CHAPTER IX

TOOLS OF ASSESSMENT

The objectives of the study demanded that the tools of assessment in the study include:

a) Tools which are sensitive to measure any change that would occur in the CHILD, owing to intervention.

b) Tools which are sensitive to measure any change that would occur in the PARENT, owing to intervention.

c) Tools which in conjunction with the above tools would assist in evaluating the programme itself.

A. TOOLS WHICH MEASURE CHANGE IN THE CHILD

Since the time Alfred Binet introduced the concept of Mental Age and psychometry made it possible to measure Global Intelligence, intelligence tests have been used in assessing the capacity, and any change therein, of the mentally retarded persons besides, of course, the clinical examination. A number of such tests are in current use, many of which have been employed for a number of years.

By the end of the 1960s, however multidisciplinary approach to assessment received increasing recognition. (Young, 1977). It is now an accepted and established practice to get the mentally retarded person assessed by workers from various disciplines. The usefulness of standard intelligence testing in the assessment of mentally retarded person has thereafter been seriously questioned.
The Intelligence Quotient Score, in and of itself, is alleged to be inadequate and potentially misleading when used as the sole basis for an individual's evaluation. The concept of psychometric intelligence has come under attack both as a measure of intelligence and a predictor of academic attainment. The observation which goes most strongly against the tests of intelligence is that they do not provide a full description of the way an individual maintains his personal independence in daily living or of how the individual meets the social expectations of his environment. Hogg and Mittler discuss most of the relevant issues raised on the matter of testing Intelligence Quotient and they review related works of many authors. (Hogg, 1980).

In the beginning of the 1970s, the concept of Adaptive Behaviour started receiving more attention as an alternative to the concept of Global Intelligence. The concept of Adaptive Behaviour is defined as "the effectiveness or degree with which the individual meets the standard of personal independence and social responsibility expected of his age and culture group". This concept focuses its attention on the most crucial information to be gathered in the assessment of a retarded person. This information relates to how a retarded person maintains his personal independence in daily living and how the person meets the social expectations of his environment.
Certain limitations set down by the characteristics of this study prompted the investigator to opt for scales which assessed Adaptive Behaviour and not the tests which estimated the Global Intelligence of the children in the sample of the study. These limitations were,

a) The rural nature of the population made itself less academic and hence less amenable to the tests of psychometric intelligence.

b) The method of the study demanded that the parents be stimulated to be more observant and thus feed as much information as is possible and required by a scale which assesses what an individual does routinely.

c) Tests of Psychometric Intelligence require to be first standardized on the basis of the response of a larger population. No test has been so standardized or verified using the rural population of Maharashtra.

d) The team of the study consisted of only one full-time member and that is the investigator himself. Other professionals functioned as consultants only when specially needed. Hence although a multidisciplinary approach of assessment was much desired it was not feasible. This called for using a scale which assessed the retarded child in the sample most comprehensively. The only full-time member i.e. the investigator, by qualification, is not accredited to administer any of the Intelligence Tests.

TOOL

American Association on Mental Deficiency Adaptive Behavior Scale.
There were several scales which could assess the adaptive behaviour of the children in the sample. (Please refer to Appendix 9(a) for the list of such scales). Out of these the American Association on Mental Deficiency Adaptive Behaviour Scale was selected as the primary tool for measuring change that occurred in the children.

The main reasons for selecting American Association on Mental Deficiency Adaptive Behaviour Scale were as follows:

1. The propriety of the Scale which is evident in the comprehensiveness of the range of behaviours assessed, in the simplicity of administering the Scale, in the flexibility of treating and analyzing the score obtained on the scale, its reliability and practical validity.

2. The dual functions of assessment which the scale is able to serve viz. administratively oriented assessment and programme placement. The former is employed to place the individual in a suitable facility or to gear service delivery to judged needs while the latter is undertaken to determine strengths and weaknesses of the individual in order that teaching may be carried out at a level appropriate to the person's development and skill level.

3. The fact that in India systematic studies of adaptive behaviour and AAMD Adaptive Behaviour Scale had been carried out. (Upadhyay, 1974(a); 1974(b); and 1977; Gunthexy, 1982). These studies establish the practical validity of the Scale in Indian situation. One of these studies also made it possible for the investigator to have an Indian revision of the scale.

4. The fact that the investigator was familiar with the tool because he had used it earlier in his clinical practice.
The Scale was originally prepared by Nihira, K., Foster, R., Shellhaas, M., and Leland, H. in 1969. The A.A.M.D. ad hoc committee on Adaptive Behaviour Scale which consisted of Madow, A., Leland, H., Libby, B., and Nihira, K. brought out the 1975 Revision of the Scale.

The A.A.M.D. Adaptive Behaviour Scale is a behaviour rating scale for mentally retarded, emotionally maladjusted, and developmentally disabled individuals but can be used with other handicapped persons as well. Individuals above the age of three years can be assessed on this Scale. It is designed to provide objective descriptions and evaluations of an individual's adaptive behaviour. The term adaptive behaviour primarily refers to the effectiveness of an individual in coping with the natural and social demands of his or her environment.

The Scale is designed to help present a clearer and more comprehensive picture of an individual, and to enable workers to describe an individual's daily functioning.

The Scale consists of two parts. Part One is the product of a comprehensive review of the existing behaviour rating scales in the United States of America and Great Britain. The Scale has undergone numerous modifications as a result of intensive item
The Scale items were evaluated and selected on the basis of (a) their inter-rater reliability (b) their effectiveness in discriminating among institutionalized retarded persons who had been previously classified at different adaptive behaviour levels according to the A.A.M.D. Manual on Terminology and Classification in Mental Retardation, and (c) their effectiveness in discriminating among adaptive behaviour levels while the variance due to measured intelligence was controlled.

Part One of the Scale is organized along developmental line and is designed to evaluate an individual's skills and habits in ten behaviour domains (coherent groups of related activities) considered important for the development of personal independence in daily living.

Part Two of the Scale is the product of extensive survey of the social expectations placed upon retarded persons, both in residential institutions and in the community. The description of these social expectations was obtained empirically from an analysis of a large number of "critical incident" reports provided by ward personnel in residential institutions, by day-care instructors, and by special education teachers in public school systems.

Part Two is designed to provide measures of maladaptive behaviour related to personality and behaviour disorders.
The domain no. XIV, "Use of Medications", of course, is not a behavior domain, but does provide information about a person's adaptation to the world.

Part one and Part Two of A.A.M.D. Adaptive Behaviour Scale 1975 Revision are given in details in Appendix 9(b).

The Scale is designed to permit administration by people without a great deal of special training as well as by professionals. It may be used by institutional aides and nurses, parents, outreach workers, community service technicians, teachers, workshop supervisors, home trainers, protective service workers etc., as well as by psychologists, social workers, speech and hearing personnel and other more specially trained professionals.

Since the scale data are based on behaviours which can be observed, information concerning the individual being evaluated is obtained from that person who spends the greatest number of waking hours with the individual in question.

The Scale is an instrument that can serve many purposes.

Two main purposes are as under:

1. To identify areas of deficiency that individuals or groups have in order to facilitate proper and useful assignment of curricula and placement in training programmes.

2. To provide an objective basis for the comparison of an individual's ratings over a period of time in order to evaluate the suitability of his or her current curriculum or training programme.
As a descriptive tool for retarded population the Scale has many administrative applications. In some instances specific behaviour items from the Scale can be used in such applications, at other times, domain or subdomain scores. The latter may be expressed in raw score form, as percentage of maximum scores, or as scores relating to various normative groups. From any of these one can derive frequency distributions, measure of central tendency, percentiles, and other measures to be used descriptively, comparatively or evaluatively.

The descriptive Scale information may be combined with demographic data such as age, intellectual level etc. The administrative potentials of the Scale are significant regardless of the size or complexity of the organization using it. It is helpful and used in many programmes as a tool for programme evaluation. Effectiveness of a particular programme can be measured by changes between pre and post scores.

An elaborate description of the methods of administrating the scale, scoring the items and interpreting the scale scores is given in the Manual of the Scale (Nihira, 1975).

In Part one, the reliability differs from one domain to another. The mean reliability for all domains in Part One is .86 in the 1975 Revision. This was .74 for all domains in the original Scale of 1969. The changes in
the items and ratings in Part One of the 1975 Revision can hence be understood to have brought about more reliability.

The mean reliability for all domains in Part Two is .57 in the 1975 Revision. This was .67 for all domains in the original Scale of 1969. Yet there are no significant changes made in the items of Part Two. Therefore, the reduction in the reliability may be attributed to variables other than the Scale itself, such as population characteristics of the samples, types of raters, situational differences between the morning and evening shifts etc.

Studies which have been done with regard to the validity of the Scale have established the practical validity of it. In one study the Part One domain scores discriminated significantly between those who had been previously classified at different levels of adaptive behaviour by clinical judgement. In another study Part One and Part Two scores significantly discriminated among those people who had been placed into five homogenous administrative units, i.e., medical, educational, vocational, pre-placement, and release units in a residential facility for the mentally retarded. A third study reported that domain scores from Part One and Part Two total scores significantly changed from pre-test over a two-year period when an intensive operant approach was employed while no score changed significantly for the non-operant control group.
Although these studies establish the practical validity of the scale it is to be reiterated that "Adaptive Behaviour" implies a particular frame of reference concerning the individual and his environment. Thus it is not possible to evaluate the practical validity of the scale in terms of a single criterion.

Adaptation.

A.A.M.D. Adaptive Behaviour Scale (Indian Revision)

A tested and verified revision of the Scale was obtained from the Documentation Unit of B.M. Institute of Mental Health, Ahmedabad. This adaptation was based on the 1974 revision of the original A.A.M.D. Scale of 1969. The investigator had to mainly reorganize the contents of the Indian revision into the format laid down in the 1975 revision of the Scale.

The major changes made by the investigator are in the domain I sub-domain G and H. Here the context, in which some skills of general independence were being assessed in the 1975 Revision, have been changed. The skills assessed remain the same and so does the total maximum obtainable score.

The Part Two of the Scale required no revision.

Part One of the Scale as used in this study is given in details in Appendix 9(c)
Parental Involvement Project Developmental Charts.

One major limitation of the A.A.M.D. Adaptive Behaviour Scale is that it cannot be used for assessing children younger than three years of age. This leads to including a second tool which can measure change that occurred in the children below three years of age.

The main reason for selecting the Parental Involvement Project Developmental Charts is the fact that they are the product of a programme which had objectives similar to those laid down for this study. Besides, the Charts make it possible to assess a comprehensive range of behaviours and is simple in administering.

The P.I.P. Developmental Charts were compiled by Jeffree, D. and McConkey, R. in 1976. The Charts arose out of the Parental Involvement Project directed by the authors at the Hester Adrian Research Centre, University of Manchester.

The Charts are developmental skills charts primarily designed for mentally handicapped children, but can also prove useful with (a) children with other handicaps (b) disadvantaged children (c) children in institutions and (d) all pre-school children. The charts are useful for assessing children between zero and five years of age. These charts are intended to form a basis for furthering the child's development.
The skills to be observed and marked are grouped into five areas of development and then further sub-grouped into sections.

The details of the P.I.P. Developmental Charts are given in Appendix 9(d).

The Charts are meant to be used by the parents themselves and also by trained workers or qualified professionals.

The instructions for completing the Charts and guidelines for interpreting the Charts are given on each scoring booklet. (Jeffree, 1976).

Adaptation.

No major or significant adaptation was required to be done for using the P.I.P. Developmental Charts in this study.

B. TOOLS WHICH MEASURE CHANGE THAT OCCURS IN THE PARENTS

The twenty demonstration programmes perused and all the studies reviewed by the investigator strongly emphasize the importance of mother-child dyadic relationship or corresponding behavioural influence between parents and their disabled child. All of these studies give importance to measuring changes in the child and using them in evaluating the intervention programmes. (Tjosaem, 1976; Pugh, 1981). This indicates that the specialists were content to assess only the child's development and behaviour for the purpose of evaluating the programme.
The exception to the observation mentioned in the previous paragraph is one programme namely "Educational Intervention with High Risk Infant" by Kass et al. (Kass, 1976). This programme had made assessments of the nature of parent-child interaction besides that of the developmental characteristics of the child and also the resources and limitations of family and home. The parent interaction was assessed within a framework of a hierarchy of parental attitudes and behaviours.

**TOOL 3**

**Parents Behavior Progression.**

One of the specialists working with the team of the above programme, Bromwich, along with others developed a tool for assessing the behaviour of parents. This tool is the Parent Behaviour Progression and it is suitable for establishing the level of parent's behaviour in relation to their child. The Parent Behaviour Progression was selected as the tool for measuring change that occurred in the parents.

The main reason for selecting Parent Behaviour Progression is its propriety which is evident in the fact that it is based on a sound theoretical conceptual framework. Besides, it is the only tested and verified tool for the purpose and is simple in administering.
The Parent Behaviour Progression was originally developed by Bromwich, R., Khokha, E., Fust, S., Baxter, E., Burge, D., and Kass, E., in 1976. The Center for Research, Development and Services, California State University is the distributor for this tool.

The Progression is based on the principle that when parents achieve mutually satisfying interaction with their child and acquire sensitivity and responsiveness to his needs in different areas of development, they create an environment in which the child is able to develop to its fullest potentials.

The conceptual framework on which the Parent Behavior Progression is based is explained further. Enjoyment of child leads to interest in reading and responding to cues, and the combination of enjoyment and responsiveness to cues lead to mutuality or reciprocity of interaction. When such an affective base is established, the parents progress toward competence in providing the child with an environment, play materials as well as language and social experience that foster various aspects of his development. The behaviour of the parents become more complex as they cue in to the subtleties of the child's needs. The parents continue to progress in parental competence as they learn and profit from their own experience and/or from instructions given. Finally the parents independently generate a wide variety of activities for the child, anticipate its more complex needs in the next stage of development and are able to view
its needs in relation to their own and those of the rest of the family.

The Parent Behaviour Progression can be utilized for optimizing normal or disabled child's functioning and development by supporting and enhancing desirable parenting behaviours.

The Progression consists of six levels each of which is defined and elaborated. The first three levels of the progression are regarding the affective base. The last three levels are regarding potentials of the parents in the matter of actively providing growth-promoting experiences for their child. The behavioural sequences in these levels are the ones which many parents follow as they grow with their child.

The six levels of the Parent Behaviour Progression 1983 Revision are given in details in Appendix 9(a).

The Progression is required to be used by educational or clinical staff working with families in an ongoing programme. It is not to be used by independent evaluators from outside the programme.

Since Parent Behavior Progression data are based on behaviours which are mostly observed or reported without formal questioning it is vital that the assessor establishes a good rapport with the family before starting the use of the Progression.
The primary function of the Progression is to help specialist workers focus on parent-child interactions as well as increase their awareness and sensitivity to parenting behaviors. Thus Parents Behavior Progression serves as a tool to (1) support positive behaviors already in the parents' repertoire and (2) help the parents acquire new behavior patterns that enhance parent-child interactions and the child's development. The Progression can also be used to evaluate the effectiveness of intervention.

An elaborate description of each level, method of using the Progression, scoring and interpreting the score are given in the Manual of the Parent Behavior Progression. (Bromwich, 1983).

In Parent Behavior Progression, the reliability differs from one level to another. Yet the mean reliability for all levels comes to about .81 which is significantly high. The maximum reliability is in level I and the minimum is in level V, .96 and .56 respectively.

The validity of the Progression has been demonstrated in a research study carried out by the author. The Progression has also been studied to find if it bears any concurrent validity with one similar inventory of observations. This was conducted independently by specialists not involved in the construction of either tool. The correlation found was .71. A recent research study was done by another team of workers not involved
in the construction of Parent Behavior Progression and their findings reiterate the validity of the tool. (Allen, 1982).

Adaptation.

The Parent Behavior Progression was revised to a great degree in order to make it suitable for use in this study. As there was no provision for conducting a research to establish reliability and validity of the revised version before its actual use, the changes were so made that,

1) They did not make the Progression deviate from the conceptual framework on which it is based.

2) They do not alter the nature of the parental behaviour undergoing assessment.

3) They do not overweigh any group of behaviours and thus disturb its position in the Level.

4) They do not change the total number of behaviours. Thus the maximum obtainable score at each level and consequently the total obtainable score on the entire Progression remained unaltered.

The major changes made are in relation to the following:

1) Age-appropriateness of the Progression. The original Progression is that of interaction between parent and infant. In the revision, the interaction observed is between the parents and the child. The changes made for achieving this objective are what the investigator terms as making the Progression age-appropriate. For example, in Level I Behaviour Group A, instead of marking behaviours of parent's pleasure in only watching the child, behaviours which indicate pleasure in attending and presenting the child are also marked.
Similar changes have been made at all levels. The use of the word 'child' replaces the use of the word 'infant' in the entire Progression.

2) Acculturation of the Progression. This has been done mainly in the examples given to illustrate the actual nature of the behaviour to be marked. For example, in Level I Behaviour Group B, behaviour No.6, the example given in the revised Progression is "He likes to sit beside me when I am busy with the Puja." The statement elaborates the same feelings as required to be noted in the behaviour viz. "Parents Give Evidence of Enjoying Presence of the Child Having Child Near Them (C-R)." Similar examples of acculturation can be found throughout the revision.

3) Reorganization of behaviours in the Progression. Certain behaviours appeared more prominent in the context of the age-appropriateness and acculturation, and such behaviours lead over the others in the order of opportunity and frequency of observation. The behaviours were reshuffled in their order accordingly. For example, in level V Behaviour Group A, behaviour No.6, from the original Progression had to be split into two separate behaviours and as a result the order of behaviours from No.1 to 7 had to be reorganized in the revision.

The adaptation was done on the basis of the investigator's own experiences gained during clinical work as well as his own experiences of being a parent of two children. Help was also taken in the form of discussions on such parenting behaviours, with friends and acquaintances having experience of parenting.
The Parent Behaviour Progression (Adapted Revision) is given in details in Appendix 9 (f).

C. TOOLS WHICH ASSIST IN EVALUATING THE PROGRAMME

Two of the tools described in the earlier section viz. A.A.M.D. Adaptive Behaviour Scale and the Parent Behaviour Progression can also be used for evaluating the programme of intervention itself. It was evident that the objectives of the investigation would require information more than merely the pre-and post intervention scores on the assessment tools such as the Adaptive Behaviour Scale and Parent Behaviour Progression. It was necessary to include tools which could indicate the way in which parents followed the programme. Similarly a tool which could collect parents' own impression about the programme was also necessary in evaluating their perception about the programme. Tools meant for these purposes were constructed by the investigator.

TOOL 4

Follow-up Sheet.

A tool was required for keeping an ongoing record of parents' performance in carrying out the assignments shown. Such a tool, the Follow-up Sheet, was constructed after studying several formats for recording progress e.g. Bereeweke Skill Teaching System, Cumulative Progress Report, Portage Project and others. The tool could have
been made into one elaborative tool like any of the ones mentioned above. Considering that the work was going to be carried out in a rural setting, it was felt that a simple and short follow-up record sheet would become more handy for use and less anxiety-provoking for the respondents.

The tool i.e., the Follow-up Sheet is given in details in Appendix 9 (g).

The Follow-up Sheet essentially records the frequency of carrying out the assignments, the method of implementing, the nature of suggestions made by the parents in connection with the assignment and the extent to which the goals were achieved. Each of these readings are to be marked on the sheet itself.

A fifth reading regarding the quality of suggestions made by parents is also present on the sheet. This reading is to be marked on a 5 point rating scale, only if the reading C (suggestion made by parents) gets a score of 1 or 2.

The Sheet carries space for writing additional information viz, the reason why the given frequency of implementing the assignment was not maintained, the way the parents' method differed, the nature of suggestion made, the status (if discontinued), and reason behind it, of the assignment and any other pertinent observation.
One separate follow-up Sheet is required to be filled in for each individual assessed and after each follow-up. The marking is done by the investigator but after due discussion with the parents.

The tool is simple in structure but is designed with the purpose of using only in this study.

TOOL 5

Questionnaire Regarding the Programme.

This tool was constructed with the main objective of collecting the parents' impressions and feelings regarding the programme in which they formed an important component. Some other information too was collected in the questionnaire although this could have got done by another method. The reason for doing this was to make the questionnaire appear more as a means for concluding the working relationship between the investigator and the parents. Owing to this, some questions which are fact-finding ones in nature are included along with the ones which are opinion-finding in nature.

The Questionnaire is given in Appendix 9 (h)

The main characteristics of the Questionnaire are as follows:

1. The Questionnaire is a short one with only 20 questions.

2. The Questionnaire is to be filled in by the interview method. It is likely to have parents, in the
programme, who are not literate. Hence instead of designing a questionnaire which they are required to fill in, this one with interview method was preferred.

3. The Questionnaire include six questions which are fact-finding. The remaining fourteen questions are opinion finding. There are more fact-finding questions placed at the beginning so as to help the respondent "warm up" for giving responses.

4. Only four questions rely on respondents long term memory. But the questions do not demand any minute detail of the distant past, hence the answers are not likely to be unreliable.

5. Only two questions rely on calculations to be done by the respondents. But the questions are pre-coded ones hence the answers are not likely to be unreliable.

6. The Questionnaire includes a couple of questions which appear offensive e.g. questions 2 and 3. This questionnaire is to be filled in at the end of the programme i.e. after a certain acquaintance is developed. It is therefore conceived that at such a stage of working relationship these questions will not prove themselves as offensive as they would if asked in the beginning of the acquaintance. It is likely that the responses will be more truthful if asked later.

7. There are nine questions which are open-ended and eleven which are pre-coded. Out of the open-ended questions three are such that their answers are more likely to be in the form of YES or NO. Thus fourteen questions can be understood to be pre-coded. Heavy dependability is laid on pre-coded questions in this Questionnaire. This has been done considering that the respondents are going to be rural and thus are likely to be less academically oriented.
The questions are simple and short. They are worded in such a way as to avoid Brevity, Ambiguity, Emotivity Lead, and Aspersion.

The Questionnaire is filled in at the termination of work with the parents. The method is the same as mentioned in characteristic number 6.

The validity and reliability of the Questionnaire could not be verified separately before or after its use in this study.

The Questionnaire is designed for use in only this study.

REFERENCES


