Chapter III

PROCEDURE

This chapter consists of the procedures adopted for selection of subjects, experimental design, the criterion measures, reliability of data, administration of tests and collection of data, development of the adapted physical education programme, administration of the programme and the statistical techniques employed for testing the hypotheses.

Selection of Subjects

The subjects for this study were randomly selected on the basis of the Stanford - Binnet Intelligence Test scores obtained from the school records. There were fifty-four educable mentally retarded (EMR) children and forty-eight trainable mentally retarded (TMR) children from Pratheeksha Bavan, an institute for mentally retarded in Irinjalakuda, Kerala. The subjects were from different family background and their socio-economical status were also different from
each other. Some of the subjects were from rich families and some of them were from poor and very poor families and a large number of subjects were from middle class families. Very few subjects were having siblings who were also mentally retarded. Most of the subjects had their parental care and few subjects were neglected by the parents and few of them were orphans. A health examination of the subjects was carried out to ensure that the subjects were free from major orthopaedic and sensory impairments and medically fit to undergo the designed adapted physical education programme for this study.

The Educable Mentally Retarded children (EMR) ranged in age from ten to fifteen years with mean age of 12.37 years. The Trainable Mentally Retarded children (TMR) ranged in age from ten to fifteen years with the mean age of 12.31 years. The IQ of EMR subjects ranged from 54 to 67 and that of the TMR subjects ranged from 38 to 51. The Age, IQ and Sex of the control and experimental groups of EMR and TMR subjects are presented in appendix C, D, E, F, G & H respectively.
Experimental Design

The experimental design adopted for this study was random group design. The fifty-four Educable Mentally Retarded subjects were randomly assigned to three groups –

Group – A (EMR) \( (n = 12 \text{ males and 6 females}) \)

Group – B (EMR) \( (n = 13 \text{ males and 5 females}) \)

Group – C (EMR) \( (n = 14 \text{ males and 4 females}) \)

While Group ‘A’ acted as control group, Group ‘B’ and ‘C’ acted as experimental group-I and experimental group-II respectively. The same procedure was used to classify the forty-eight Trainable Mentally Retarded (TMR) children in to –

Group D (TMR) \( (n = 11 \text{ males and 5 females}) \)

Group E (TMR) \( (n = 12 \text{ males and 4 females}) \)

Group F (TMR) \( (n = 13 \text{ males and 3 females}) \)

Where Group ‘D’ acted as the control group and Group ‘E’ and Group ‘F’ acted as experimental group-I and experimental group-II respectively.
The pre-tests were administered before the application of the experimental treatments and all the groups were post-tested on the criterion variables at the conclusion of the experimental period. The length of the experimental period was 24 weeks. The detail of the application of the programme is discussed elaborately under the heading “Administration of The Programme” in this chapter.

**Criterion Measures**

The test items chosen as criterion measures were found most reliable and widely used all over the world for assessing motor ability, particularly for mentally retarded. These tests provide an adequate procedure for determining the level of motor ability and could be used in identifying students who need special consideration in physical education classes. The test items were selected from the Basic Motor Ability Test (BMAT)$^1$ and from Bruininks-Oseretsky Test of Motor Proficiency$^2$ on the basis of the following characteristics.

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(a) The size of the correlation between the item and its sub-test and total test scores.

(b) The range of age for which the item provided significant and useful information about the motor proficiency.

(c) The administrative feasibility.

As such the following tests were used as criterion measures.

1. Arm and shoulder girdle strength was measured through chair push-ups. Number of correct push-ups made within 20 seconds time span was the score.

2. Standing broad jump was used to assess the strength and power of thigh and lower leg muscles. Horizontal distance reached was measured in inches.

3. Flexibility of the back and hamstring muscles was measured by back and hamstring stretch test. Performance was recorded to nearest quarter inch.

4. Running speed and agility test was used to measure speed and agility. Time recorded in one tenth of a second.
5. The following two tests were used to assess static balance while executing various walking movements.

(a) Standing on preferred leg on balance beam, was measured in seconds.

(b) Walking forward on balance beam was measured by number of correct steps executed.

6. To determine sequential and simultaneous coordination of the upper limbs with lower limbs (Bilateral coordination) the following tests were used.

(a) Jumping up and clapping hands, were measured by number of claps executed.

(b) Jumping up and touching heels with hands, where points were awarded for correct execution.

7. Sit-up test was used to measure the abdominal strength. The number of correct sit-up performed in 20 seconds time span was the score.

8. The following two tests were used to assess coordination of visual tracking with movements of the arms and hands.
(upper-limb coordination).

(a) Catching a toss ball with both hands, where points were awarded for each correct catches.

(b) Throwing a ball at a target with preferred hand, where points were awarded for each correct execution.

The performances of the tests were recorded in units as prescribed in the test manuals from which these tests items were selected.

**Reliability of Data**

The reliability of the data was ensured by establishing the instrumentation reliability, tester competency, reliability of tests and subjects' reliability.

**Instruments Reliability**

The $1/10$ second calibrated stopwatches (Racer, India) were used to take the timings of motor performance tests. Standardized steel tape (Freemans, India) calibrated in inches, was used to measure
the performance of standing broad jump, standardized yard scale (Anand Agencies, Pune) calibrated in inches, was used to measure the performance of back and hamstring stretch. All the instruments were obtained from various laboratories of Christ College, Irinjalakuda, which were supplied by well-known manufacturers catering to the need of research laboratories, were accepted to be accurate and reliable enough for the purpose of the study.

**Tester Competency**

To ensure that the investigator was well acquainted with the techniques of conducting the tests, the investigator had a number of practice trials with experts. All the measurements were taken by the scholar, with the assistance of his colleagues who were all acquainted with the tests and the testing procedure.

The tester competency was evaluated together with the reliability of the tests and subjects’ reliability. To determine the reliability of the tests, the performances of 10 subjects selected at random were taken twice to obtain test-retest scores. A Pearson’s
Product Moment Correlation was computed for each measurement/test and is presented in Table 2.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients of Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair Push-ups</td>
<td>.78*</td>
</tr>
<tr>
<td>Standing Broad Jump</td>
<td>.87*</td>
</tr>
<tr>
<td>Back and Hamstring Stretch</td>
<td>.82*</td>
</tr>
<tr>
<td>Running Speed and Agility</td>
<td>.79*</td>
</tr>
<tr>
<td>Standing on Preferred Leg on Balance Beam</td>
<td>.92*</td>
</tr>
<tr>
<td>Walking Forward on Balance Beam</td>
<td>.89*</td>
</tr>
<tr>
<td>Jumping up and Clapping Hands</td>
<td>.84*</td>
</tr>
<tr>
<td>Jumping up and Touching Heels with Hands</td>
<td>.94*</td>
</tr>
<tr>
<td>Sit-Ups</td>
<td>.81*</td>
</tr>
<tr>
<td>Catching a Tossed Ball with both Hands</td>
<td>.81*</td>
</tr>
<tr>
<td>Throwing a Ball at a Target with Preferred Hand</td>
<td>.79*</td>
</tr>
</tbody>
</table>

\( N = 10, \quad r_{0.01} (8) = .765 \quad * \) Significant at 0.01 level of confidence.
Since high correlations from .78 to .94 were obtained for the variables, the results of the subject's reliability are viewed as satisfactory.

**Administration of Tests and Collection of Data**

All items were administered according to procedures outlined in the Basic Motor Ability Tests (BMAT) and Bruininks-Oseretsky test of Motor Proficiency. For the statistical analysis the raw scores were used. The raw scores were calculated according to the procedure mentioned in the Basic Motor Ability Tests (BMAT) Manual\(^3\) and in the Bruininks-Oseretsky Examiner's Manual.\(^4\)

While conducting the tests, the investigator made every effort to obtain optimal performance. The test items were briefly described and demonstrated to the subjects. Two practice trials were given in order to acquaint the subjects with the tests and equipments. When

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behaviour of a subject interfered with testing of a particular item, another task was chosen and the subject was made to return to the original item later in the session. If a subject did not appear to understand the task or if disruptive behaviour persisted, scores were not recorded.

Pre-tests and post-tests were carried out for five days prior and after the experimental treatment respectively. Before the administration of tests the subjects were given a chance to practise the tests, so as to become familiar with various test items. To ensure uniform testing conditions the subjects were tested in the same variables in the morning session from 6.30 to 8.30 a.m. before the breakfast and on the other variables in the evening session from 4.00 to 6.30 p.m. on all five days. Sufficient time for recovery was given to the subjects in between the tests.

In conducting the tests, the help of other physical education teachers from nearby schools and the colleagues of the scholar at Christ College, who were oriented about the testing procedures, was sought.
The research scholar explained the importance and advantages of the programme to the management and to the head of the Institution and sought permission from the authorities. The management and the head of the Institution (Pratheksha Bhavan) were convinced and pleased to grant permission to carry out the research work in their institution.

Brief discussions about the procedures adopted for the conduct of the tests are as follows:

Basic Motor Ability Test (BMAT)

Sub-test: 7. Chair Push-Ups

Purpose: To test the arm and shoulder girdle strength.

Materials Required: A stopwatch, a chair or bench, 14 to 18 inches in height above the floor, and a wall against which the feet may be braced.

Procedure: Demonstrated twice while explaining the test to the subject that a front leaning rest position should be assumed, leg together, both
feet against the wall with arms fully extended and body forming a straight line from head to feet.

**Time Limit:** 20 seconds.

**Scoring:** The number of correct push-ups counted with in 20 seconds time span.

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**Sub-test: 5. Standing Broad Jump**

**Purpose:** To test the strength and power of thigh and lower leg muscles.

**Materials Required:** A measuring tape and a non-slippery surface for take-off and landing.

**Procedure:** Demonstrated and explained the proper way to jump. Then the subject executed the test by swinging the arms back, bending the knees, and at the moment of take off, swinging the arms forward and extending the legs. A maximum of three trials were allowed. The layout for this test with subject in starting and landing position is shown in figure 1.
Figure 1.
Layout for Standing Broad Jump with Subject in Starting and Landing Positions.
Scoring: The best of the three trials was recorded in inches from the point of take off to the heel point.

Sub-Test: 4. Back and Hamstring Stretch

Purpose: To test the flexibility of the back and hamstring muscles.

Materials Required: A meter or yard scale.

Procedure: The subject sat on the floor with legs fully extended and heels approximately 6 inches apart. A meter scale was placed between the subject's legs with the 10-inch mark in level with the subject's heels. The subject bent forward and tried to stretch his/her hands as farther as possible. Three attempts were allowed.

Scoring: The farthest point attained by the subject in his/her three attempts was recorded. The child received a score of zero if his/her finger reaches his/her heels, a positive score if they went beyond and a negative score if he was not able to reach his/her heels.
Bruininks-Oseretsky Test of Motor Proficiency

Sub-Test 1: Item 1. Running Speed and Agility

**Purpose:** To measure the running speed during a shuttle run.

**Kit Equipment:** Tape measure, masking tape, block.

**Other Equipment:** Stop Watch.

**Procedure and Scoring:** The subject ran to the end line, picked up the block and rushed back across the start/finish line. The subject was timed between the first and the last crossing of the timing line. The layout of running course for this test is shown in figure 2.

**Trials:** Two.

Tester stood beside the timing line and had the subject stand behind the start/finish line. The test was conducted by giving the instructions as follows: when I say “on your mark, get set, go”, run as fast as you can to the block (point to block), pick it up, and bring it back across this line (point to start/finish line). Don’t slow down; run fast across this line (point again to start/finish line). “On your mark, get set, go”!
(a) Stumbled or stumbled
(b) Failed to pick up

On the appropriate space on the stopwatch is between

Figure 2.
Layout of Running Course for Running Speed and Agility
(Subtest:1 Item:1)
Tester started the watch when the subject crossed the timing line and stopped the watch when the subject crossed the timing line with the block. If the subject slowed down as he/she approached the timing line, the subject was reminded to continue fast across the start/finish line.

Trial was repeated if the subject –

(a) Stumbled or fallen.

(b) Failed to pick up the block.

(c) Dropped the block before crossing the timing line.

On second trial the subject was encouraged to run faster.

Tester recorded the time to the nearest 0.1-second in the appropriate space on the Individual Record Form. If the hand of the stopwatch is between two numbers, record the higher number.
**SUB-TEST 2: BALANCE**

**Sub-Test 2: Item 2**

**Standing on Preferred Leg on Balance Beam.**

The subject stood on preferred leg on the balance beam, looking at the target, with hands on hips, and with other leg bent so that it was parallel to the floor. The subject was asked to maintain the position for 10 seconds to achieve maximum score. The correct and incorrect stance for this test is shown in figure 3.

**Kit Equipment:** Target, Balance Beam.

**Other Equipment:** Stopwatch.

**Trials:** 2.

A second trial was administered only if the subject did not achieve maximum score on the first trial.

**Procedure and Scoring:** The target was prepared on the wall with masking tape so that the lowest point on the circumference was at the subject's eye level. A walking line was made by taping an 8-foot (2.4 meter) piece of masking tape to the floor in front of the target; about 10 feet (3 meters) from the wall and the balance beam was placed on
Figure 3.
Standing on Preferred Leg on Balance Beam (Subtest:2 Item:2)
the walking line. The following instructions were given: Stand on the beam on your (right/left) leg and raise your other leg like this (demonstrate). Place your hands on your hips and look at the target. Stand like this until I tell you to stop.

If necessary the subject was helped to achieve the correct position. Timing was started as soon as position was achieved and subject was reminded as needed to keep hands on hips and to look at target. Slight swaying is acceptable. Only one warning was allowed to keep the raised leg parallel to the floor (or above 45 degree angle). After 10 seconds, the subject was asked to stop the trial and the time was recorded before 10 seconds if the subject –

a. Dropped the raised leg so that it touched the floor.

b. Dropped the raised leg below 45-degree angle after one warning.

c. Hooked the raised leg behind the supporting leg.

d. Shifted the supporting foot out of place.
In the Individual Record Form, the nearest second of time that the subject maintained the correct position was recorded.

Sub-Test 2: Item 5

Walking Forward on Balance Beam

The subject walked forward on the balance beam in a normal walking stride with hands on hips. The subject must walk forward six steps to achieve a maximum score. The correct style for this test is shown in figure 4.

Trials: 2.

A second trial was administered only if the subject did not achieve a maximum score on the first trial.

Procedure and Scoring: The balance beam was placed over the walking line. The subject was asked to stand at one end of the beam. The following instructions were given: “Place your feet on the beam like this (demonstrated placing one foot slightly ahead of the other). Place your hands on your hips and walk slowly to the end of the beam. Ready, Begin” –
Figure 4.
Walking Forward on Balance Beam (Subtest:2 Item:5)
The subject's steps were counted. The subject was reminded as needed to keep hands on hips. After six steps had been taken, the subject was told to stop. If the subject placed one or both feet completely off the beam before taking six steps, the trial was stopped and the number of steps taken on the beam was recorded.

On the Individual Record Form, the number of steps taken on the balance beam was recorded.

**SUB-TEST 3: BILATERAL COORDINATION**

**Sub-Test 3: Item 6**

**Jumping Up and Clapping Hands**

The subject jumped as high as possible, clapping hands in front of face as many times as possible before landing. The subject must clap five times to achieve maximum score. The correct execution of clapping for this test is shown in figure 5.

**Trials:** 2.

The second trial was administered only if the subject did not achieve maximum score on the first trial.
Figure 5.
Jumping Up and Clapping Hands (Subtest:3 Item:6)
procedure and Scoring: The tester stood facing the subject. The following instructions were given: "When I tell you to begin, jump straight up as high as possible as you can. As you jump, clap your hands in front of your face, as many times as you can, before you land (demonstrated). Ready, begin" –

The number of claps was counted as the subject jumps and claps. The claps that were made while subject's feet were on the floor or claps that were on the floor or claps made below chest level were not counted. The trial was marked "zero" (0) if the subject loss his balance and touch the floor with one or both hands while landing.

On individual Record Form the number of claps made correctly was recorded.

Sub-Test 3: Item 7

Jumping Up and Touching Heels with Hands

The subject jumped as high as possible, touched the heels with hands before landing. The subject must touch heels five times to achieve a maximum score. The model of execution for this test is shown in figure 6.
Figure 6.
Jumping Up and Touching Heels with Both Hands (Subtest: 3 Item: 7)
Trials: 2

The second trial was administered only if the subject did not achieve maximum score on the first trial.

Procedure and Scoring: The following instructions were given: “When I say begin, jump straight up as high as you can. As you jump, bend your knees and touch your keels with your hands, like this (demonstrated). Remember to touch each heel at the same time. Ready begin” –

The tester stood behind the subject to check performance. During the trial, the subject was corrected and start counting over if he or she:

a. Failed to touch heels with hands simultaneously.

b. Lost balance and touched the floor with one or both hands when landing.

c. Failed to jump with both feet at the same time.

On Individual Record Form, the number of correct executions was recorded.
Sub-Test 4: Item 2

Sit-Ups

The subject did sit-ups, raising the upper portion of the body from the floor and touching fingertips to the scale held across the subject’s knees by the examiner. The number of correct sit-ups performed in 20 seconds was recorded. The model of execution for this test is shown in figure 7.

Equipments: Gymnastics Mat, Stopwatch.

Trials: 1.

Procedure and Scoring: The subject was asked to lie on a gymnastic mat. The examiner took kneeling position beside the subject and said: “Lie flat on your back. Place your hands on the top part of your legs like this (demonstrated, placing hands palms down on thighs). Put your chin on your chest. Keep your arms and shoulders straight and sit-up until your fingers just touch the scale.” The scale was placed across the subject’s knees. Then said: “After you touch the scale, lean back until I tell you stop. Sit-up just high enough to touch the scale. Ready, go!”
Figure 7.
Sit-Ups (Subtest:4 Item:2)
The number of correct sit-ups was counted. A sit-up was incorrect if the subject:

a. Pushed from the floor with elbows.

b. Pulled on slacks or mat while sitting up.

c. Failed to touch the scale with at least one finger.

During the trial, the subject was encouraged to perform as fast as possible. The tester repeated the instructions as and when necessary. For example, if the subject twisted sideways to sit-up, he was reminded to keep shoulders straight. After 20 seconds, the subject was asked to stop.

On the Individual Record Form, the number of sit-ups performed correctly was recorded.

**SUB-TEST 5: UPPER-LIMB COORDINATION.**

**Sub-test 5: Item: 3**

**Catching a Tossed Ball with Both Hands**

**Kit Equipment:** Standing mat, mask tape, tape measure, tennis ball.
The subject stood on the standing mat and, with both hands, caught a tennis ball tossed underhand from a distance of 10 feet (3 meters). The number of correct catches was recorded. The layout and model of execution for this test is shown in figure 8.

**Trials:** 1 practice, 5 recorded.

**Procedure and Scoring:**

The following instructions were given: “Stand on the mat and catch this ball with both hands when I throw it to you.” The subject was given one practice trial.

The tester stood behind the strip of masking tape and slowly tossed the ball underhand in a slight arc so that it came down between the subject’s shoulders and waist. Then the tester said: “Catch the ball with both hands each time I throw it to you.”

The tester counted the number of correct catches made in five trials. A catch was considered incorrect if the subject:

a. Missed the ball or trapped it against the body.

b. Stepped off the mat.

c. Caught the ball with one hand.
Figure 8.
Catching a Tossed Ball with Both Hands (Subtest: 5 Item: 3)
If the subject missed the ball because it was thrown above the shoulders, below the knees, or outside the subject's reach, the trial was re-administered. Between trials the instructions were repeated if necessary.

On the Individual Record Form, the number of correct catches was recorded.

**SUB-TEST 5: Item: 5**

**Throwing a Ball at a Target with Preferred Hand**

With the preferred hand, the subject threw a tennis ball overhand at the target from a distance of 5 feet (1.5 meters). The subject received a point each time the ball was correctly thrown and hit the target. The correct placement of target for this test is shown in figure 9.

**Trials:** 1 practice; 5 recorded.

**Procedure and Scoring:** The following instructions were given: "Stand behind this line (point to the masking tape on the floor in front of the target). You are to throw the ball over hand at the bull's eye (pointed to target; then demonstrated). Throw from behind this line." The
Figure 9.
Correct Place of Target and Masking Tape for Throwing a Ball at a Target with Preferred Hand (Subtest:5 Item:5)
subject was given one practice trial. The subject was allowed to throw overhand in a modified sidearm motion with both feet stationary, or take one step forward toward the target while throwing. Then said, “Ready, begin.”

The tester stood behind the subject and counted the correct throws in five trials. A throw was considered incorrect if,

a. Missed the target (hitting the black perimeter of the target was acceptable).

b. Thrown underhand.

c. Stepped over the line.

Between trials instructions were repeated as necessary. After five trials, the subject was asked to stop.

On the Individual Record Form, the number of correct throws was recorded.

The raw scores of pre and post-tests of control and experimental groups of educable and trainable mentally retarded individuals are presented in appendices I, J, K, L, M and N respectively.
Development of Programme

Through the review of literature and promising practices in the field, and also with the help of instructional resource materials, the investigator developed a draft of 24-week adapted physical education programme. The programme represented a wide range of content derived from a set of educational goals for students, which were based on findings of research, assumptions in the rationale explicitly stated, and values of participants within the programme.

The 24-week adapted physical education programme examined initially by the following three experts who deals with adapted physical education in the states of Kerala, and Tamilnadu. Dr. M.S. Nagarajan and Dr. George Edward, Lecturers, Y.M.C.A College of Physical Education, Chennai and Prof. Thomas Varghese, retired Professor of Physical Education from Christ College, Irinjalakuda, Kerala. The experts from Y.M.C.A. College have been actively involving in research in the field of adapted physical education and have attended many international conferences and seminars on adapted physical education and also have developed special games for
handicapped and mentally retarded. Dr. Nagarajan had been abroad with the Indian Contingent for the Para Olympics as an expert. Mr. Thomas Varghese is actively involved in the area of adapted physical education for mentally retarded. The suggestions and recommendation received from these experts were taken into consideration in order to improve the 24 weeks adapted physical education programme.

After making the necessary changes and modifications, the revised programme was once again sent to the experts for their final approval and comments. On the basis of the feedback received from the experts a final draft of the programme was developed. Then the investigator conducted a pilot study using the developed programme and presented a paper in UGC sponsored National Seminar on Adapted Physical Education, organized by Sri Ramakrishna Mission Vidyala, Murali College of Physical Education, Coimbatore, Tamilnadu. The title of the study was “Effect of Adapted Physical Education Programme on Motor Proficiency of Educable Mentally Retarded”. The study was widely appreciated by the experts and participants of the seminar. Based upon that experience the developed
adapted physical education programme was administered on the experimental groups. The rough draft and modified, adapted physical education programme of 24 week for the educable and trainable mentally retarded individuals is presented in appendix A and B.

The implementation model presented below illustrates the series of sequential steps that investigator has taken to plan, to implement and to evaluate the programme.

I. PROGRAMME GOALS:

To improve the motor, cognitive and social process and the resulting behaviour of mentally retarded individuals, the following subordinate goals, programme objectives, performance objectives were formulated.

A. Subordinate Goals

1. Improvement and control of body movements.

2. Improvement of perceptive faculty.

3. Improved knowledge of various equipments.
4. Improved adaptability and capacity to co-operate during exercising and games with other children.

B. Programme Objectives

1. To improve motor performance.
2. To improve body mechanics.
3. To learn a variety of skills in games and sports.
4. To develop positive body image.
5. To develop positive self-concept.
6. To develop acceptable social traits.
7. To develop acceptable emotional traits.
8. Ultimately to improve fitness and use leisure time more constructively.

C. Performance Objectives

Performance objectives are the basic element of the materials used in programme planning.

Body Management
Body Awareness
Space Concepts
Body Control
Fundamental Skills
Locomotor Skills
Non-Locomotor Skills
Manipulative Skills
Health/Fitness
Physical Fitness and Motor Ability
Basic Gymnastics
Stunts
Animal Walks
Individual Stunts
Partner and Group Stunts
Balance Stunts
Individual Sports
Team Sports
Handball
2. PROGRAMME PLAN:

a. Duration : 24 weeks
b. Schedules : 24 (3 days/week)
c. Instructional Units : 72 (24 weeks \times 3 days)
d. Instructional Time : 45 minutes/day

3. MANAGEMENT DETAILS OF THE PROGRAMME:

Method of Teaching:

Verbal, Visual, Kinesthetic, Tactile, Movement Exploration, and Combination.

4. ON-GOING EVALUATION PLAN:


Formative Evaluation: End of each instructional unit.

5. RE-INFORCEMENT PROCEDURES:

Demonstrate more and explain less.

Repeat your appreciation on their success several times.

Shorten sentences, using fewer verbal cues and more visual and
tactile cues.

Simplify instructions and repeat them frequently.

Use frequent demonstration of the task to be learned.

6. FACILITIES AND EQUIPMENTS:

Facilities and equipments were evaluated in terms of safety, adequacy, appropriateness and efficiency.

7. EVALUATION:

The programme evaluation can help to determine the degree of effectiveness of the programme.

The effectiveness of the programme was measured by the statistical analysis of pre and post-test results.

Administration of the Programme

The programme was implemented for a period of twenty-four weeks excluding the period utilized for pre and post-tests of selected criterion variables.
The procedures followed during the experimental period are given below.

(i) Experimental Group-I of both the categories i.e., EMR and TMR individuals underwent the prescribed programme schedule.

(ii) Experimental Group-II of both the categories i.e. EMR and TMR individuals underwent the prescribed programme schedule and reward was offered to those subjects who were successful in attaining the prescribed task and also to those who tried hard to do so. Apart from that, all the subjects of these groups were given rewards at the end of each instructional unit to motivate them to participate sincerely in the programme.

**Reward Offered**

Keeping in view the specificity of the subjects the investigator made sincere efforts to review the related literature in the area of motivation and held a series of discussion with the experts regarding
the selection of tangible rewards to be offered. Hence on the basis of review of literature, experts’ opinion and the scholar’s own understanding; the following tangible rewards were selected. Toffee, Candy, Balloon, Pencil, Crayons, small toys etc. were offered as tangible rewards.

(iii) The control group spent the same amount of time in participating free play and other teacher directed recreation activities.

The experimental group-I and group-II of both the categories performed the workout on alternate days.

The programme was implemented on the experimental groups for a period of 24 weeks during the regular school hours for duration of 45 minutes per day, 3 days per week. The step method of increasing load on the basis of principle of progression of load was used for adaptation of the mentally retarded children.
Statistical Techniques Employed

To find out the effects of the adapted physical education programme with and without reward on selected motor performance variables, the analysis of Co-Variance (ANCOVA) was used. To have a statistical control over the differences on the pre-test, the ANCOVA was used, so that post-test differences would not be due to the initial differences, prior to training.

For testing hypotheses the level of significance was set at .05 level.

Since three groups were involved in the experiment, whenever the obtained F-value was found significant, it was subjected to Post-hoc test (LSD) to find out the significant difference between the paired adjusted final means.