CHAPTER-III

DEVELOPMENT OF TOOL

3.1   Measurement of Values :

Though Value Education is included in the curriculum there is no examination in the subject. The reason behind is that the value phenomena has been shown to be a highly complex and heterogeneous set of states which cannot easily be analyzed into elementary phenomena. Popham (1975), States in this connection "Affective constructs are genuinely elusive, convert and hard to define. They are devilishly difficult to measure..."

But there should be a practical and objective method to know whether the approaches techniques and materials used have really helped students to inculcate desired values?

So what do we measure? We want to evaluate value developments in students. First of all we want to know whether the learner is aware about the value if he is willing to or is capable of noticing the given value in the phenomenon or the given stimulus and whether he is alert and attentive enough so that when certain stimuli are presented they will be attended to by them. Secondly, we want to know if the learner is sufficiently motivated to actively attend to the values and is ready to act according to it besides merely perceiving it. Thirdly we desire to understand whether the learner has internalized the value and finds it worthy enough to act upon it in presence of the stimuli.

The observation of the behaviour of the learner in the form of check list, Rating Scales, interviews, questionnaire, sociometry incidental notes etc. are being used by certain institutions. But through a personal experience the investigator has found that these are finding it difficult to make their way as popularized

methods of value assessment in majority government schools where the teachers are already burdened with multiple duties. Moreover they also fall short in providing the teacher an overall picture of achievement in certain particular values such as equality, fraternity, scientific, attitude, conservation etc. in an objective manner.

Also National curriculum framework for school education 2000 states that "As such evaluation will be varied and consistent and thus admit the use of multiple techniques of measurement."[1]

3.2   Selection of Values :

Investigator constructed a Rating Scale having eight values guided by the core components mentioned in NPE 1986. The Rating Scale was distributed among educated class of society. They were asked to rate the values according to their preference regarding assessment of those values in the school curriculum for their children.

The four values receiving higher percentage of rating were selected by the investigator for further study.

Table - 3.1 : Rating for Values by Parents

S.No.	Value	Rating %	S.No.	Value	Rating '
1.	Secularism	80%	5.	Scientific Temper	75%
2.	Cultural heritage	50%	6.	Conservation	75%
3.	Equiality	65%	7.	Population Awareness	55%
4.,	Co-operation	60%	8.	Dignity of Labour	50%

The values that came out of the rating scales were (1) Secularism = 80% (2) Conservation = 75% (3) Scientific temper = 75% and (4) Equality = 65%.

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[1] National Curriculum Framework for School Education. Chapter 4.3.

The above rating was further strengthened by the references in National Curriculum Framework for school education 2000 emphasizing importance of these values in following lines.

"The curriculum, it may be reiterated, must create and awareness of the inherent equality of all with a view to removing prejudices and complexes transmitted through the social environment and the factor of birth."[2]

"This brings into focus the paramount need to create consciousness of the environment among all the section of the society. The school curriculum therefore, should attempt to create a commitment on the part of pupils to protect the environment and conserve nature and its resources so that the ecological balance between man and nature, could be maintained and preserved."[3]

"The curriculum in all the school stage should help the individual in developing scientific temper and rational outlook which are characterized by a not taken for granted attitude.

3.3 Purpose of the Tools :

Two tools were developed by investigator with different purposes. (1) Affective value measure and (2) Rating Scale.

(1) *Affective Value Measure :*

This tool has four sections with objective type items on all the four values to be assessed. The items were presented in the printed form. The purpose of the assessment is to see average

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[2] National Curriculum Framework 1988. Pg. 9
[3] Op cit. pg. 6.

range to which selected values have been internalized by the students at the time of assessment.

(2)   *Rating Scale :*

This tool simply required the student to rate all the selected values from 1 to 4 according to their liking or preference. Purpose of this tool is to see the average preferences given to the particular values.

3.4   Operational Definition of Selected Values :

In value education, unlike in other subjects, the knowing part is presumed as necessary and preliminary, while the real stress is placed on behaviour pattern, backed up by appropriate attitudes and mind sets.

Assessment strategies, therefore, are based on identifying the degree of congruence between expected patterns of behaviour and actual behaviour not whether the students merely know about them.

Hence the operational definitions of the values secularism, conservation, equality and scientific temper as considered by the investigator have been defined as under.

A.   Secularism :

In our pluralist society secular approach can possibly counter the threat of fundamentalism and communalism. Secularism is thus that which creates a cosmopolitan outlook, G.L. Adhya

States that "Secularism mainly comprises of (i) religious toleration and having the right to practice and propagate religious ideas publicly (ii) access to the public offices on equal terms by the people belonging to all religions (including those who do not believe in any religion) and (iii) secular education including propagation of ideas of humanism and rationalism and struggle against all forms of obscurantism etc."[4] Secularism means tolerance not only of many religious but also many type of social cultures, philosophies arts customs etc. Secularism doesn't mean that the state assumes divine prerogative or itself becomes a religion but it "tries to build up a fellowship of believers" as S Radhakrishnan put it in his address as vice president of constituent assembly. Secularism has very aptly been defined by Mahatma Gandhi in following words.

"Mine is not a religion of the prison house. It has room for the least of God's creation but it is proof against insolent pride of race, religion or colour".

(B) Conservation :

"The fundamental idea of good is that it consists in preserving life, in favouring it, in wanting to bang it to its highest values and evil consists in destroying life doing it injury, hindering its development." Said Albert Schweitzer and very aptly so. Conservation as a value means that we know that the earth does not belong to man, man belongs to earth and that man did not weave the web of life; he is merely a strand in it.

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[4] G.L.Adhya. Education in Values : a Source Book. Pg. 65.

Conservation is defined as awareness of judicious policy of taking from nature. The learner values the ideas of :

- taking the non-replenishable resources as less as possible.
- replenishing the replanishable material if possible more than that has been taken from nature.
- relying as much as possible on the unlimited resources, like the solar or wind energy.
- keeping nature and natural atmosphere as much unpolluted as possible.
- Guarding dying species.
- taking deliberate measures to protect nature from getting destroyed be it by human agency or even by natural agencies.
- Conserving farmland, water management and forest.

The ecological crisis is basically a moral and ethical crisis. Any transformation desired in society must begin with the highest goal of education.

To conclude the definition of conservation as put in Isopanishad:
"Let us treat everything around us reverently as custodians.
We have no charter for dominion.
All wealth is common wealth.
Let us enjoy it but neither hoard nor kill.
The humble frog has as much right to live as we."

C. Equality :

The concept of equality refers to (a) equality in character; (b) equality of treatment, which people receive or ought to receive.

"In context of social justice, the concept of equality refers to equality of treatment and opportunity. Based on the premise that human beings have equal intrinsic dignity and worth, it enjoins that all people be treated equally."[5]

Some important connotations of equality are (a) No group of person will enjoy special privileges. Simply because they belong to a particular race, religion, caste, language, colour, nation or sex, this means that in the eyes of the law all are equal. (b) It also means that all the people will get without any discrimination equal opportunities for self development (c) It also means that the national wealth is to be judiciously distributed among all people. (e) There should be no gross inequalities as regards power.[6] Humanism is mainly due to man made differences man, if he tries properly can undo those inequalities.

Equality as a value has been aptly considered as a necessity to establish a non-biased, impartial and conducive society.

"Thus we are led to the difference principle if we wish to set up the social system so that no one gains or loses from his arbitrary place in the distribution of natural assets or his initial position in society without giving or receiving compensating advantages in return."[7]

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[5] Rameshwari Verma, Marietta Correa. ibid. Pg. 104.
[6] Bandiste, D.d. Humanist Valves. Pg. 63
[7] John Rawals in "A theory of Justice"

D.   **Scientific Temper :**

The capacity to establish a logical cause effect relationship for the things happenings around us and acting accordingly means accepting/developing a scientific outlook. As has been stated by R. Govind. "It is difficult to give a universally." acceptable definition of scientific temper. However, the term as referred to by the investigator means to be systematic. Three elements seem to be characteristic of the actions deefpined scientific (i) Observation (ii) empirical or experimental validation and (iii) logical reasoning or rationality.

Scientific outlook accepts only objective facts as its authority. Thus as Bertrand Russel says, it is not so much the contents off some belief that decide whether or not the holder's view is scientific, as the manner in which the belief is held. If the manner of holding a belief is dispassionate, cool and liberal, our outlook is scientific, but if the manner of belief is dogmatic, haughty our outlook is not scientific.

Scientific temper represents the human spirit of enquiry exploration and invention. It also has been considered as the persistent use of our reasoning ability. Where reasoning consists in giving/demanding a logically consistent and empirically verifiable explanation of beliefs.

Thus scientific temper has been considered as a self critical type of outlook pervading in whole life and qualitative as well as quantitative use of reasoning ability must increase as a result of this value.

3.5   Item Writing :

Investigator tried to take sufficient care that the test items were relevant to the construct being measured. An effort was made to control the stimulus and response elements, objectivity and clarity.

Each item was situational multiple choice type, produced in third person, to provide for sufficient descriptive/content validity and independence from social desirability element which is usually associated with self report, and true false type items. Homogeneity of the test items was tried to maintain.

Operational definitions of the four values was outlined prior to writing of items. The following characteristics of the response alternatives were ascertained : (1) They were written in a clear and unambiguous language (2) They appeared to be equally socially desirable. This was done by ensuring that (i) item stem and the response alternatives were written in third person, eliciting a projective response (ii) the student responses were obtained in terms of reported behaviour rather than feelings, and (iii) the response options described behaviour in terms of what a person will do rather than what he should do. (3) Only one response indicated the presence of the trial at the particular stage in question. (4) The order of the key response varied in different items except when other considerations did not permit so.

Next, writing of items for each of the four values was taken up. Test, Items for each value were written. About ten to twelve items were written for each value domain.

3.6   Item Selection :

Crehan (1974) compared six empirical studies and found that method of item selection had very little effect on the reliability and validity of criterion referenced test scores. However content and construct validities are by far more important than empirical evidence. Hence the process of item selection was based on the importance of content validation of tools in criterion referenced testing.

Initially ten items per value were written. The items were screened by judges who were professionals in the field of psychology and education. The judgement was done from the point of view whether the behaviour of the test item described the construct (value) being measured.

9 items for each value were finally retained for the try out study. Details have been given in Table 3:2. As a second step in item selection a systematic tryout of items which had been selected by the judges was conducted.

Table 3.2 : Percent Inter-Rater Agreement for Tryout items on selected values

Item No.	Secularism	Conservation	Equality	St-temper
1.	100%	100%	100%	100%
2.	100%	100%	100%	100%
3.	100%	100%	100%	75%
4.	75%	100%	100%	100%
5.	0%	100%	100%	100%
6.	100%	,,	0%	100%
7.	,,	,,	100%	0%
8.	,,	0%	100%	100%
9.	,,	100%	,,	,,
10.	,,	100%	,,	,,

3.7   The Try Out Study :

(a)   Sample :

The schools were selected by Random Sampling and the test was given to 50 students of class seventh from the schools in the printed form.

Table - 3.3 : Details of the sample for try out Study

Particular	Girl	Boys	Total
Govt. School	11	09	20
Private School	20	10	30
Total	31	19	50

(b)   Test Administration :

A test booklet with 40 items printed in it was distributed to each student. As the measures were all alike in respect the item format in all the four values a set of common instructions was given printed on the first page of the booklet. The following instructions were given in Hindi : (a) Verbally (b) Printed.

(a)   *Verbal :* The test booklet has II part, Part, I has four sub divisions ABCD with objective type questions you have to mark ($\sqrt{}$) on the selected answers. Part II has its own instruction in question. You have to arrange the four values in the order 1,2,3,4 according to the preference or importance you give to these values. You are free to ask any questions if you find any difficulty in understanding the printed material.

(b)   *Printed :* For part I the instructions were as follows : (i) Read all the questions carefully and mark any

one answer with the mark ($\sqrt{}$) (2) Mark ($\sqrt{}$) only after having read all the options given (3) Do not think much before marking the answer. (4) None of your answers will be considered wrong.

(c) *Tabulation and Scoring of Data* : Responses to the items of all the four values were tabulated. These were scored with the help of the scoring keys prepared for the purpose. A tick mark against the critical response meant yes and was score '2' mark against incorrect option was converted to score of 'O' whereas mark against can't say was converted to '1'.

3.8   Other Instrument :

(a) *Rating Scale* : A rating scale to obtain ratings on all four values being studied was prepared for the purpose of construct validation. The rating was obtained on the 4 point scale.

3.9   Reliability and Validity :

In Psychological measurement, reliability and validity of the measuring devices is the most important conditions to be observed before any conclusions are based on them. Since the using objective type measurement for assessing values in teacher made assessments is a field less trodden it became all the more important for the investigator to establish them for the tool constructed.

In any test, reliability and validity are incompatible i.e. raising one will affect the other so as to lower it (Guilford, 1954). Whether one wants to sacrifice reliability or validity to raise one of the two will depend solely upon the purpose with which the tools are being prepared. In the kind of problem under investigation here, content validity of the test, i.e. relevance of the test items to the broad behavioural domain of the (specific) values being measured was deemed to be of foremost significance.

TEST RELIABILITY :

The extent to which a particular test given a consistent and accurate representation of the property being measured by that test is a function of the test's reliability.

Investigator used the split half procedure of finding reliability. Split half is based on the equivalence of performance by students on each half of a test. The test was arbitrarily divided into halves. One half contained the odd items and the other contained even item. The co-relation coefficient for the two halves was calculated and than the test reliability was calculated by Spear man Brown formula.

Table - 3.4 : Test Reliability

Table 3.4 : Test Reliability	Reliablity for First Half	Reliability for Second Half	Test Reliability
	.6	.6	.75

The Reliability coefficient was found to be .75.

TEST VALIDITY :

A priori approach for evaluating the content validity of the test was used.

(a)   Descriptive/Content Validity : Forty items belonging to various selected value domains were first discussed with the collegues, teachers and guides. After making the suggested correction the items were judged by four experts from the field of psychology and education and 36 items were selected for final test and four were rejected.

Having established test validity and test reliability investigator proceeded to collect the data for the major sample. Methodology has been discussed in the next chapter-IV.

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