Chapter Four

METHODOLOGY

Based on the review of literature and the prevalence of research gaps in the areas of identifying dynamics operative within a family milieu of an E.M.R. child and the perceptions of an E.M.R. child, and the relationships of the variables to the retardate's psycho-social improvement or deterioration within the school milieu, the present investigation was formulated.

The research investigation was conducted at two phases.

Study At Phase I

The primary objective at phase I was to identify the factors related to the improvement or deterioration of the E.M.R. child within the special school.

(A) For the purpose of classifying the sample into the criterion groups of improvers and deteriorators, the retardates were assessed, at two levels with a gap of one year, on the following dimensions:

I. The psycho-social dimension encompassing the following skills -
   (a) self help skills
   (b) emotional control
   (c) impulse control
(d) muscle control
(e) insight
(f) language, communicability skills
(g) grasping skills
(h) cognitive functions of time, place, person orientation
(i) cognitive functions of attention, concentration and memory skills

II. The dimension of performance IQ.

III. The social maturity dimension.

(B) The classification of the sample was followed by a descriptive analysis of the special intervention programme and an analysis of the teachers perceptions about the competencies necessary for the special teachers of mentally retarded children to be equipped with.

(C) An in-depth analysis was made of the dynamisms operative within the family milieu which could be related to the retardate's psycho-social and cognitive progress or deterioration.

(D) An analysis was undertaken of the retardate's perceptions towards his family, school milieu and self.

The Study At Phase II

The objective in the second phase of the investigation was to identify the variables operative within the family milieu of E.I.R. children who had passed out from the special
intervention programme 3/4 years ago. The following research was undertaken to determine the relative of the family variables operative in the maintenance of the inducted skills and in the vocational rehabilitation of the retardate.

To obtain a quantitative measure of the aforesaid variables certain instruments were utilised.

**Instruments Utilized for the Research Investigation at Phase I**

(A) The categorization of the S.M.R. children into the criterion groups of improvers and deteriorators was implemented with the help of the following instruments:

1. **The Special School Reports** - to provide an assessment of the retardates cognitive, psychosocial and adjustive functioning level, within the school milieu.

2. **The Weschlers Intellligence Scale for Children, WISC (1939)** - to provide an index of the retardates performance IQ.

3. **The Vineland Social Maturity Scale, VSMS (1953)** - to provide an index of the retardates social maturity quotient.

(B) **The Teacher's Competency List, CL (1953)** - to provide an insight into the special teachers perceptions of competencies necessary for the teaching of exceptional
children.

(C) The Family Attitude Questionnaire - FAQ to provide an insight into the variables operative within the family milieu of the E.M.R. child.

(D) The Retardate Attitude Questionnaire - RAQ (1978) - to provide an insight into the perceptions of the retardate as regards his family, school and self.

**Instruments Utilised for the Research Investigation at Phase II**

(A) The Family Attitude Questionnaire - FAQ (1978) - to provide an insight into the dynamics and variables operative within the family milieu of the E.M.R. child who has left the special school milieu 3/4 years ago.

**A Description of the Tools Used in the Research Study**

**Tools Developed for the Present Investigation**

The tools developed for the present research programme were the FAQ and the RAQ.

**The Family Attitude Questionnaire (FAQ)**

The FAQ (Appendix I) was developed by the researcher as a structured interview schedule to guide the interview process along certain pre-determined channels. The questionnaire was designed to facilitate the identification and isolation of relevant variables operative within the
family milieu of a mentally retarded child, which could be regarded as determinant of the retardate's psycho-social failings or progress. Since the main interest of the study was to establish a relationship between the dynamisms prevalent within the family milieu (which were mediated to the retardate through the perceptual attitudes of the entire family unit) and the retardate's progress or deterioration, no attempt was made to establish the validity of the questionnaire. Standardization of the questionnaire and the establishment of reliability and validity factors, in itself would have been an extremely time consuming task and could have been incorporated into an individual research programme. It should however be mentioned here, that the present version of the questionnaire is only a preliminary form and it needs to be further refined and the study replicated with larger and different samples, before its validity can be established.

The FAQ was based on open ended questions. These questions are designed to permit a free response from the respondent. The distinguishing characteristic of open ended questions is that they merely raise an issue but do not provide or suggest any structure for the respondents reply. The responder is given the opportunity to answer in his own terms and in his frame of reference.

Item Selection

The questionnaire was designed to elicit meaningful
information regarding the variables operative in the family environment which would facilitate insight in the behaviour and functioning level of the retardate. Following extensive research survey conducted in Western countries, related to the assessment of the family environment of retarded children, and meaningful discussion with personnel in this field, seven areas of interactional relevance, of the retardate within his family, were isolated. These dimensions were further classified into fifteen items, to assess the dynamisms prevalent within each specified dimension. The dimensions included in the questionnaire were:

(a) Factual data regarding retardate
(b) Family background variables
(c) The parental orientation dimension
(d) The parental dynamics
(e) The sibling orientation dimension
(f) The total family orientation dimension
(g) The social environment dimension

The FAQ at Phase II

For the follow-up programme of the present investigation the FAQ was utilized to isolate variables within the family milieu, which would relate the effectiveness of the family to maintain the skills inculcated within the retardate and the retardate's psycho-social functioning and vocational competence level. The FAQ with only a minor
modification was utilized for the research investigation at phase II.

The FAQ at a Previous Research Level

The FAQ was utilized for a previous research programme undertaken by the researcher to relate the improvement and deterioration of an E.M.R. child with the school milieu and the nature of family environment afforded to the two criterion groups (Ghatak, 1978). This was however just a primary attempt in the utilization of the FAQ and a criterion framework in the development of a meaningful tool to assess the family, which stands as the primary intervention agency in the rehabilitation and improvement of an E.M.R. child.

The Retarded Attitude Questionnaire (RAQ)

The RAQ (Appendix II) was developed by the researcher to gain insight into the attitudes of a E.M.R. child towards his self, family milieu and the special school milieu. Such an assessment was crucial in order to recognise the needs, anxieties and problems faced by the retarded child.

The development of the questionnaire involved an extensive survey of the personality studies of R.M.R. children. Owing to the practical difficulties of tapping of attitudes of mentally retarded children functioning at lowered psycho-social and communicative skills, very few retardate attitude assessment studies have been made. For the present investigation, however, a comprehensive analysis of the way a retardate perceives his self and family/school environments, was deemed critical, in order to understand the retardate's functional improvement or deterioration.

The Principles on Which the RAQ was Developed

The RAQ was developed on the 'fixed alternative model', that is, the questions were limited to the stated alternatives of 'yes', 'sometimes', and 'no'. Testing retarded individuals poses special problems of grasping the sense of often imperfect expressive language, of differentiating between actual knowledge and a lucky guess, and of determining whether erroneous responses reflect a knowledge of deficits in the mode of communication. Loeb (1966), Kirk (1966), Hewitt (1964), demonstrated in their research that R.M.R. children and adults often know more than is evident than their verbal response.

The present attitude eliciting instrument was so defined so that subjects could comprehend the simple state-
ments and reply by a simple 'yes', 'sometimes', and 'no'.

Wherever extra vocal explanations were evidenced, the investigator encouraged the subjects, thereby gaining further insight into the attitudes of the retarded member. This method, however, required examiner skill, was time consuming and did not eradicate the problem of incomprehensible responses.

**Item Selection**

Since it is acutely difficult to make a retarded comprehend a particular concept, within the framework of the present investigation, very simple but meaningful attitudinal facets were included. The facets included were relevant variables operative in the retarded's perception of his school/family environment and his own self.

The items included in the RAI were as follows:

(a) **Retardate's Perception of his Family**

Under this dimension, interactional facets included were parent-retardate relationships, retardate-peer relationships, retardate's home psycho-social behaviour, retardate's social participation etc.

(b) **Retardate's Perception of his School Milieu**

This included the teacher-retardate, retardate-peer, and retardate-attendant interaction facets. Also included were retardates attitude towards
the school curricula and retardate's classroom behaviour.

(c) Retardates Perception of Self
This dimension included the assessment of the retardates self concept, home and school behavioural modes, and finally perceptions of growth and achieved potentials.

Description of the Standard Tools Utilized for the Research Investigation

The standard tools utilized for the present research investigation were the Wechsler Intelligence Scale for Children (WISC), The Vineland Social Maturity Scale (VSMS), The IAPT Anxiety Scale (IAPT) and The Competency List for Special Teachers (CL).

The WISC : Intelligence Testing with the Mentally Retarded

One of the paradoxes of the intelligence testing movement is that the primary use of intelligence tests is to diagnose mental retardation, and thus almost all of the children tested are abnormal in some way. It is also seen that the various tests developed have always been standardized on a population of normal children. Any child suspected of brain damage, emotional disturbance or mental retardation is routinely dropped from the standardization sample. For this reason, it is important to verify that widely used intelligence tests such as the WISC and the Stanford-Binet
are as reliable and valid with the mentally retarded and with other handicapped groups as they are with normal children.

Extensive research conducted by Silverstein (1964) and Sattler (1974), concluded that in general, the Stanford-Binet and the Weschler tests are about as useful with the retarded as they are with normal children. For example, a number of people have determined that test-retest reliability of the Stanford-Binet and the Weschler scale are adequately high, Stringham (1964), Srivastava (1970). However, Silverstein (1964) pointed out that the correlation between the Stanford-Binet and the WISC is only 0.84 - a high score, but not high enough to suggest that the two tests measure exactly the same abilities.

Implications of the WISC

An interesting theoretical question is the extent to which the relative degree of difficulty of various items and subtests is similar for retarded and non-retarded people. If there are certain kinds of questions on which retarded people seem to do particularly badly or particularly well, this could only suggest that the general structure of mental abilities is different for retarded people, and it could also have implications for special education. One of the easiest ways to answer this question is to look at the relative degree of difficulty of various
subtests of the WISC. Silverstein (1964) reviewed 10 studies in which this was done and he discovered some important generalizations. Retarded subjects almost always tend to do best on the non-verbal subtests, object assembly and picture completion in particular. Most retarded subjects do poorest on the subtests of vocabulary, arithmetic and information, all verbal subtests. There is also a general trend for retarded subjects to have a slightly higher performance IQ than a verbal IQ. In other words retarded people seem to have unusual difficulty with verbal abstraction abilities and relatively less difficulty with tests of non-verbal comprehension. The manual of the WISC (1939) reports that retarded subjects should only be tested on the performance subtest, Manual, WISC (1939). Based on the aforesaid rationale the present investigation utilized only the six performance tests for the sample.

Antecedents of the WISC

The first form of the Weschler scales, known as the Weschler-Bellevue Intelligence Scale, was published in 1939. One of the primary objectives in its preparation was to provide an intelligence test suitable for adults, Appel (1964). The Weschler Intelligence Scale for Children (WISC) was prepared as a downward extension of the original Weschler-Bellevue Scale, Adams (1960). Many items were taken from the Weschler-Bellevue, easier items of the same types being added to each test. The WISC
consists of twelve subtests, of which two are to be used either as alternates or as supplementary tests if time permits. The subtests are grouped into a verbal and a performance scale, as follows:

<table>
<thead>
<tr>
<th>Verbal Scale</th>
<th>Performance Scale</th>
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<tbody>
<tr>
<td>General Information</td>
<td>Picture completion</td>
</tr>
<tr>
<td>General Comprehension</td>
<td>Picture arrangement</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>Block design</td>
</tr>
<tr>
<td>Similarities</td>
<td>Object assembly</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>Coding (or mazes)</td>
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</tbody>
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The subtests utilized for the present investigation are:

1. **Picture Completion Test**: which evaluates visual perception and ability to synthesize visual imagery.
2. **Picture Arrangement Test**: which evaluates visual perception of relationship and ability to synthesize non verbal material.
3. **Block Design Test**: which evaluates capacity for form perception and analytic-synthetic ability.
4. **Object Assembly Test**: which evaluates perception ability to synthesize visual relativity and motor manipulations.
5. **Coding (Digit Symbol) Test**: which evaluates immediate role recall and visual imagery.
6. **Mazes Test**: which evaluates learning ability and social adaptability.

**The Vineland Social Maturity Scale (VSS)**

This was administered to focus on the social maturity of the child. This is a developmental schedule concerned with the individual's ability to look after his practical needs and to take responsibility. Although covering a range from birth to over 25 years, this scale has been found most useful at the younger age levels, and particularly with the mentally retarded. The entire scale consists of 117 items grouped into year levels. The information required for each item is obtained, not through test situations, but through an interview with a parent or guardian figure or with the subject himself. The scale is based on what the subject has actually done in his daily living. The items fall into eight categories: general self help, self help in eating, self help in dressing, self direction, occupation, communication, locomotion, and socialization. A social age (SA) and a social quotient (SQ) can be computed from the subject's record on the entire scale, Anastsi (1963).

The scale is made up entirely of items having significance for adjustment in society and has been standardized on the Indian retarded population effectively by Holroyd (1966). For example, at the III-IV year level such things
as 'buttons coat', helps at little household tasks, and
'washes hands unaided' are included. At the IX-X year level
factors as 'cares for self at table', 'makes minor purchases',
are included.

Correlation Between the VSIS and IQ Tests

Correlation between the VSIS and IQ tests vary widely,
but are sufficiently low, in general, to indicate that
different facets of behaviour are being tapped by the two
kinds of scales, Anastasi (1958). The VSIS has proved
helpful to clinicians in diagnosing mental retardation and
in reaching decisions regarding institutionalization. For
example, an individual who is intellectually deficient in
terms of the Weschler’s IQ scale may be able to adjust
satisfactorily outside an institution if his social age
on the Vineland Social Maturity Scale is adequate. Discrep-
cencies between MA (mental age) and SA (social age) may
likewise contribute to an understanding of certain cases
manifesting behaviour problems or psychopathology, (Bayley
(1955)) and lend a direction in the development of effective
intervention programmes for the retardate.

The IPAT Anxiety Scale

The IPAT anxiety scale is primarily designed to
measure free lasting manifest anxiety level, whether it
be situationally determined or relatively independent of
immediate situation. The IPAT, developed from extensive
research and practice is a brief, non-stressful, questionnaire for measuring anxiety, applicable to low educational levels and institutionalized neurotics. Even psychotics can handle it without undue strain. This scale was evolved basically from the 566 item pool of Minnesota Multiple Personality Inventory.

The IPAT anxiety scale was standardized on patients visiting hospitals in U.S.A. The scale has however been adapted to Indian conditions, Venkatramadiah and Bharathi Kumer (1973) and effectively used to assess manifest anxiety for clinical purposes, on the Indian population. Vast usage of the IPAT among the Indian population, Srivastava (1970), Gupta (1970), Das (1968) has displayed its effectiveness of measuring the free manifest anxiety level among the students, teachers and groups of families.

The IPAT was utilized in the present investigation to assess the parental anxiety levels at Phase I and Phase II of the research programme. An insight in the level of anxiety operative within a parent would further the understanding of the family milieu and the effects of anxiety on the parents reaction to the E.M.R. child's handicaps and growth potentials.

The scale consists of 40 questions, each question having five alternative answers. Administration and scoring of this scale involves obtaining ten values for
the individual cases and checking it against the norms provided in the manual. A total sten score of 1, 2 or 3 indicates stability, security and sound mental health. Sten values of 4, 5, 6 or 7 are still in the normal range and need occasion no particular further inquiry. Sten 7 is indicative of borderline high anxiety and might bear further watching with periodic retesting. When the sten level reaches 8, 9 or 10, there is definite psychological morbidity, almost certain to have adverse effects on work and social emotional adjustment.

The Competency List (CL)

The present research investigation utilized the CL to assess the rating behaviour of the special class teacher of the competencies relevant for teaching and inculcating skills within an educably mentally retarded child. This assessment can be regarded as an observation and an attempt to establish an arbitrary criterion in the descriptive analysis of the special school, with the teachers functioning as crucial intervention agents, for the mentally handicapped children. This can be regarded as a controlled variable in the study as the same influence prevails upon all the retardates. The present competency list for teachers of handicapped children is based on list developed by the U.S. office of Education, Mackie, Kvarocens and Williams (1957). The questionnaire, composed of 52 items, is divided into 11 categories. Respondents were asked to
rate each item on a three point scale:

1. 'Vital', indicating a competency which was absolutely necessary, without which an effective job of teaching could not be done.
2. 'Good' but not essential ... referring to skills and knowledges which would be beneficial to have, but without which the teacher could still do a good job.
3. Unnecessary items were those which were not specifically needed for this type of teaching. The competency list questionnaire (CLQ) was supplemented with a Basic Information Table (BIT) eliciting certain factual data about the special school personnel.

The Mode of Data Collection

The data collection was conducted at three phases. The first phase involved repeated visits to the special school milieu where a critical analysis of the working of the special school institution was made, the competency list to assess the special teachers rating behaviour of competencies requisite to train exceptional children and to analyse the cognitive psycho-social functioning level of the retardates and classify them into improvers and deteriorators. The research aim incorporated administering the WISC and the VABS (to help in the sample classification) within the school premises. The retardates however displayed reluctance to stay after school for this purpose, hence the two tests were administered within the family milieu.
The second phase of data collection involved repeated home visits to assess the retardates' responses on the WISC, VSMS and the FAQ.

A point to be elucidated here is that for purposes of the sample categorisation into the criterion groups of improvers and deteriorators, the retardates were tested twice, once at the beginning of the second academic year and once at the end of the second academic year. This involved two assessments, of the cognitive and psycho-social functioning revealed by the school reports of the retardates within the special school milieu, and an assessment on the WISC and the VSMS within the family milieu.

The third phase of data collection involved repeated home visits to the families of the sample at the research investigation Phase I and Phase II as well. The family interview task at the phases was beset with limitations as it was a very difficult proposition to get the family unit together at one time and the families also reacted with a certain amount of initial scepticism towards the investigator. The FAQ was administered to the entire family unit and the IPAT was administered to the father and the mother to assess their level of anxiety.

**The Rationale for Observing and Assessing the Family Unit As a Whole**

The family was approached as a whole unit and each
individual category was outlined and defined. The family arrived at a consensus about the relative improvement or deterioration of the retardate present status from the starting point of his school career. It was deemed necessary to approach the family as a whole because methodologically it is regarded salient that to comprehend the kind of environment in totality it provides a handicapped member, each member is to be assessed and understood. Intra-familial relationships are interlocking and contingent upon one another. What is needed is an evaluation of the psycho-social interior of the family and its relation to the development of a retarded member. Also relating to the family in totality in a face-to-face observational method would remove bias factors which might have arisen if individual members were separately interviewed and contradicted each other on basic issues like the progress or non-progress of the retardate.

In the present instance even if controversies arose they were immediately dispelled by taking a majority opinion. This also facilitated the task of the researcher. Whenever a controversy arose regarding discrepancies in the retardate functioning level, a thorough descriptive analysis was done of the retardates functioning pertaining to the particular item under discussion. A further probing of the retardates behaviour and urging the family members to be honest, realistic and decisive about the dimension under study
proved beneficial. Often, when the parent figures seemed at a loss to categorise the retardates functioning level the siblings and other members present (if it is an extended family) helped in solving out the discrepancies and helping the investigator arrive at a concrete analysis of the retardates functioning level and its relation to the dynamism within the family milieu at both phases of the research investigation.

The Analysis of Results

To test the significance of difference between the criterion groups of the improvers and the deteriorators, as regards the determining variables operative within the family milieu and the perceptual framework of the retardate towards his self, family and school, a bi-variate analysis was utilised. This involved the computation of the chi square values. In cases where the response categories were dichotomous, the $2 \times 2$ contingent chi square values were computed and in cases where the responses were in three categories $2 \times 3$ contingent chi square values were computed.

The analysis of the results and the consequent discussions are presented in later chapters.