. If parents themselves are emotionally disturbed, if their own marital reactions are not well adjusted, if quarrelling and pickering are the order of the day, it will invariably pollute the adjustment area. Over-protection, over-hatred and inability to understand the problems of children will affect the adjustment of the family members. In general, the family relationships are dependent upon many factors and that each factor is responsible for home adjustment.

Health Adjustment:

It is said that 'Health is wealth'. So health plays an important role in the adjustment. It is not difficult to understand that physically and mentally healthy person can adjust very well in comparison to unhealthy person.

Traditionally, the medical profession is concerned with physical illness and psychiatry is devoted to the study and treatment of
mental illness. But now it is realised that both of these viewpoints are limited that although an illness may be primarily physical or primarily mental, it is always a disorder of personality, not just of his arms or lungs or mind. Thus fatigue or cold may lower the tolerance for psychological stress, an emotional upset may lower resistance to physical decease. In fact, it is often more important to know what kind of patient has the decease than what kind of decease the patient has.

In modern civilizations, psycho-physiological disorders have become a major health problem. It is observed that out of every two patients seeking medical aid, one is suffering from an illness related to emotional stress. Although psycho-physiological disorders are most frequent during the periods of young and middle adulthood, they may occur any time from early childhood to old age.

Social Adjustment:

The Greek philosopher, Socrates said that 'Man is a social animal'. One cannot think of man without society.

Social adjustment is related to person's relationship with his friends, relatives, neighbours and others. Here social adjustment means how man makes friends and maintains the relationship with others satisfying both the parties.

The school stands second only to home in influence exerted on the life of a man, school also provides the opportunity to come in
contact with the community life. Many modern day problems get exposed and a sense of adjustment requirement is felt at this stage.

School and college atmosphere exposes the youth to social inequalities, social customs, expectations and aspirations from the social as well as cultural points of view and so on. The biggest thing the education has to do is to expose a man or a woman to wider world where well-being is to be sought, by way of either marriage and/or employment.

Once again, the social exposition is continuous. It comes to an end only when there is an end of the life. Social relationships and interactions have an everlasting and even increasing impressions on the personality of a man. Hence, social adjustment is an equally important factor which can never be undermined or neglected.

Improved social adjustment has its side effects on other areas of adjustment too. The family life, psychosexual relationship of husband and wife and even the futuristic approach of a man is affected by those factors. A man can never discard the social obligations on him.

Emotional Adjustment:

Man lives and breathes with emotions. Man is given two gifts in comparison with animals, they are smiling and crying. Although man displays a wide range of emotions throughout the days, at one
moment he may exhibit a state of great joy and the very next moment he might move to great anger or sorrow due to one or the other reason. A normal person can adjust satisfactorily with his daily activities but emotionally disturbed person cannot adjust easily.

Emotional maladjustment may lead the person to psychoneuroticism. Man is an intellectual being. So man has to learn such a behavioural pattern that his own thoughts and emotions do not stand like the enemies of each other.

Living in the age of anxiety, the imbalance of the emotional status of a man is not going to be an alien phenomenon. The sun rises with weapons that can bulge into the emotional set-up and it does not leave the man in peace even after it sets down. If a man is not aware enough and falls prey to the pressures of life continuously, emotional breakdown takes his toll. The situation arising out of numerous problems disturb his consistency and they in turn disturb the requirements of the normal life. Emotional adjustment is thus required in the form of emotional control. The manifestation and display of emotion is one thing and the control or adjustment is altogether a different thing. Emotional adjustment is rather an interwoven pattern with other areas of adjustment.

Administration and scoring of BAI:

BAI contains 135 items related to the above four areas. Each area
of adjustment carries 35 items. Normally, BAI takes about 30 to 40 minutes, including the time for instructions. It is suitable for the application on both the sexes as well as at the school and college levels. The subject is required to encircle any one option from the given alternatives which, according to him/her, is the correct answer. The answers are to be given on a separate answersheet. The scoring key provides scores for individual responses of each of the item of the four areas of adjustment. The sum total of the items of each of the area indicates individual's adjustment, viz. home, health, social and emotional respectively. The sum total of all the areas indicates total adjustment. The level of adjustment can be determined by using the norms established for each of the area of BAI.

The coefficients of reliability for each of the four areas and total adjustment obtained by applying Spearman-Brown formula is given below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Adjustment</td>
<td>0.887</td>
</tr>
<tr>
<td>Health Adjustment</td>
<td>0.905</td>
</tr>
<tr>
<td>Social Adjustment</td>
<td>0.890</td>
</tr>
<tr>
<td>Emotional Adjustment</td>
<td>0.804</td>
</tr>
<tr>
<td>Total Adjustment</td>
<td>0.886</td>
</tr>
</tbody>
</table>

The internal validity has been found out by intercorrelating the four adjustment areas. It was satisfactory. Items analysis was carried out on a sample of 300 adolescents. The items were significant for Indian population. A copy of BAI along with answersheet is attached in Appendix - B.
3.3.3 Reaction Scale for NDM:

In order to measure the reaction of the teacher trainees towards NDM, the reaction scale for NDM was developed in Gujarati by the investigator. It contains 15 statements, seven positive and eight negative about NDM. It is a five point rating scale, the five points being strongly agree (SA), agree (A), Undecided (U), disagree (D) and strongly disagree (SD). The subjects are required to put a tick mark against each item in the column corresponding to the degree of their agreement or disagreement. The instructions are explained on the forwarding page along with personal information for the subject. The scoring of each statement is done separately. The weightage for the positive statement for the five points is 5,4,3,2,1 respectively and for the negative statement it is 1,2,3,4,5 respectively. The sum total of scores on individual items is the reaction score of the subject. Thus the scores 45 and below are regarded as unfavourable reaction, while the scores above 45 are taken as favourable reaction. A copy of reaction scale for NDM is attached in appendix - C.

3.4.0 Procedure of Data Collection:

The necessary data were collected by administering the tools described in 3.3.0. There were two groups in the present investigation - experimental and controlled. Prior to the treatment, the dependent variables, viz personality factors and adjustment, were measured by administering the appropriate
measurement tools, viz. 16PFQ and BAI to both the groups. The task of pretesting been over, the teacher trainees of the experimental group were trying to mould their personality and adjustment.

The teacher trainees of the controlled group were not given any treatment. After the completion of the NDM treatment, 16PFQ and BAI were administered to both the groups. Moreover, the Reaction Scale towards NDM was administered to the experimental group. The administration of the tests being over, the scoring was done and the data were tabulated and analysed with the following statistical techniques.

3.5.0. Statistical Techniques Used:

The obtained data were analysed statistically, keeping in view the objectives of the study. The statistical treatment given to the data are mentioned below.

1. In order to realise the level of adjustment of the teacher trainees, chi-square technique was used.

2. In order to study the effectiveness of NDM on personality factors, viz. A,C,E,F,G,H,I,L,M,N,O,Q1,Q2,Q3, and Q4 of the teacher trainees, as well as adjustment areas, viz. home, health, social, emotional and total, correlated t-test was computed separately.

3. The main as well as the interaction influences of treatment, sex and marital status on teacher trainees' personality
factors, viz. A, C, E, F, G, H, I, L, M, N, O, Q1, Q2, Q3, and Q4, and adjustment areas, viz. home, health, social, emotional and total, were studied with the help of 2 x 2 x 2 factorial design ANOVA of unequal cell-size.

4. In order to realise the reaction of the teacher trainees towards NDM, percentiles, coefficient of variation percentage and the chi-square techniques were used.