Chapter-2
DESCRIPTION
OF THE TOOLS
CHAPTER II
DESCRIPTION OF THE TOOLS

In the preceding chapter the origin and statement of the problem, review of related literature, objectives and hypotheses were reported. The present chapter has been compiled for the description of various tools used in the present investigation.

Following tools were used to collect data:

- **Value – Survey Form** developed by the investigator:
  ii) Developing Value Survey Form: Personal and Social values.
  iii) Value Mediators developed and validated by the investigator herself.

- **Value clarifying instrument** developed by Rath (1978) adapted by Chinara Beudhar (1991) consisting of following steps:
  i) Establishing rapport,
  ii) Awareness of values,
  iii) Choosing, prizing and acting upon values.

- **Observations of classroom interaction**: Equivalent Talk Category System, developed and standardized by Obers and Miller (1971).

- **Teacher Attitude Inventory**: Developed and Standardized by Ahluwalia, S.P. 1978.

- **Sixteen Personality Factor Questionnaire – (16 PF)** by Cattel and Eber (1972)

Each of these tools has been described in the following paragraphs.
Tool - I

VALUE SURVEY FORM

Education is always an adventure which is ceaseless, unending, thrilling. It is an endless search for the best yet to be known and harmonized with one’s being. It contributes in essence to whatever promotes Truth, Goodness and Beauty that enrich the heart kind of humanity. Hence, the nurturing and assimilating of values in education (Chakrabarti, Mohit, (1997)).

Identification, Interpretation, analysis and evaluation of values, therefore form essential characteristics of living education. They simplify and ascertain values from true perspectives in education.

The norms of values are difficult for proper identification. This becomes all the more complex in the sphere of education because the latter itself is a complex activity. Moreover, values are hardly seen but felt and experienced through persistent and devoted practice.

The core of education for values lies in self-esteem and self-identity which have been severely damaged by bureau technocracy preaching the slogan of a pyramidal hierarchy of operational control, linked with rationalized and standardized means for reaching predetermined ends. This definitely affects the finer sensibilities and softer values of life with which every learner wants to be christened by means of education (Chakrabarti, Mohit, (1997)).

In the absence of any suitable value- survey for the specific purpose, the investigator developed a Value Survey Form along the following steps:

Step I Identification of values through content analysis and their categorization.
Step II Decision about the Format of the tool.
Step III Construction of the Preliminary Draft.
Step IV Draft Revision and Modification.
Step V The Final Draft.
IDENTIFICATION OF VALUES THROUGH CONTENT ANALYSIS OF TEACHER TRAINING COURSE.

The contents of each paper/topic from the syllabus of Panjab University was analysed for its potential to sensitise and pin-point the inherent values directly or indirectly related to the same. Determination of values were made by the investigator and a team of 4-research scholars working at the department of education. The identification team discussed thoroughly, the relationship of each topic with issues related to values, in a series of sittings. The base of the identification was similar to a research work done by Sima Pal of Shantiniketan, Calcutta.

The values corresponding to each topic were compiled for all the four compulsory papers of Panjab University, B.Ed course for the session 2001-2002. In these papers a number of topics have rich potential of value education. Different values are associated with different papers. There are some topics which are specific to some particular values and there are others which tangentially touch many topics.

**Topic wise Content analysis of course contents of B.Ed. for identification of values**

A topic wise analysis of the course content has been presented for each paper in the following paragraphs:

**Content Analysis : Part I (B.Ed. Syllabus)**

The courses of teacher education have been suggested as follows at secondary stage.

- **Pedagogical theory – 20% weightage**
- **Working with the community – 20% weightage**
- **Content- cum- methodology and practice teaching including related practical work-60% weightage.**

For the research purpose investigator conducted the study on secondary teacher training programme of Panjab University.

**B.Ed. Curriculum : Part A**

A frame work was prepared by lecturers teaching in different colleges affiliated to Panjab University by organising workshops. The frame work was approved by Board of studies in Education, Panjab University, Chandigarh. Compulsory papers for B.Ed. examination to be held on 2001, when investigator collected the data for the study were:
DESCRIPTION OF THE TOOLS

Paper I  Teacher and Education in Indian Society

Paper II  The Learner – Nature and Development

Paper III  Teaching Learning Process

Paper IV  Part A  School Management.

Part B  One of these options.
- Guidance and Counselling.
- School library services.
- Adult and continuing education.
- Health and Physical Education.
- Computer Education.
- Yoga Education.
- Population Education.

Paper V and VI  Methodology of Teaching

Any two of the following school subjects:
- English
- Hindi
- Punjabi
- Sanskrit
- History
- Geography
- Economics
- Civics
- Social Studies
- Commerce
- Mathematics
- Science
- Home Science
DESCRIPTION OF THE TOOLS

• Art
• Music
• Dance
• Agriculture
• Physical Education.

PART II

Practicals

i) School experience programme included classroom teaching responsibility in two teaching subjects and performance in other functions of the teacher. (Detailed programme has been given in Appendix 2(i)

ii) Simple Expressional Competencies
SEC Included the following :
  a) Drawing and Sketching.
  b) Preparation of teaching aids.
  
  • Chalk board and display board work.
  Detailed programme has been given in Appendix 2(i)

iii) Work experience programme :
Every student teacher is required to select any one of the following crafts :
  • Art and Painting
  • Cotton / Wool Craft
  • Gardening
  • Wood work
  • Home Craft
  • Leather Work
  • Card Board Modelling
iv) **Health and Sports Programme.**

v) **Cultural and Community activities:**

Detailed programme has been given in Appendix 2(i).

In order to develop the tool to measure preference for values, the investigator studied the contents of B.Ed. course of the Panjab University, Chandigarh.

A training programme is an essential part of the process which turns a pledging discipline into a fully grown one. The secondary schools are staffed with trained graduates. The teacher training curriculum includes some compulsory and some optional subjects. A detailed description of identification and categorisation of values through content analysis of compulsory core has been given in the following paragraphs.

**Paper I**

**TEACHER AND EDUCATION IN INDIAN SOCIETY**

**Unit – I  Concept And Type Of Education – Formal, Informal And Non-Formal**

- Aims of education recommended by Indian Education Commission (1964-66) and NPE (1986)

Education for value is, indeed, education for man in order to be men and vice versa. All values introduced and exercised in education are, therefore, meant for social development and social prosperity. These enable us to be in perfect tune with the truth: let noble thoughts come to us from all directions may it be formal, informal or non-formal channels.

The aims and objectives of education for values from sociological dimensions are varied and thrilling. These primarily encapsulate the essential sociological values axis. The essence of education for values from social dimensions necessitates an inward approach side by side with the outward one which ought to spell out the most
vulnerable value-component related to the advancement of the individual self and the social one well-coordinated and well-balanced every-time everywhere.

Aims of education recommended by Indian Education Commission (1964-66) and NPE (1986) are also value oriented.

Corresponding Values

Self-realization, Dignity of individual, Quest for knowledge, Self-respect, Respect for others, Moral, Spiritual and Cultural values, National consciousness, Regards for the constitution, Self-improvement.

Unit II Concept of Educational Philosophy and Philosophy of Education with scope and functions of educational philosophy in modern Indian educational system.

• Relationship between philosophy and Education
Idealism, Naturalism and Pragmatism.

• Educational thoughts of Mahatma Gandhi, Tagore and Dewey.

In 60’s when whole of the nation was concentrating upon shifting the ethos and focus to the Indian past and present, Gandhi, Tagore, Vivekanand, Smarth Guru Ramdas, Dayanand, Bal Ganga Dhar Tilak, Gopal Krishan Gokhle & innumerable others who have contributed to the national integrity, national thinking & national culture, were brought into the academic zones of university courses in almost all the subjects of social sciences. Reviewing long life span of Mahatma Gandhi & his domination of political scenario, few concrete activities and abstract rationalisation in his contributions figure at many places. It is clear that he was very sensitive about the unification of ends and gram swaraj and India of his own dreams. He gave no place to competition, personal ownership of wealth. Out of his activities, Ahimsa is one of the clear messages in respect of the future nation of his themes, implies universal love, uncompromising purity and truth as these were made aims ends. So these were accepted as the means to attain not only political freedom but socio-economic freedom also. Hence the value system consisting of following values; Ahimsa, Truthfulness, Love, Self-discipline and Equality of all religions, comes to the fore out of Gandhi’s topic of study.
Corresponding values

The values which emerged as prominent and dominant characteristics to be established through this unit are:


Unit III Relationship between Sociology and Education.

- Agencies of Education; Home, School and society.
- Education for Secularism, Democracy, Nationalism and International Understanding

The role of education for values in connection with individual and social customs, rights, rituals, manners and so on has assumed gigantic dimensions in each areas of social efflorescence. At the same time, it is high time to allow education to play its significant role in inculcating values best suited to the purpose of ameliorating social stress and strain terribly exposed through ethnic violence and communal ukase. Thus education for values incorporates education for social democracy where the creative spirit inherent in every person is honoured. Education for cultural values should also emphasize the values derived from diverse sub-cultures which actually accelerate national integration.

Undeniably, the foundation of national integration becomes strong and lasting with education for values that essentially cares for nurturing the values of self-esteem.

Corresponding values

- Respect for elders, Co-operation, Self-improvement, Confidence, Responsibility, Service, Justice, Discipline, Perseverance, Dignity of Labour, Regards for civil Responsibility, Moral and Spiritual values, Self-analysis,
DESCRIPTION OF THE TOOLS

Determination, Equality of status, Internationalism, Respect for other sects and faiths, Social responsibility, Truth, Beauty, Goodness.

Unit IV Concept of values, place of social, Moral and cultural values in education.
- Erosion of values
- Sources of values – Religion, Philosophy, Literature, Social customs and science. Role of teacher in inculcating values in students.

The urgent need for a vigorous national programme of value education, in the light of the catastrophic worldwide erosion of values and the desire to build a new global social order, has been convincingly and eloquently established by many. A large number of values have also been identified, defined, described, analysed and classified by many authors and a number of different methods for inculcating values have been developed and tested. The specified scheme of study for B.Ed. reflects upon social, moral and cultural values and the role of teacher in inculcating values.

Corresponding values
- Objectivity, Regards for other religions, Knowledge, Respect of customs and traditions, Helpful, Appreciation of culture, Morality, Social equality, Responsibility, Discipline, Loyalty to duty, Self-help, Obedience, Professional commitment.

Unit V Population Education concept, need, problems and programmes for imparting population education.
- Education for modernisation, work experience and vocationalisation.
- Education and Human Resource Development-Concept, need and goals, concept of open university & Distance learning.

Population education is gradually becoming a very popular dimension of education almost everywhere. This is particularly viable in developing countries where the values exercised by means of education more or less remains marked or passive. Admittedly, population education in our country filliped in ecstasy and euphoria well imported from Western thinkers, is neither population – controlled nor education oriented.

Education for work experience and vocationalisation is also a need of the hour.
Corresponding values


PAPER II

THE LEARNER NATURE AND DEVELOPMENT

Unit I

- Educational Psychology – Nature, Scope and Importance for the teacher.
- Growth and Development – Concept, Principles, Stages of development with Special emphasis on Adolescence period.
- Role of heredity and environment in the growth and development of the child.

It is a well known fact that the study of educational psychology has influenced the educative process in many ways. Keeping into consideration the importance, the teaching of educational psychology has been made compulsory in teacher training programme to equip the prospective teacher with the necessary skills and competencies to enable him to deal effectively with teaching-learning problems of the class. Teachers with equal academic qualifications differ to a great extent in communicating their ideas effectively in the class. Thus we see that it is not the knowledge of the subject matter alone which makes a good teacher. The difference may be attributed to lack of knowledge of educational psychology i.e., the knowledge of the learners, their abilities, stages of development and the influence of environment.

Adolescence is the most important period of human life. It is a transitional period. Chronologically, adolescence comes roughly in between the years from 12 to the early 20's. In this period, great change occurs in all developmental dimensions of the individual.

Corresponding Values

Truthfulness, Logical, Regularity, Accuracy, Social responsibility, Civic sense.

Unit II

- Intelligence – Meaning, theories, Measurement of intelligence-uses and limitations.
- Aptitude – Concept, types of aptitude tests – uses and limitations.
• Creativity – Concept, Characteristics of creative child, educational programme for developing creativity.

One of the single variable which affects schooling is the quality of behaviour called intelligence. Intelligence, the dictionary says, is The capacity to acquire and apply knowledge. Philosophers and Psychologists developed various theories as regards the nature of intelligence. The development of intelligence testing may be attributed to the study of individual differences. The intelligence quotient (IQ) is one of the most common expression used in mental testing which has picked up and passed by all.

Aptitude includes both inborn capacity and the effects of environment on the individual. Aptitude tests can be used for the purpose of guidance in selecting subjects for studying in schools and colleges. They can be used for helping the individual to select the profession of his choice. The psychologist and the counsellors must supplement the results of aptitude tests with intelligence tests, school records, interviews and interest tests. Creativity can also be nutured by special programmes in schools like co-curricular and curricular activities.

Corresponding Values


Unit III

• Learning – Meaning, factors affecting learning
• Theories of learning – Thorndike’s Trial and Error theory, Pavlov’s continuing theory, Kohler’s Insight theory, Educational implications of theories of learning.
• Memory and Forgetting.

Learning is to bring changes in the behaviour of the organism. Teacher must know the operations and approaches to learning to develop better teaching strategies. Teacher can understand the individual differences in learning among learners and can adapt his teaching according to their requirements by using different teaching methods. Teacher can help the students to transfer skills and information acquired in class room to life situations outside the school.

The teacher’s responsibility is to encourage the learners to acquire and to retain the knowledge imparted in school for future use in meeting life problems. Teachers must know the various techniques which can be used to minimize the percentage of
DESCRIPTION OF THE TOOLS

Forgetting and to make the process of acquisition of knowledge more efficient and lasting for the students.

Corresponding Values

Systematic, Recognition, Inquisitive, Perseverance, Self-help, Dynamic, Responsive, Attentive, Selective, Confidence.

Unit IV

- Personality – Concept, determinants, Assessment of personality.
- Mental Health-concept, importance, principles, development of good mental health.
- Defence mechanism.

Personality for a layman, means the effect which an individual leaves on other people with whom he comes in contact. There are some important determinants which influence personality more than other factors. There are different methods to assess personality of pupils. Knowledge of all is very essential for teachers.

Industrial development, social and economic changes have given rise to a number of new problems. The problem of mental health has acquired importance in the programme of national development. Mental health is the ability to adjust satisfactorily to the various strains of the environment, we meet in life. Learning is dependent on sound mental health. Mental health is an inseparable part of education. Teacher needs to know that it is the tendency of every person to make up deficiency of one trait or area of development in another area. When a person feels weak and fails in one area, he compensates in another field. Hence the topic of Defense Mechanism was included in the curriculum.

Corresponding Values

Inquisitive, Democratic, Orderliness, Affectionate, Loving, Self-Discipline, Self-Understanding, Sensitivity, Self-esteem.

Unit V

- Elementary Educational statistics – Meaning, uses and measurement of central tendency (Mean, Median, Mode), Standard Deviation, Measurement of Correlation by rank difference Method.
The education of exceptional children is quite a stimulating and interesting field for educators. In India, it is quite a new field which was totally neglected before independence. They were left unattended on the mercy of the society, and hardly an institution existed that could cater to the needs of this group of children. An exceptional child is he who deviates from the normal or average child in mental, physical and social characteristics to such an extent that he requires a modification of school practices or special educational services. Teachers should know what type of strategies are required for different types of children.

Modern problems and needs are forcing statistical ideas more and more to the fore. There are so many things we wish to know which cannot be discovered by a single observation, or by a single measurement. All in all, it certainly appears that the rudiments of sound statistical sense are coming to be an essential of a liberal education.

Corresponding Values


PAPER – III

TEACHING LEARNING PROCESS

Unit-1 : Teaching And Learning

- Concept of teaching – learning, relationship between teaching and learning and characteristics of good teaching.
- Principles of teaching.
- Maxims and devices of teaching.

Those who work in the field of education are always looking and searching for better ways and means to improve quality of education and instruction. Over the years teaching-learning process has undergone rapid conceptual and functional transformation. Teaching is influenced by the nature of content, learner, objectives, instructional procedures and the characteristics of teacher. Further, good teaching is characterized by observance of various basic principles. When teaching activity is initiated learning takes place and the amount of learning will once again, have implications on teaching.

Knowledge of maxims and devices of teaching is also very essential for teachers to make teaching-learning process easy, effective, vivid and durable.
Unit – II Curriculum Development

- Concept: Principles and scope of curriculum.
- Types of curriculum – subject-centred, experience centred, balanced curriculum.
- Co-curricular activities – meaning, importance and principles of organisation.

Education suited to the needs and aspirations of a society must have a scope of spirit boosting and liberating from the serfdom-mental as well as physical. Charged with such a pragmatic outlook, the Govt. of India through its National Policy statement on Education (1986) stated that *a radical reconstruction of education on the broad lines recommended by the Education Commission (1964), is essential for economic and cultural development of the country, for national integration and for realising the ideal of a socialistic pattern of society*. Curriculum includes both the intended outcomes as well as the means used to achieve them. It meets the needs of all the learners through various experiences – academic and non-academic. Hence the role of co-curricular activities is very important.

*Knowledge explosion* has made a difficult task for curriculum planners to decide what to include in curriculum and what to exclude from it. The difficult task is not only selection of the content but also its construction or organization. Curriculum construction is a scientific process which involves basic principles on which its credibility exists.

Corresponding Values


Unit III Educational Technology

- Meaning, importance and types of Educational Technology.
- Modification of teacher behaviour through – Micro-teaching, team teaching, programmed learning and simulated teaching.
- Role of Mass-Media in education by the use of TV, news papers and films.
Already, in the advanced countries, a vast array of educational technology media and methods are being developed and utilized successfully to improve the quality of teaching-learning process and extend its coverage. This becomes specially pertinent in India, the developing country, in view of the National Policy on Education, 1986 and its Programme of Action which envisage a dynamic use of educational technology for enhancing the instructional and learning inputs of the formal and non-formal educational arrangement.

Microteaching is recognised as a scientific device for the modification of Teaching Behaviour. To train teachers initially and then to maintain their professional skills through a lifetime of service is a tremendously complex task.

The present era is passing through a period of a silent revolution in the field of education. Knowledge explosion and population explosion are trying to change the web of life. Mass media can play an important role in spreading the education without going to the people.

**Corresponding Values**


### Unit IV Evaluation

- Concept: Purpose and principles.
- Characteristics of a good-tool, defects and types of external examinations with reference to secondary education.
- Continuous – Comprehensive internal evaluation.

In teaching-learning process, teachers require some sort of measuring tools to make numerous decisions about knowing the efficiency of their teaching; judging the general progress of students; diagnosing student’s difficulties; and above all, evaluating the whole school programme.

A variety of evaluation techniques can be used for describing changes in student performance as well as value judgements concerning the desirability of the changes. There is a need to make evaluation an integral part of the total teaching – learning process and to make testing more comprehensive by taking into consideration all the
DESCRIPTION OF THE TOOLS

three domains-cognitive, affective and psychomotor for the all-round development of the student in both scholastic and non-scholastic areas.

Corresponding Values
Helping, Self-Consciousness, Self-Dependent, Self-Confidence, Suggestive, Purposeful, Objectivity, Practical, Comprehensive.

Unit – V Solution To Class-Room Problems
- Class-room problems – nature and significance.
- Types of problems related to teaching-learning and class management.
- Solution of class-room problems by adopting scientific approach and its significance.

The classroom management has acquired a special significance with the advancement of science and technology. Classroom problems are varied in nature and hence require special and specific solutions. Solution of one problem cannot help to solve another similar problem faced by another teacher. Each classroom problem has an adverse effect on performance of children. So, for solving classroom problems teachers must try to find solution themselves using scientific and systematic ways of solving specific problems. Unresolved problems are road block to progress.

Corresponding Values

PAPER – IV
Paper IV had two parts. Part A of paper IV comprised of 60% syllabus of paper IV and was compulsory for all where as part B had different options. Pupils were required to select only one option out of them.

PAPER IV A
SCHOOL MANAGEMENT
UNIT – I - Organisation and Management
• School plant: Importance, Essential characteristics, equipment and optimum utilisation and maintenance of different school components.

• Institutional planning: Meaning, objectives, Advantages and characteristics of an Institutional planning. How to prepare an institutional plan. Role of Administrator. Role of teachers in it.

School organisation is concerned with the process of regulations, forms, calendars, schedules, arrangement of material and human equipment so that the purpose of entire programme can be achieved. Organisation of the school regulates its activities and working in an effective manner. Good organisation ensures unity of effort, efficiency, goodwill and proper use of resources. The term school management has wider scope than school organisation and school administration. The management means to run, handle, conduct or control an organisation.

The school plant is one of the major aspects of school administration. School plant is a comprehensive term which includes the school building, furniture, lawns, school garden, playground, laboratories, library, hostel, staff quarters, class-rooms, hall, staff- room, student’s common room, canteen, cycle- shed etc. To have a building for the school is essential but what is more important is its maintenance. The building and equipment will not suffice, unless proper maintenance is ensured.

Institutional planning is a mile- stone in the journey towards the improvement of education. (E.W. Franklin)

The new approach of institution planning has for quite sometime now been supported and promoted on a priority basis by the Union Ministry of Education, the planning commission, the NCERT and some state Governments. Institutional plan is a plan which is prepared by the institution on the basis of its felt needs and resources available or likely to be available for its own development and improvement. It defines the targets, determines the time bound progress, regulates and accelerates the working of the institution.

Corresponding Values

Unit – II Essential Facets of School Organisation

- Head of institution – Importance, qualities and functions of head of the institution.
- Importance, types and principles of time-table.
- Preparing budget estimates, recruiting staff, procedures and promotions.

Head of the institution holds the key position in the school. The tone and efficiency of the school largely depends on ability and skill, personality and professional competence of the head. The success of the school ultimately depends on the efficiency, alertness, tactfulness, imagination, initiative, originality, experience and capability of the head of the institution.

Time table is a mirror which reflects the entire educational plan of the school. It shows a systematic and pre-planned scheme of work to be done by the students and the teachers of various classes and sections.

Preparing budget estimates in the beginning of the academic year, recruiting efficient and appropriate staff, promotion policy of teaching staff and other employees is very essential to ensure better understanding and functioning of the school.

Corresponding Values


Unit – III Major Factors for Qualitative Improvement

- Welfare services – NSS, NCC, Scouts and Guides, SUPW. Guidance services, house system, tutorials.
- Supervision and Inspection.
- School records and registers.

NSS, NCC, Scouts and Guides, Guidance services, tutorials should form an integral part of our curriculum. As the society particularly youth is passing through stress and pressures. These activities provide sublimation to stress and emotions.

Records and registers are very important and indispensable for school organisation and administration. Every school should maintain certain records and registers from which its origin, its growth and development, its conditions and
circumstances, its aims and objectives, its aspirations and achievements, its efficiency and usefulness can be clearly known, judged and estimated.

Periodical supervision and inspection is also required to maintain the standard of the school as it is considered as backbone of educational improvement.

Corresponding Values


List of Values identified from course curriculum of B.Ed.

From the above mentioned content-analysis, the investigator prepared the following list of non-overlapping values;


Developing Value Survey Form:

**STEP I: CATEGORISING VALUES**

After doing content analysis, literature was consulted and discussed with the supervisor. The two categories of values namely Personal and Social values were selected to study their impact on Teaching Behaviour of prospective teachers.

**Personal Values:**
- Aesthetic sense
- Discipline
- Love and Affection
- Perseverance
- Sincerity
- Selfless service unto others

**Social Values:**
- Co-operative Decision making
- Equality of status and opportunity
- Openness to reason
- Regards for the dignity of individual
- Responsibility
- Tolerance

**STEP II : VALUE SURVEY FORM**

**Decision About the Format of the Tool**

The format of Social and Personal value survey form was designed after *The Rokeach Value Survey (1973)* as

(i)   it can be easily administered and
DESCRIPTION OF THE TOOLS

(ii) it exhibits a clear preference for the values affecting the individuals decision in his day to day life.

STEP III : VALUE SURVEY FORM

Construction of the Preliminary Draft

Following the above stated format, the investigator prepared the preliminary draft. The Social and Personal values as derived from Teacher Training Course were not placed as such rather, they were renamed and modified in the light of observations of experts.

Rokeach (1973) identified two kinds of terminal values viz., Personal and Social while there are many ways of classifying terminal values, one classification that deserves to be singled out for special mention is that the terminal values may be, intrapersonal or interpersonal in focus. Persons may vary reliably from one another in the priorities of values; that their attitudes and behaviour will differ from one another depending upon priorities of different values.

On the bases of the above rationale, Co-operation, Tolerance, Dignity of man, Dignity of labour, Equality of status, Responsibility, Logical, Openness to reason – were the values which have been placed under the heading Social Values. Consistency, Dutifulness, Discipline, Honesty, Punctuality, Perseverance, Self-control, Self-Confidence, Sincerity, Ahimsa, Aesthetic Sense, Helpfulness, Kindness, Love, Morality, Service, Sympathy were placed under the heading Personal Values.

STEP IV : VALUE SURVEY FORM

Draft Revision and Modification

The preliminary draft of Social and Personal value survey was modified three times.

In the first round of modification, the preliminary draft was given to fifteen experts in the field of education with a request to give their comments about

(i) the Comprehensiveness,
(ii) the suitability and ,
(iii) other suggestions if any.

For better communication most of the experts preferred values to be used in behavioural term. They also viewed that Ahimsa and Kindness were overlapping to
some extent on behavioural aspects. Some other modifications were done in the statements of the values.

The changes incorporated in value-survey were as follows:

- The values were stated in behavioural terms by adding value mediator
- Value Ahimsa was dropped
- Used the term Regards for the Dignity of Individual instead of dignity of man.

**Initial Tryout Of Value Survey Form**

The Modified version of the preliminary draft was tried out over 35 final year Post-Graduate Students of Education (M.Ed) Panjab University, Chandigarh.

It was observed that:

(i) some students demanded meanings and explanations for different Social and Personal Values and

(ii) some students were mixing the meaning of Helpfulness and Kindness and Service

(iii) Out of all the students nearly 40 percent students were found assigning same ranks to different values.

The modifications based on above stated observations were made as follows:

- In order to simplify the meaning and explanations of the terms used in all values, in the second para of the first sentence of instruction i.e. *there is a list of values on the left and blank boxes against each value on the right* was changed to: *There is one blank box against each value of the list.*
- The distracting values of Helpfulness, Kindness and Service were merged into one single value as **Selfless service unto others.**
- Instructions were made more clear with additional information i.e. *Every value has to be assigned a separate rank.*

**Second Tryout**

This time, the third draft was administered over male (40) and female (40) final year post graduate students of Panjab University, Chandigarh. It was observed during second tryout that:

- Most of the students asked to differentiate between **Honesty, Sincerity and Morality.**
- Some students asked to differentiate between **Discipline and Punctuality.**
- Some students wanted to change previous rank to assign other numbers.
Hence following steps were taken to make changes:

- The distracting values Honesty, Sincerity and Morality were merged into one single value of Sincerity.
- The distracting value Punctuality was merged into one value Discipline.
- Instructions were modified as, If you wish to change the rank given in the first instalment to a value, you should cross the previous rank (X) and write the revised rank against it.

**STEP- V : VALUE SURVEY FORM**

**The Final Draft**

On the basis of changes made in the third draft, the Value Survey was finalized.

*Personal* Value Survey Form consisted of six values:

- Aesthetic sense,
- Discipline,
- Love and affection,
- Perseverance,
- Sincerity
- Selfless service unto others.

The final draft of *Social* Value-Survey Form consisted of six values;

- Cooperative decision-making,
- Equality of status and opportunity,
- Openness to reason,
- Regards for the dignity of individual,
- Tolerance
- Responsibility.

**Reliability**

The final copy of Value-Survey Form was administered over 20 final year Post-graduate students of Panjab University, Chandigarh to obtain the stability measure for each of the six Social values and six Personal values over a gap of two weeks. The test-retest reliability for each value was obtained separately through rank-order correlation method (Garrett, 1985).
The reliability co-efficients corresponding to these values have been given as follows:

Table : 2.1
Test-retest Reliability Coefficients (N=20) of Social Values (Final Draft)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Social Values</th>
<th>Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cooperative Decision Making</td>
<td>0.99</td>
</tr>
<tr>
<td>2</td>
<td>Equality of Status and Opportunity</td>
<td>0.98</td>
</tr>
<tr>
<td>3</td>
<td>Openness to reason</td>
<td>0.97</td>
</tr>
<tr>
<td>4</td>
<td>Regards for the dignity of individual</td>
<td>0.98</td>
</tr>
<tr>
<td>5</td>
<td>Responsibility</td>
<td>0.99</td>
</tr>
<tr>
<td>6</td>
<td>Tolerance</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Table : 2.2
Reliability Coefficients of Personal Values (Final Draft)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Personal Values</th>
<th>Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aesthetic Sense</td>
<td>0.96</td>
</tr>
<tr>
<td>2</td>
<td>Discipline</td>
<td>0.98</td>
</tr>
<tr>
<td>3</td>
<td>Love and Affection</td>
<td>0.98</td>
</tr>
<tr>
<td>4</td>
<td>Perseverance</td>
<td>0.97</td>
</tr>
<tr>
<td>5</td>
<td>Sincerity</td>
<td>0.99</td>
</tr>
<tr>
<td>6</td>
<td>Selfless service unto others</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Scoring
Each value in the Value- Survey of Social and Personal Values is required to be ranked in order of its importance as a guiding principle in one’s life. Following conventional scoring procedure, the lower number which the subjects ascribe to a given value would mean that the more importance is attributed to that value. The possible ranks thus, range from 1 through 6 for the total 6 values. Separate Ranks are obtained on Social Values Survey Form and Personal Values Survey Form. A copy of the final draft has been enclosed vide the Appendix 2(ii).
DEVELOPMENT OF VALUE BEHAVIOUR VERBAL MEDIATOR

(Description of verbal mediator for different values)

Russell and Storms (1955) wanted to find out exactly how verbal mediation could make learning easier. Jension (1966), defined, verbal mediation as talking to yourself in relevant ways when faced with something to be learned or a problem to be solved. Verbal mediator is ensuring condition of entering behaviour necessary for verbal learning. Effects of verbal mediator would be very useful for the teacher.

In the present study verbal mediator was used as a treatment for developing the knowledge regarding different values among the subjects. Operationally, the investigator narrated the description of values i.e. Personal and Social, with a total of 12 values.

Through discussion investigator modified the characteristics of certain values from as stated by the respondents i.e. teachers and students and the revised description of verbal mediator was developed. It consisted of the following values with certain characteristics.

(A) Personal Values:

1) **Aesthetic sense**: (dealing with the principles of beauty) Developing warm, cordial and co-operative classroom atmosphere.

2) **Discipline**: (A particular system of regulation for conduct) To respect and obey authority

3) **Love and Affection**: (to entertain in a great regard for, to hold dear) To love to teach the students.

4) **Perseverance**: (persistence in anything undertaken, stead-fast pursuit of an aim) To have patience to make students understand gradually.

5) **Sincerity**: (Correctness, the character, the quality or state of being sincere, freedom from hypocrisy) To take fullest care of the teaching material, laboratory equipment and school property.

6) **Selfless service unto others**: (involving or expressing readiness to serve, an act of helpful activity) To take interest in community work and cultural programmes.
(B) Social Values:

1) 
   **Cooperative decision-making**: For all the institutions, teachers, to take cooperative decisions conducting the course, social welfare and students' help etc.

2) 
   **Equality of status and opportunity**: More effective participation in the total process of social interaction whether in terms of social, economic, health or any other desirable human value.

3) 
   **Openness to reason**: Developing awareness of reason and logical justification.

4) 
   **Regards for the dignity of individual**: Convincing for “Every soul has the spark of divinity so an individual is dignified”.

5) 
   **Responsibility**: The state of fact of being responsible; a charge, trust, or duty for which one is responsible. To engage, not simply in the training of individual, but in the formation of the proper social life.

6) 
   **Tolerance**: Endurance, the power or capacity of enduring. To inspire students for day to day activities to keep on doing it inspite of failures.

A copy of the draft of description of verbal mediator for different values has been given in the Appendix 2(iii).
DESCRIPTION OF THE TOOLS

Tool - II

VALUE CHANGE THROUGH CLARIFYING – RESPONSE STRATEGY

Developed by Rath (1978) and an Indian Adaptation by Chinara, Benudhar (1991)

The value clarifying is a cognito-affective treatment theory put into actual practice via seven sub-processes of valuing Rath (1978). This instrument was not borrowed as such in the form of a chart Rath (1978).

This strategy was used for the purpose of identifying one’s thought above his value system.

The clarifying-response is a dialogue strategy whose seven sub-processes of valuing operate through three different steps.

STEP I Establishing rapport; which introduces informal conversation for building up a rapport between the clarifier and the subject.

STEP II Awareness of values; In this step the subject is served with Value Survey Form and is requested to rank the values in terms of importance as guiding principles in his life.

STEP III Valuing; Choosing, prizing and acting upon values. The subject is conducted through the valuing process with the help of clarifying strategy. Clarifying responses of valuing are directed to the first three top values and/or the last three bottom values.

Validation

Value clarifying instrument was examined on 20 final year students of Pre-University classes with the Value Survey as a pre-test measure. Each one of the students were exposed individually to the clarifying-response strategy. After a gap of one week the same Value Survey was administered to them as a post test measure. On the basis of pre-test and post-test ranks, the normalized master ranks were calculated for the 11 values (Rath, 1978) which have been recorded in the following table 2.3:
The master ranks reported in the above Table show that there were substantial changes in ranks over the values: Equality, Sympathy, Openness, Cooperation, and Loyalty to authority. It indicates the effectiveness of the value clarifying instrument. The same steps were followed in case of values identified for the present investigation as Social and Personal values on a small group of prospective teachers of Govt. College of Education, Sector-20, Chandigarh and master ranks showed variations in the rank ordering. A copy of the value-clarifying instrument has been enclosed with the Appendix 2(iv).

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Values</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regards for the dignity of individual</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Equality of status and opportunity</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Sympathy with everyone</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Openness to reason</td>
<td>4</td>
<td>10.5</td>
</tr>
<tr>
<td>5</td>
<td>Tolerance for differences in opinions</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Responsibility</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>Co-operative decision-making</td>
<td>11.0</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Cultural preservation</td>
<td>9</td>
<td>10.5</td>
</tr>
<tr>
<td>9</td>
<td>Service for needy and depressed</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>Loyalty to authority</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>11</td>
<td>Self-progress</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
DESCRIPTION OF THE TOOLS

Tool - III

OBSERVATION OF CLASSROOM INTERACTIONS

Equivalent Talk Category (ETC)

Bently and Miller (1971), worked out this system as an attempt to modify Flanders system (1966) of verbal interaction in an organised fashion to develop awareness among teachers about the achievement through their selected strategies. This type of immediate feedback creates an increased control for the teacher management of learning conditions.

The ten Equivalent Talk Categories are designed for use in classifying, recording and quantifying classroom verbal behaviour within each category presenting distinct behaviour. In the present study ETC was chosen for its wide applicability for measuring the quantitative aspects of teaching behaviour of Student-Teachers. Besides, it provides the facility of audio and video tapes, thereby making the researcher’s work more easy. The ten categories may be useful in classifying either Teacher or Student Talk.

The single digit is used for coding Teacher-Talk and double digit for coding Student-Talk. Each category is applicable both to student and teacher behaviour and suffix for student behaviour e.g. 1/11, 3/13, 8/18 etc. The system presents no standard and passes no judgement. It examines the teaching strategy in terms of the sequence and level of thinking. Although ten categories cannot describe all that transpires in a classroom (a flaw of all observation systems) yet the ten ETC categories (actually twenty), make it possible to objectively describe great many verbal interactions in sequence because of its equivalency factor. The categories focus on five specific types of verbal behaviour.
DESCRIPTION OF THE TOOLS

Fig. 2.1: Categories and their corresponding value behaviour

1) Presenting information

2) Questioning

3) Responding to Questions

4) Reacting

5) Structuring

Restricted Thinking:

Expanded Thinking:

Continuation of verbal participation:

Extension of verbal participation:

Termination of verbal participation:

Structure of pause or silence:

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### Table 2.4

**Categories Description of Equivalent Talk observation system of classroom interactions**

<table>
<thead>
<tr>
<th>Teacher Code</th>
<th>Description of the behaviours</th>
<th>Student Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Present Information</strong>: Unsolicited information; lecture, explanation related to lesson; demonstration; description; important comments; rhetorical questions.</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td><strong>Question Restricted thinking</strong>: Call for responses that result from restricted thinking-factual knowledge or simple recall; an accepted or pre-determined correct answer; facts previously learned or easy to produce; lower levels of cognition.</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td><strong>Question-Expanded thinking</strong>: Call for responses that result from expanded thinking-open-ended responses; generation and application of principles, concepts and generalizations; solutions generated by application of rules or procedures; answers to, how and why, what do you think; higher levels of cognition.</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td><strong>Respond Restricted thinking</strong>: Result from restricted thinking-factual knowledge; an accepted or pre-determined correct answer; facts previously learned or easy to produce; lower levels of cognition.</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td><strong>Respond Expanded thinking</strong>: Result from expanded thinking; open ended responses; generation and application of principles, concepts and generalizations; solutions generated by application of rules or procedures; answers to how; why, what do you think; higher levels of cognition.</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td><strong>React Maintain level of participation</strong>: Verbal behaviour that maintains current level of thinking; invitation to continue talking, amplify, clarify of summarize ideas at the same or lower level of cognition.</td>
<td>16</td>
</tr>
<tr>
<td>7</td>
<td><strong>React Extend level of participation</strong>: Verbal behaviour that extends current level of thinking request for further information, generation of data or principles, or reconsideration of ideas requiring increased complexity of thinking; obvious utilization of information supplied by an other where level of cognitive participation is raised.</td>
<td>17</td>
</tr>
<tr>
<td>8</td>
<td><strong>React Terminate level of Participation</strong>: Verbal behaviour that brings current topic or thought to a close termination of responses through comment or intervention; indication introduction of new topic; summation or relationship building activity when new learning is related to old.</td>
<td>18</td>
</tr>
<tr>
<td>9</td>
<td><strong>Structure learning activities</strong>: Comments that organize learning activities; commands; directions; assignments.</td>
<td>19</td>
</tr>
<tr>
<td>10</td>
<td><strong>Structure pause silence</strong>: Absence of verbalizations utilized to promote the sequence planned.</td>
<td>10</td>
</tr>
</tbody>
</table>
The summary of ETC Categories is given below in Table 2.5

Table 2.5

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Verbal Function</th>
<th>Teacher Symbol</th>
<th>Behaviour Descriptions</th>
<th>Student Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Presenting</td>
<td>1</td>
<td>Presenting information</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>Questioning</td>
<td>2</td>
<td>Restricted thinking</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Responding</td>
<td>4</td>
<td>Restricted thinking</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>Reacting</td>
<td>5</td>
<td>Expanded thinking</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>Structuring</td>
<td>6</td>
<td>Continuation of verbal participation</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>Extension of verbal participation</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>Termination of verbal participation</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>Structuring learning activities</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>Structure of pauses or silence</td>
<td>10</td>
</tr>
</tbody>
</table>

As far as the actual observation is concerned, there are three main approaches that are of considerable utility in the average school setting.

- The observer can arrange to visit live situations and code verbal interactions as they happen.
- Audio tapes of self taught sequences or other taught lessons can be prepared and are usually of maximum of a twenty minute duration.
- Video taping of self taught or other taught instructional segments is possible with half inch equipment that is available in many school settings.

In the present investigation, the observation of the classes of prospective teachers of both the groups (Experimental and Control) were made by both self-visit to the class as well as the cassette recordings. All the lessons were recorded in the pre-treatment and post-treatment sessions by this approach. The classroom behaviour of all the prospective teachers were observed twice, once before administering the treatment and once after the treatment. In all 240 lessons were observed for twenty minutes each as shown in the table 2.6.
Table 2.6
Time – schedule of taking classroom observations through ETC

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Control Group</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-treatment observations N=60</td>
<td>(Pre-treatment)</td>
<td>November, 2000</td>
</tr>
<tr>
<td></td>
<td>I teaching practice session N=60</td>
<td></td>
</tr>
<tr>
<td>Post-Treatment observations N=60</td>
<td>(Pre-treatment)</td>
<td>May, 2001</td>
</tr>
<tr>
<td></td>
<td>II teaching practice session N=60</td>
<td></td>
</tr>
</tbody>
</table>

For the collection of data on instructional situations, the schedule (ETC) provides useful modes of observations, that make it possible to gain information from recorded data processing data for interpretation included four stages:

- Encoding observations on 20 x 20 response sheet
- Plotting 20 x 20 interpretation matrix.
- Totalling the tallies by rows, columns
- Millage Matrix Formation
- Computing category percentages.

Encoding: Observations on 20 x 20 response sheet

Coding of behaviours as such does not communicate any meaning of the interactional pattern. Collecting data is a relatively simple process based on a knowledge and understanding of the categories and recording observations. The events occurring in the class must be recorded with great discrimination for which an observer must be a trained one so that observations are made systematically, accurately and reliably. An observer who enters a classroom without having committed the code numbers to memory will be at a great loss of collecting data.

Before actually entering a classroom for observations, the observer is expected to contact the teacher to be observed, personally and discuss with him/her, the purpose of the visit, duration of observations. Performa used for making observations is a typical 20 x 20 form in which an episode of 20 minutes can be recorded. The form has a printed box for 400 code symbols and it provides space for making special notes and comments which are often required in research. Generally the observations are made at
the rate of 20 tallies per minute which works out to be about one tally every three seconds.

**Decoding : Plotting 20 x 20 interpretation matrix:**

For making any interpretation of recorded observations, a sequence of steps is followed;
- Add a 10 at the beginning and a 10 at the end of the list of code symbols.
- For putting original observations in a 20 x 20 matrix we take pairs of observations at a time e.g. if the sequence of observations is 10,5,5,4,4,8,8,2,5,10,10 etc. then take the first pair i.e. 10,5. This pair consists of category 10 and category 5 and in that order its address is 10-5, which means that this cell is found at the intersection of row 10 and column 5 (conventionally the first number of any pair designates the row and the second number designates the column.)
- All the observations are paired in such a way that the second member of the first pair becomes the first member of the second pair and so on. It forms a chain in which events are transformed into an interpretation matrix. This procedure is followed till all the observations from response sheets are transferred on the matrix.

**Totalling the tallies by rows and columns**

When each data pair has been entered as a tally in the matrix, the tallies are than added and converted to Arabic numerals. The useful approach is simple counting and recording in the suggested format, which makes comparisons of gross raw data totals possible. It is possible to see by “eye-ball” technique that which categories tend to contain the largest numbers of incidents, and in spotting types of interchange occurring between teacher-student and student-teacher. After summing up the tallies for each category, the tallies across each row and each column are added. The total number of tallies for rows and columns should be the same.
Millage Matrix Formation

In the present study the patterns of teachers were compared with each other. For comparison, the raw matrices were converted into millage-matrix. The most elegant method, and one which is generally used in research projects, that have access to a computer, is to convert all matrices to a common base of 1000, usually these are composite matrices involving thousands of tallies. This is called a millage matrix. The one advantage of millage matrix is that the infrequently appearing teaching acts are eliminated by approximating integers and leaving the fractions in the millage matrix. In actual data only prominent teaching acts appear, so that any overlapping or contamination could be avoided.

Interpretation of a 19 x 19 interaction matrix

These are different ways suggested for the interpretation of an ETC data.

i) Visual inspection of the coded sequence and prepared forms.

ii) Consideration of computed percentages and ratios.

iii) Category percentages represents the portion of the total observed verbal interaction that occurs in that category. These percentages and ratios are useful in determining relative concentration of activity in any classroom episode or strategy sequence and can be computed by applying the formula for calculations.

\[
\text{Category percentage} = \frac{\text{total no. of tallies on one category}}{\text{Total no. of tallies in the matrix}} \times 100
\]

Following behavioural indices were calculated from the millage matrix for each category of teachers and separately for students:

- Teacher Talk Percentage
- Student Talk Percentage
- Silence/Confusion Percentage
- Teacher Question Percentage
- Teacher Question : Restricted Thinking Percentage
- Teacher Question : Expanded Thinking Percentage
DESCRIPTION OF THE TOOLS

- Teacher Response Percentage
- Teachers Response: Restricted Thinking Percentage
- Teacher Response: Expanded Thinking Percentage
- Teacher Reaction Percentage
- Teacher Reaction: Maintaining Level Percentage
- Teacher Reaction: Extending Level Percentage
- Teacher Reaction: Terminating Level Percentage
- Teacher Structuring: Directions Percentage

All these indices were used in the analysis and interpretation of data.

A 20 x 20 Response sheet and an Interpretation Matrix Form have been appended as 2(v) and 2(vi).

Tool: IV

TEACHER ATTITUDE INVENTORY
(Developed and Standardized by Ahluwalia, S.P. 1978)

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

- Teaching Profession.
- Classroom teaching.
- Child-centred practices.
- Educational Process.
- Pupils.
- Teachers.

The form of the items is akin to the usual Likert format. The items were selected from a longer list by a scientific statistical procedure. The items in the final sub-scales were selected by item analysis.

Originally 300 attitude statements, 50 on each sub-scale were collected from diverse sources. After careful discussions and cautions, deliberations in two seminars of educators, teacher-educators, measurement specialists and persons knowledgeable in
DESCRIPTION OF THE TOOLS

the fields of Education, Psychology and Sociology, weak and poor items were either modified and improved or dropped. The selected 180 attitude statements, 30 on each sub-scale were discussed in a small group (N=25) of pupil-teachers and teachers. On the basis of their judgement and reasoning only 150 attitude statements, 25 on each sub-scale, were retained for inclusion in the preliminary form of the Teacher-Attitude Inventory for wide scale tryout.

Keeping the rationale of attitude scale construction in mind 90 psychometrically good attitude statements, 15 on each sub-scale were selected to constitute the final form of the TAI. Out of 90 items, 56 are in positive declarative form and 34 of them are in negative form. Again 43 items are meant to assess attitude in favourable direction and 46 in unfavourable direction. Thus the favourable-unfavourable continuum adequately measures the aforesaid six selected areas.

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

Total number of favourable and unfavourable items and scale-wise their serial numbers have been given in the table 2.7

Table 2.7
Sub-scale wise number of items in scale of Attitude towards teaching

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

F* - SA=4, A=3, U=2, D=1, SD=0 (Positive attitude towards teaching)
UF* - SA=0, A=1, U=2, D=3, SD=4 (Negative attitude towards teaching)

The tryout sample consisted of 1402 (student-teachers) prospective teachers, students of B.Ed and L.T. classes of different secondary teacher training colleges of the five Hindi speaking states viz., Uttar Pradesh, Haryana, Madhya Pradesh, Rajasthan and Bihar.

• Instructions

The experimenter distributed the test-booklets and answer-sheets to each subject. They were not allowed to open it unless told to do so. Subjects were told that there were no right and wrong answers only their own individual feeling about the statements was required. Subjects were asked to read each statement and decide how they feel about it, then mark their answers in the space provided on the answer sheet.

The test had no time-limit but subjects were directed to work as rapidly as they could.

• Response Mode

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

• Scoring

To make scoring easy and less time-consuming a set of six scoring keys had been prepared as given in Appendix 2(vii).

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

- **Reliability**
  Reliability was estimated by the split-half (odd even) method and found to be: .79 (corrected by .88) for a sample of 239 prospective teachers. The test-retest reliability coefficients after the interval of 3 months and 9 months were found to be .59 (N=102) and .64 (N=290)

- **Validity**
  The inventory appears to have content validity and the method of selecting items supports this supposition. In addition, differences in mean scores were among some selected known groups. The mean scores for B.A. (Part I and II) students, B.Ed. trainees and practicing teachers were computed and compared. The observed differences were found to be in the expected direction. The validity was also determined through stimulus group techniques.
  
  A copy of teacher attitude inventory has been appended as 2(viii).

### Tool - V

**SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE**

*(16 PF)*

The 16 Personality Factor by Raymond, B. Cattell and Herbert W. Eber (1972) coincides greatly with the Cattell’s theory on personality. The 16 PF Questionnaire is an objectively scorable test devised by basic research in psychology to give the most complete coverage of personality possible in a brief time. Coverage of personality is ensured by the sixteen functionally independent and psychologically meaningful dimensions. These sixteen dimensions are essentially independent, with quite small correlations among each other. Therefore, having a certain position on one does not prevent the person’s having any position whatever on any other factor. Thus each of the sixteen scales brings an entirely new piece of information about the person. The test was planned for the age range from seventeen to mature adult. The capsule description of the 16 PF is as follows:
Factor A: Tests reserved vs outgoing traits of an individual. A person who scores low tends to be detached, cool or obstructive. A higher score on the factor indicates traits like warm-hearted, easy-going, emotionally expressive and adaptiveness is more dominant in the individual.

Factor B: Measures less intelligence vs. more intelligence. The person scoring low tends to be slow to learn and grasp, dull and lower in scholastic mental capacity whereas higher scores on it indicates that the person tends to be quick to grasp ideas, a fast learner, bright and high in scholastic mental capacity.

Factor C: Low score on it is indicative of the fact that the person is more readily affected by feelings and emotionally less stable whereas higher score on it means realistic about life, emotionally stable and mature.

Factor E: Tests humble, mild, accommodating and conforming traits of personality vs. assertive independent, aggressive, Stubborn and authoritarian aspect of an individual.

A person who scores low on factor E tends to give way to others’ to be docile and to 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 austere, a law to himself, hostile or extrapunitive, authoritarian (managing others), stubborn and disregards authority.

Factor F: Sober, Prudent, Serious and Tactiturn are the traits of the individual scoring low on it whereas if the reverse it true then he is more intended to be a happy, go-lucky, lively and enthusiastic person.

Factor G: Person who scores low on Factor G tends to be expedient, unsteady and feels few obligations whereas if the score is high the person is conscientious, persevering and rule bound.
Factor H: Individual with low score may be shy, restrained and Diffident, Timid, while the individual scoring high on it is venturesome, socially-bold, uninhibited and Spontaneous.

Factor I: Tough-mindedness and self reliant of individual are indicated by a low score on it whereas the person is tender-minded, dependent and sensitive if the score on it is high.

Factor L: Low scorer on it is bound to be trusting and adaptable whereas high scorer tends to be suspicious and interested in internal, mental life.

Factor M: Person scoring low on it tends to be practical and regulated by external realities whereas he is imaginative absent-minded, if he scores high on this factor.

Factor N: Tests forthright, unsophisticated and simple vs. shrewd, calculating, polished and worldly aspect of individual.

Factor Q: Indicates placidity, self assured and confident trait of personality if the score on it is low and if the same is high that is indicative of apprehensive, worrying and depressive nature of the individual.

Factor Q1: Is the test of conservative and respecting established ideas vs. experimenting, critical and liberal traits of personality.

Factor Q2: Measures group dependency vs. self sufficiency.

Factor Q3: Undisciplined, self conflict and maladjustment of individual are indicated by low score whereas the person is controlled individual if the score on it is high.
Factor Q4: The person is relaxed, composed and satisfied if the score is low on this factor, whereas the person is tense, frustrated and restless if the score is high.

Arrangement of items in test forms with respect to factors

The item numbers and the direction of scoring are identical on Forms A and B. For example, item 3, on both Form A and Form B is a Factor A measure, with the left-hand (a) answer the high-scoring pole. The alternative (a) and (c) which is listed always indicates the response which contributes +2 to the factor score concerned. The “in between” answer always contributes +1 in such cases, the only exception to this being the B factor (intelligence) where only the numbers indicated score anything (+1 in each case).

Table 2.8
DESCRIPTION OF ITEMS IN FORMS A AND B

<table>
<thead>
<tr>
<th>Factor</th>
<th>Per Form</th>
<th>Position of High Scoring Response – Form A or B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Items</td>
<td>Total Score Possible</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>B</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>C</td>
<td>13</td>
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<td>E</td>
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<td>F</td>
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<tr>
<td>G</td>
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<tr>
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<td>O</td>
<td>13</td>
<td>26</td>
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<tr>
<td>Q1</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Q4</td>
<td>13</td>
<td>26</td>
</tr>
</tbody>
</table>

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• **Instructions for administration**

Simple and clear instructions were printed for the examinees on the cover page of the test booklet. Test was self-administering, still good *rapport* was established with the examinees. Instructions were reinforced orally. Answers were made on a separate answer sheet, never on the reusable test booklet. About five minutes were given for reading the instructions and working the examples.

The test is untimed. Educated readers usually take forty five to sixty minutes per form. It was made sure that only one answer was given for every question on the test.

Stability coefficients of Form A and Form B of test in English after two months of retesting range from 0.63 to 0.88. Homogeneity coefficients of individual, range from 0.06 to 0.78 on Form A and from 0.12 to 0.66 on Form B respectively by Spearman and Brown formula while with Cronbach’s formula it varies from 0.07 to 0.78 on Form A and from 0.08 to 0.80 on Form B respectively. Equivalence coefficients of Form A with Form B range from 0.34 to 0.76.

Direct validities for Form A and Form B on the basis of Spearman and Brown formula range from 0.58 to 0.87. Concurrent validity came out to be about 0.85. Circumstantial validities were computed as rank difference correlations of the factors which ranged from 0.42 to 0.99.

• **Principles and mechanics of scoring**

Each answer scores 0, 1 or 2 points except the Factor B (intelligence) answers which score 0 (incorrect) or 1 (correct). The score of each item contributes to only once factor total. Tests can be either hand scored, with a stencil key, or machine scored.

Hand scoring was accomplished by key, easily, rapidly and in a standard manner. The answers appear as pencil marks in the boxes on the given answer sheet. Two cardboard stencil scoring keys are used; one covers Factors (traits) A, C, F, H, L, N, Q1, and Q3, and the other, Factors B, E, G, I, M, O, Q2 and Q4. Simply fit stencil 1 over the answer sheet and count the marks visible through the holes for factor A, allowing either 2 or 1, as indicated by the number printed adjacent to the hole. Sum up 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.

Before using the scoring stencils, the technician should take a quick look at each answer sheet to make sure that there are no odd, unscorable responses, e.g. marking two
out of three alternatives, or entirely omitting any response to an item. If such misunderstanding of instructions has occurred, the examinee must go back and do the affected items correctly.

Since personality is a classifying variable in the study, the investigator has taken only factor E to classify the whole sample into two groups.

(i) Humble, mild, accommodating and conforming pupil-teachers.
(ii) Assertive, independent, aggressive, authoritarian and stubborn pupil-teachers.

The test consists of 187 items in all.

A copy of 16 personality factor questionnaire has been appended as 2(ix).