

**THE DEVELOPMENT AND EVALUATION OF A MOTOR ACTIVITY
PROGRAMME FOR EDUCABLE MENTALLY RETARDED CHILDREN**

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To all those who labour
to make life more meaningful
for children who are
in some way "different".

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CHAPTER 1

1.1 INTRODUCTION

The status of the retarded is currently undergoing a drastic change. Whereas their plight used to be kept in the background and spoken of only in whispers, it is now being brought out in the open and is being boldly presented as a challenge to the best minds engaged in all the pertinent sciences and fields of human endeavour.

Needless to say, this situation is heartening for all concerned; for the retarded, who, as a group, can now entertain a more valid hope of achieving at least partial release from their shackles; for the parents, who can expect some assuagement for the never-healing ache of disappointment; and also for the public at large, who can enjoy the satisfaction of seeing society make a step forward in its concern for the welfare of the entire human family.

This good fortune of the retarded is not an accident. It is due, of course, to the vigour of professional thinking through the years.

For many years physical educators and recreators have programmed activities for individuals whose handicaps were primarily physical. Programming such experiences for the mentally retarded however, has only recently become a major professional trend in physical education.

Physical educators, recreators, and indeed many special educators have come to recognize the scope of physically and motorically based learning experiences in teaching the mentally retarded. Such individuals who have often experienced repeated failure in classroom-oriented tasks find new reassurance and unexpected success in physical education.

Historically, programmes for the mentally retarded have tended to be primarily therapeutic in nature. Special programmes have tended to concentrate solely on the disability in question rather than upon the total needs of the individual. This picture however has gradually begun to change. Physical educators are now endeavouring to capitalize upon the highly motivating nature of physical education. They are trying to provide what has come to be known as 'education through the physical'.

Programmes in physical education can offer vast potential for enriching the lives of the mentally retarded. To deny such opportunities would be to deny successful learning experiences and sheer enjoyment in learning. Though much remains to be learned in this relatively new field, knowledge seems ever expanding. Significant progress has been made in programming learning experiences for the mentally retarded, yet what appears even more obvious is that the effort has barely begun.

1.2 DEFINITION OF TERMS

1.2.1 Mental Retardation

The American Association of Mental Deficiency defines mental retardation as follows:

"Mental retardation refers to significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behaviour and manifested during the developmental period". (7:104)

This can be elucidated as follows:

Lines 1 and 2 - Defined as a score on standard intelligence tests that would be lower than that obtained by 97-98% of persons

of the same age

Lines 3 and 4 - Meeting standards of independence and social responsibility expected of age and cultural group (that is, learning basic academic skills, participating in appropriate social group activity)

Line 5 - Should be observable during childhood. Problems of a similar nature manifested only in adulthood would likely be mental illness or brain dysfunctioning, not mental retardation. (7:104)

1.2.2 Educable Mentally Retarded

The educable mentally retarded child has been defined as one who has potential for development in

- a. minimum educability in the academic subjects of the school
- b. social adjustment at such a point that he can get along independently in the community, and
- c. minimum occupational adequacy to such a degree that he can later support himself partially or totally at the adult level. (6:105)

1.2.3 Special Education

1.2.3.1 Kirk defines special education as those additional services over and above the regular school programme, that are provided for exceptional children to assist in the development of the potentialities and or the amelioration of their disabilities. (7:24)

1.2.3.2 The Indian Education Act, Act 61 of 1965, section 1, defines Special Education as follows:

"Special education means education or training of a specialized nature provided to suit the needs of handicapped children, and includes general cultural education, vocational guidance and medical, dental and mental examination and treatment, as well as care in a hostel, when provided for or taking place in respect of such children." (13:255)

1.2.3.3 The Educational Services Act, Act 41 of 1967, section 1, defines Special Education as follows:

"Special education means such education of a specialized nature including -

- a) such psychological, medical, dental, paramedical and therapeutic treatment (including the performance of operations);
- b) such provision of artificial medical aids and apparatus;
- c) such care in a hospital and in a school hostel; and
- d) the provision of such transport and escort and of such other services, as are provided to meet the needs of a handicapped child; (14:1033)

1.2.4 Special Class Teacher

The special class teacher is one who is properly qualified to teach the educable mentally retarded child in a special class.
(7:17)

1.2.5 Special Class

It is a class where the special class teacher assumes the major responsibility for the programmes of the handicapped children.
(7 :17)

1.2.6 Special Class Child

A special class child is one whose development has been delayed. Special class children are to be found in special schools, special classes in ordinary schools, remedial departments and also in ordinary classes. (4:ix)

1.2.7 Motor Ability

General motor ability like many educational concepts, lacks explicit definition.

Mathews says that the immediate capacity of an individual to perform in many varied stunts or athletic events is referred to as general motor ability. (10:157)

Larson defines general motor ability as

"... the ability of the individual in the elements which underlie motor performance such as muscular strength, muscular power, muscular endurance, co-ordination, agility, balance, etc."

(4:ix)

Scott conceptualizes the term as follows:

"Motor ability is sometimes used to mean achievement in basic motor skill, or it may be interpreted as a more general term combining the concepts of motor educability and achievement. How successful achievement and educability can be separated is still an unsolved question.

Motor ability measurement is usually concerned with some form of running, throwing, and jumping; tests are reported from time to time, and sometimes brief practice on them is permitted. The level of ability recorded may be due to capacity for neuromuscular co-ordination, to practice, to strength, or to other less evident factors."

Barrow and McGee define motor ability as:

"The present acquired and innate ability to perform motor skills of a general or fundamental nature, exclusive of highly specialized sports or gymnastic technique." (1:548)

1.3 NEED FOR THE STUDY

"If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears however measured or far away." (Henry David Thoreau) (12:xiii)

As mentally handicapped persons obviously cannot make a living with their wits, it becomes increasingly important that they learn to use their hands and bodies as efficiently as possible. It is equally obvious that many educable mentally handicapped children are subnormal physically in one way or another. Some have poor co-ordination, some have a weakness in one or more extremities, others are just not able to compete with their normal peers. Many could probably be helped by corrective exercises, and many could improve their stamina and endurance as well as their co-ordination with proper teaching. For some children the physical education programme would be helpful as a means to better mental health, especially for those who can be taught to excel in some particular way.

Following the programme set out for normal children can often be detrimental for the retarded child as they cannot cope and compete and frequently wind up by playing on their own or standing on the sidelines watching. According to Johnson (5:610) they tend



to be neglected in play by normal children and they are often deficient in physical skills and motor co-ordination, probably because of lack of opportunity to take part.

With a record of habitual failure such as the above indicates it is little wonder that Smalley (11:155) says that initially, these children expect everything to be too difficult for them and do not make much effort. Studies in physical education programmes for mentally retarded children, need to be conducted.

Of the thirteen Physical Education Departments at South African Universities, only that at the University of Durban-Westville and two others offer courses in physical education for teachers of mentally retarded children. (8) (9) There is further depressing evidence concerning the nature of the programmes being offered. Many of the programmes are merely introductory and too superficial to be of much value. Besides the universities, many of the schools offer little or no physical activities for the educable mentally retarded youngsters. The lack of research in the area of physical education is a real tragedy for the mentally retarded because so many important questions remain unanswered. What tests are available? What tests are needed? If there are typical and normative performance levels for the retarded, can these levels be improved? Is it sufficient to adopt familiar sports abilities to bring out the best in retarded youngsters? Do entirely new abilities need to be developed? Questions like these, all of them researchable questions, come to mind readily. Answers are harder to come by. Physical education personnel should begin to tackle these problems. The profession needs to understand that the mentally retarded can benefit from programmes in physical education; there is a need for the profession to consider the needs, interests and abilities of the retarded as well

as that of other citizens. In this way we would be helping each child to progress, achieve and succeed so that he can say;

Give me pride;
Give me substance;
Give me a life of my own
And I'll stop feeding of yours.
(12:xix)

1.4 PURPOSE AND SCOPE OF THE STUDY

The present study was designed to obtain information on the motor abilities of a group of educable mentally retarded Indian children assigned to special classes in 4 different schools. The more specific purposes of the study were:

- a. To develop a programme of motor activities to be administered to an experimental group of educable mentally retarded children.
- b. To compare the motor abilities of experimental and control groups of educable mentally retarded children.

It was hypothesized that:

- a. The experimental group would show a significant improvement in motor ability, and
- b. the experimental group would be significantly superior, in the final motor proficiency test, to the control group who did not receive the special programme.

Thirty-six children between the ages of 6 and 14.6 years were used as subjects. They were drawn from 4 schools in the Durban area. The subjects were tested on the Bruininks-Oseretsky Test, a test of Motor Proficiency. (3:49-99)

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CHAPTER 2
REVIEW OF LITERATURE

2.1 HISTORICAL OVERVIEW - STUDIES RELATED TO THE PROBLEM

In order to understand fully the present status of physical education for the handicapped, and to help shape its future, it is necessary to look at the past. A knowledge and appreciation of the nature and scope of mental retardation and physical education in previous decades leads to improved communication among educators of varying ages. (43 : 2)

In the early 1800's there existed a general apathy towards the mentally retarded members of our society. The severely retarded were locked in institutions and forgotten. (31 : 9)

The first partial success in the education and rehabilitation of the mentally retarded came in the early nineteenth century with the work of Jean-Mare Itard. In 1801 Itard published his description of Victor, the Wild Boy of Aveyron whose intelligence was well below the norm. Itard's work with the boy included a variety of sensory experiences, but he was more concerned with limited sensory and sensory motor units of training than he was with large muscle and gross motor training. (31 : 9)

Based primarily on the work of Itard, Seguin viewed the possibility of educating the mentally retarded in a more optimistic light than was characteristic of many during the early 1800's. He advocated physical training in the rehabilitation process and introduced many physical education and physical recreation programmes into the institutions and schools where he worked. (46 : 7)

The training procedures developed by Seguin were developed by Maria Montessori, an Italian physician. Her techniques emphasized self-teaching on the part of the child through manipulation of materials. The work of Itard and Seguin were continued and expanded but the physical education aspects were modified and greater emphasis was placed on recreation. (46 : 9)

Descouedres recognised the need for the training of special teachers. She believed that "Special teaching should be chosen by the teacher. He needs before anything else a personality made for the work, and character is more important than knowledge." (10 : 39)

She also stated that a special teacher should have a regular course of training, technical training and practical training. (10 : 39)

Through the first part of the twentieth century the role of physical education for the retarded was played down primarily due to a changing philosophy of education. Prior to World War I interest in programmes emphasizing the education and rehabilitation of the mentally retarded began to appear. These programmes, however, did not materialize because of the war. (31:9)

The first studies dealing with the motor ability of mentally retarded individuals appeared in 1919. During the 1920's physical education was considered an adjunct of the education and rehabilitation programmes for the mentally retarded. Work-centred recreation programmes designed to maintain the child's morale, preserve order and prevent boredom were an outgrowth of physical education. (31 : 10)

In 1930 the White House Conference on Child Care and Protection passed a "Bill of Rights of the Handicapped". This bill stimulated new interest in finding more creative ways of rehabilitating the handicapped. Studies of motor abilities of the mentally retarded began to increase in number. After World War II a "Parent Movement" was formed, and the National Association for Retarded Children was formed. A phenomenal growth of interest became apparent at all levels of government. This was accompanied by a broadening in the scope and purpose of services to the mentally retarded at all levels and in all phases of their development. (31 : 10)

Cruickshank and Johnson indicated a need for more teachers, professors and administrators to assist in setting up programmes for the education of exceptional children. In 1947, 77 institutions of higher learning reported sequences of courses in several areas of exceptionality. In the area of mental retardation 22 programmes were begun. (9 : 25-26)

In the State of Illinois Beck surveyed 62 school districts which had special classes for educable mentally handicapped children to determine the status of physical education in the special classes. The survey revealed that in Illinois generally the classroom teacher taught physical education at the primary level. At the intermediate level the classroom teacher shared the teaching of physical education with the physical education instructors; and from 14 years on, the physical education instructor taught the programme completely. (1 : 117-120)

Rothstein reported in 1960 that at that time 38 states had specific certification requirements for teachers of the mentally retarded, which included general education, professional training in education of normal children, and course work usually in the education of

exceptional children, speech correction, and guidance; curriculum and methods for teaching the retarded; training in the crafts; and either student teaching or teaching experience with mentally retarded pupils. (24 : 520)

In 1965 the Project on Recreation and Fitness for the Mentally Retarded was launched by the American Alliance for Health, Physical Education and Recreation (AAHPER) with a grant from the Joseph P. Kennedy, Junior Foundation. This project was the forerunner of the present unit in programmes for the handicapped which was established in 1968. (43 : 19-19) "A Task Force on Programs for the Mentally Retarded", now "The Task Force on Programs for the Handicapped", was established as part of the Project with the help of prominent members like Julian Stein, Laura Brown, Hollis Fait, Lawrence Rarich and others. (43 : 19) One of the greatest contributions of this unit has been the widespread dissemination of resource materials and prompt service in assisting with planning and conducting activities for the handicapped. (43 : 19)

The passage of Public Law 94-142, known as the Education for All Handicapped Children Act, in late 1975, provided impetus for physical educators and special educators to work together to assure that all children receive quality physical education. The law states that special education must include physical education and that instruction should be "free and appropriate". The law also provides for Individualized Educational Planning. (IEP). (17 : 11)

Eleven universities and colleges around the Republic of South Africa were surveyed by personal letter (26) with the following results:

The University of Durban-Westville and 2 others offer a course in physical education for the mentally retarded child.

2.2 PHYSICAL EDUCATION PROGRAMMES FOR MENTALLY RETARDED CHILDREN

Many outstanding motor development specialists in the field of physical education have demonstrated the tremendous importance of the quality and quantity of movement experiences for the balanced and complete motor development of children. Excellent work on this subject has been done by many researchers.

Kirk and Johnson describe the work of Seguin in the area of physical activity for the mentally handicapped. Seguin's system of gymnastics was a sequential system of gymnastics. The child was first taught to use the feet, then the legs, the body, the shoulder, the arm, wrists, hands and lastly, the fingers. (23 : 76) Kirk and Johnson also describe the contributions of Maria Montessori to physical education for the mentally retarded. She, too, used gymnastics through directed exercises and free games without equipment. She also used exercises with apparatus. (23 : 80).

Descoedres emphasized two types of physical training for mentally retarded children. The first, the natural type included games such as running, ball games, action songs, exercises in mimicry, excursions, walks and gardening exercises for children. The second type, the systematic type included the Swedish drill, to develop the child's strength, rhythmic training, exercises in attention and will power, and hand exercises. (10 : 105-116)

Sloan in his study attempted to determine whether there is a unique pattern of motor proficiency for mentally retarded children as compared to that of normal children. Two groups of subjects, 20 mentally retarded children and 20 normal children were given the Lincoln

adaptation of the Oseretsky Test of Motor Proficiency i.e. tests on general static co-ordination, dynamic manual co-ordination, general dynamic co-ordination, speed, simultaneous movement and synkinesia (measure of precision of movement). The subjects were matched for age and sex. Results of the study revealed that proficiency is related to intelligence as the normal group of children was superior to the retarded group. (45 : 394-405).

Garrison describes a developmental school programme for educable mentally handicapped children from 6 years of age to the twelfth grade, in 4 age groups. The 4 areas of the curriculum were physical and mental health, homebuilding, societal relations, and occupational education. The intention of the programme was to help the pupil become socially acceptable and economically independent. (16 : 554-564).

Turnquist and Marzolf conducted a study to determine how the motor abilities of experimental mentally retarded children compared with that of control children of average intelligence. The results of the Lincoln adaptation of the Oseretsky Test of Motor Proficiency suggested that the mentally retarded have deficiencies in motor ability as compared with children of average intelligence. This suggested the need for a modified programme of activities for the mentally retarded (48 : 43-44)

Fait and Kupferer tested 41 male students at the Mansfield State Training School in Connecticut. These students had I.Q.'s ranging from 42 to 87 as measured by the Stanford-Binet Test. They used the burpee squat thrust and vertical jump. The results seemed to indicate that success in these two motor skills is related to simplicity of motor movements and that when the movements became complex, the chances of success in performance diminished and this resulted in undesirable

frustrations in the students. They therefore recommended from their study that the mentally retarded should be offered a physical education programme that varies from that offered to normal school children so that the mentally retarded may find success in these experiences. (12 : 729-732).

Oliver (1956, 1957, 1958) reported dramatic results in a study involving institutionalized mentally retarded boys, 12-15 years of age, in England. All academic subjects except Arithmetic and English were replaced for a 10 week period in the experimental group by activities such as, daily periods of Physical Education, including individual remedial exercises, strengthening activities and recreative team games. During the same period the control groups followed its normal schedule, including only 2 periods of physical education per week, and daily organised games after school. The experimental group improved significantly in all measures of athletic achievement, physical fitness and strength and significant increases of 25% was reported in I.Q. level. No significant improvement was reported in I.Q. for the control group. (35 : 155-165)

Jenny reported in a study that the mentally retarded child needs physical education activity which is comprised of motor reinforcements of a simple and enjoyable nature; good habit patterns of standing, sitting, moving, play and resting, games, dances, physical fitness activities, and aquatic activities. (20 : 146-148)

Howe tested 43 normal and 43 retarded children of the same age, sex and socio-economic background in a variety of motor skills. Of the 62 boys and 24 girls tested, he found that the normal children surpassed the mentally retarded children on motor skills. (19 : 352-353).

Implications drawn suggested that a structured programme of physical education would form a necessary part of the curriculum for the mentally retarded. (19 : 352-354)

Francis and Rarick investigated the motor characteristics of mentally retarded children. The subjects for the investigation included 284 mentally retarded boys and girls in special classes in the Public Schools of Madison and Milwaukee, Wisconsin. The ages ranged from 7½ to 14½ years. Eleven gross motor tests were given to all subjects. The investigators found that the mentally retarded children were significantly below the normal children on all the tests administered; and as the ages advanced the deviations from the normal tended to become greater. (13 : 792-811)

Malpass compared 52 moderately retarded children from an institution and 56 educable mentally retarded children from special classes in public schools to 71 children of normal intelligence. Malpass concluded that the two groups of mentally retarded children, when tested by the Lincoln revision of the Oseretsky Motor Development Scale, showed no significant differences on their scores. However, there were highly marked differences on the scores of the mentally handicapped children when their scores were compared to those of normal children. (29 : 1012-1015)

Shotick and Thate carried out a study to investigate the responses of 7 educable mentally handicapped children to a programme of physical education. Four categories of a special physical education programme were used. These were games of low organisation, fundamental skills, stunts and tumbling and swimming. The children participated in activities in each of the categories each day of the week, except

Friday, for a 3 month period. In the final period of the study fundamental rhythmic activities were added. The study concluded that the programme was beneficial to the children. (44 : 248-252)

Gearheart in his study tried to investigate whether a special programme of physical education would produce a greater development of motor skills in educable mentally handicapped children than a standard programme of physical education.

He discovered from his study with educable mentally retarded children from the elementary school special classes in Cedar Rapids, Iowa, that when these children were tested on 4 gross motor skills - hurdle jump, broad jump, rail-walking test, and agility run, and the fine motor test of picking up match sticks - the special programme of physical education was valuable in developing selected motor skills. (17 : 271-272)

In Nunley's study the motor ability of 11 mentally retarded children aged 9-14 years was assessed. Based on the general level of function of the group a physical activity programme was established consisting of basic neuromuscular activities and modified exercises such as crawling, hopping, running in place, stretching exercises, standing broad jump, knee push-ups, jumping jacks, squat thrusts and partner exercises. The programme was carried out daily for 30-45 minutes. After 15 months gains were significant in strength, endurance, improved adjustment and socialization. (34 : 946-952)

Stein states that physical activities should be started early in the life of a retardate. These activities should be varied and should help the children to develop levels of physical fitness and motor skills. Later, they will progress to more difficult skills which will

enable them to participate in games, sports, and recreational activities and achieve enjoyment and success from them. (47 : 56-60)

Corder investigated the effects of a planned, systematic, and progressive physical education programme with educable mentally retarded boys, ages 12-16. The programme lasted 20 days. The boys were from the public special day classes in Nashville, Tennessee. Part of the result was that the training group made significant gains over the controls on all 7 fitness tests used. (8 : 357-364)

Rabin, in his study, investigated the motor proficiency of 60 institutionalized mentally handicapped as measured by the Lincoln Oseretsky Motor Development Scale. The children, ages 10-14, had I.Q's from 40 to 69. He found that motor proficiency had a significant positive relationship to chronological age and that motor proficiency was not found to be significantly related to intelligence. Also, he concluded that motor proficiency did not vary according to sex. (39 : 507-516)

Johnson and Fretz tried to determine the effects of a Childrens' Physical Developmental Programme on the perceptual-motor skills of a group of 43 children. Based on pre-clinic and post-clinic evaluation sessions they concluded that the clinic programme does result in significant improvements in perceptual-motor skills. (21 : 610)

Goheen developed 3 types of Physical education programmes for EMR. boys, viz. skill-oriented, play oriented and Free Play. 110 Boys from 4 institutionalized schools were used and divided into 3 groups. In motor ability the Skill Oriented Group showed a significant improvement in the post-test over the pre-tests in the motor ability test items and also indicated a higher percentage of improved performance in individual sub-tests over the Free Play and Play Oriented Groups. (18 : 4308A)

Ross revealed from her study that the experimental groups which had a 6 month training programme of skills basic to games and sports played by children in the elementary grades surpassed in achievement level the control group which showed no improvement after participation in the physical education programme for special classes. The rate of improvement compared favourably with that of an average group of children. (15 : 920-926) The programme and test incorporated the following activities: baseball, dodgeball, 4-square, jumprope, hopscotch and ball kicking games, hitting, throwing, catching, running, jumping, bouncing, kicking, balancing and accuracy at target throwing. (41 : 920-926)

Lillie conducted a study to determine the effects of a motor development programme on the motor proficiency of mentally retarded children. Three groups of 16 children per group were studied. Over a period of 5 months a series of 65 experimental motor development lessons were administered to the experimental group. Activities included maze tracing, colouring, cutting, pasting, finger games, gross motor activities, and trampoline exercises. A kindergarten group and a home group served as controls. The Lincoln-Oseretsky Motor Development Scale provided the pre and post test measures of motor proficiency. The results showed no difference in the post-test gross motor proficiency between the 3 groups. Significant differences in the post-test fine motor development was found in favour of the experimental group. (28 : 803-808)

Wilseck showed from his study that a well structured regular programme of physical education was as beneficial to educable mentally retarded children as a special motor patterning programme. An experimental and

a control group, each numbering 30, made up the population for the study. The Lincoln Oseretsky Motor Development Scale was used to measure motor ability performance. A pre, mid and a post test was administered to the two groups. (50 : 2556A)

Widdop showed in his study that educable mentally retarded children at all chronological ages were substantially retarded in mean performance on all physical test items in comparison with children of normal intelligence. 4235 children, ages 8-18 were tested on a modified version of the AAHPER Youth Fitness Test. (49 : 3010A)

Fretz Johnson and Johnson administered tests of intelligence and perceptual-motor development to 53 children participating in an 8 week physical development clinic and to 31 applicants who were waiting to enrol. A comparison of the pre and post clinic test performance of the participating children, compared to the test-retest performance of the 'wait-list' controls indicated that the participants made significant improvements in all perceptual-motor measures. The developmental programme incorporated a wide variety of gymnasium activities, conditioning and co-ordination exercises, games and modified sports. (15 : 687-691)

Katsimpalis carried out a study to determine the effects of isometric exercises on the educable mentally retarded. Seventy-two male subjects, 36 educable mentally retarded, and 36 normal, ages 10-12 were divided into the experimental and control groups. The experimental group engaged in a programme of activities 3 times a week for 6 weeks. The control group had no specific programme. Results based on pre and post tests by means of the cable tensiometer indicated that isometric exercises were an effective means for developing strength in the educable mentally retarded child and could be used effectively as supplementary to the regular physical training of these children.

(22 : 2550A)

Broadhead sought to examine the role of physical activity programmes in the motor, strength and intellectual parameters of behaviour of educable mentally retarded children. 275 educable mentally retarded (EMR) and 206 Minimally Brain Injured (MBI) children participated in 20 weeks of instructional programmes for 35 minutes each day. Children who participated in one of the 3 experimental programmes showed significantly greater positive changes in their motor behaviours than children who were denied the opportunity. (2 : 4305A-4306A)

Chasey revealed from his study of 2 groups of institutionalized educable mentally retarded children that the practice of general gross motor activities contributes little to the specific motor components of the Anton Brenner Developmental Gestalt Test of School Readiness. The experimental programme was conducted 5 days a week for 1 hour per day for 15 weeks. The programme provided a wide variety of gymnasium and playground activities, conditioning and co-ordination exercises, gymnastics, games and modified sports for the subjects. The control subjects received no formal physical education instruction but did participate in free play during recreational periods. (5 : 180-182).

Rarick, Widdop and Broadhead conducted a study on the motor performance and physical fitness of educable mentally retarded children. The AAHPER Youth Fitness Test appropriately modified for use with educable mentally retarded children was used to assess muscular strength, speed of movement, agility, co-ordination and endurance through such activities as the flexed arm hang, sit-ups, standing broad jump, shuttle run, 50 yard dash, softball throw and 300 yard run walk. A large number of children, 2270 boys and 1965 girls, ages 8-18, were tested throughout the United States. The study revealed that the performance levels of educable mentally retarded children on the AAHPER tests are well below published standards on normal children. (40 : 508-519)

Chasey and Wyrick investigated the effects of a gross motor developmental programme on the Winter Haven Perceptual Test (PFT). The PFT was administered to 20 educable mentally retarded children before and after participation in a 15 week physical developmental programme and to 12 educable mentally retarded children not enrolled in the developmental programme. The programme was conducted 5 days a week for 1 hour per day. It provided a variety of gymnastic and playground activities, conditioning and co-ordination exercises, and modified sports. The control subjects received no formal physical education instruction. A comparison of the pre and post programme test performance of the participating children, compared to the performance of the control children indicated that gross motor developmental programmes do not improve performance on the P.F.T. (6 : 345)

Chasey, in his study, wanted to determine whether the motor fitness of educable mentally retarded boys would be improved by participation in 8 hours of physical education over an 8 week period. 18 educable mentally retarded boys participated in the Physical Developmental Clinic 1 day a week for 1 hour and were provided with a wide variety of gymnasium activities, conditioning and co-ordination exercises, gymnastics, games and modified sports. A comparison of the pre and post programme test performance indicated a significant improvement in the motor fitness of the educable mentally retarded boys as measured by the Indiana Motor Fitness Test. (4 : 74-75)

Clure investigated the performance of educable mentally retarded girls and intellectually normal girls in physical fitness as measured by the AAHPER Youth Fitness Test. The subjects were 3 groups of 3 girls designated as educable mentally retarded (EMR), intellectually normal of comparable chronological age, 10-15 years old (N_{Ca}) and intellectually normal

of comparable mental age from 6-16 years old (N_{ma}). The results showed the N_{ca} group to be superior in physical fitness to the educable mentally retarded group on all tests of the battery. The EMR group was superior to the N_{ma} group on 5 tests, and similar to them on the other 2, viz. better in shuttle run, standing broad jump, 50 yard dash, softball throw and 600 yard walk and similar in flexed arm hang and sit-ups. (3 : 3306A)

Pyfer's study investigated the effects of balance lessons on the static and dynamic balance performance of 29 mentally retarded children. The 10 experimental students receive 40 daily $\frac{1}{2}$ hour lessons, the 9 in the Hawthorne Effect group received 40 daily $\frac{1}{2}$ hour language development lessons and daily $\frac{1}{2}$ hour physical education lessons, while the 10 in the neuro-muscular maturation group were exposed to supervised free play 3 times a week and physical education lessons 2 times a week for $\frac{1}{2}$ hour. A pre and post test evaluation on the Oseretsky Motor Development Scale showed that the experimental group had made a significant improvement in performance in static and dynamic balance. The Hawthorne subjects improved in their ability to slide, walk forward and backward and to hop and the neuro-muscular maturation group demonstrated a significant gain in their ability to jump consecutively in one place. (38 : 5024A)

Chasey and Wyrick revealed from their study of 2 groups of institutionalized educable mentally retarded children that the experimental group which had a 15 week physical development programme improved significantly over the control group in the gross motor skill component of the Oseretsky Tests of Motor Proficiency. The experimental programme was conducted 5 days a week and provided a wide variety of gymnasium and playground activities; including ball skills, individual games and

self-testing skills, trampolining, rope jumping, hoop activities and vaulting. Tumbling skills were emphasized. Conditioning exercises formed part of the everyday training programme. The control subjects received no formal physical education instruction but participated in free play. (7 : 566-570)

Morrison and Pothier investigated the effects of a prescribed programme of gross-motor activities on retarded pre-schoolers. The study demonstrated the value of using a detailed developmental analysis of motor defects as a basis for the selection of remedial motor activities. A series of gross-motor activities outlined by Kephart were used in the study. (32 : 251-258)

Kuklantz sought to determine the effects of a special programme of physical education for educable mentally retarded children in developing selected basic motor skills, viz.: balance, power, strength, agility and speed. 67 pupils, ages 9-13 were tested at the beginning and end of the 1969-70 school year on tests by Fleishman for balance and agility and AAHPER tests for the other measures. The experimental group received a special programme of physical education while the control group used the programme given to the children of normal intelligence. The results showed that there were significant differences in favour of the experimental group in balance, power, agility and speed. There were no significant differences in favour of the experimental group in power. (25 : 5020A)

Elrod investigated the effects of perceptual-motor training and music on the development of perceptual-motor skills of educable mentally retarded children as measured by the Purdue Perceptual Motor Survey.

Thirty subjects, ages 9-12 participated. 15 in Group I participated in perceptual-motor and music programmes. The 15 in Group II participated in the music programme only. The results revealed that combined perceptual-motor and music programmes improved perceptual motor skills to a greater extent than a music programme alone. (11 : 2148A)

Newcomer and Morrison indicated that play therapy was effective in increasing the developmental level of mentally retarded children. Gross motor skills engaged in, included balancing, throwing, jumping and running; work with push-pull toys, large blocks, slides, wagons and walking up and down stairs. In the fine motor adaptive area, skills dealt primarily with eye-hand co-ordination and perceptual-motor activities. Some specific activities included thumb-finger co-ordination, puzzles and peg boards and placing objects in containers. (33 : 729-731)

Knapczyk and Yoppi in their study showed that social and token reinforcement procedures could be effectively used to produce and maintain co-operative and competitive play responses in educable mentally retarded children. (24 : 245-248).

Freischlag and McCarthy carried out a project based on Community - University Programming for mentally retarded children. The children initially completed a 14-item perceptual fitness test measuring the following attributes: body image, visual motor co-ordination, balance, locomotion, tracking and catching, throwing, strength, flexibility, endurance, attention span and water skill. Using the results of this test an individual 12 week programme was developed for each child. University students who assisted the children selected activities from

the following areas: games of low organisation, rhythms and dance, fitness and gymnastics, recreational activities, aquatics, and individual and team sport skills. Significant improvements were noted in the post-tests. (14 : 11-13)

Molnar carried out a longitudinal study of 53 retarded children, and normal young children. The results showed that motor development in the selected group of retarded children was delayed for their chronological age. (30 : 213-258)

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CHAPTER 3

METHOD OF STUDY3.1 COLLECTION OF DATA3.1.1 Selection of Subjects

The subjects used in the study were selected on the basis of stratified random sampling (3:253). The special education classes were divided into strata and the classes in one area were used for the study. All children from these classes within the age range 8-14½ were selected for the study. This limited age range had to be used as the test selected, i.e. the Bruininks-Oseretsky Test of Motor Proficiency was developed for ages 4½ to 14½. The 48 children who qualified for the study were tested on the Bruininks-Oseretsky Test of Motor Proficiency. Then, on the basis of sex and the scores obtained for the test (T_1), the children were matched and then randomly assigned to either Group A or Group B. By draw the groups were then designated as the experimental and control groups.

Four children were dropped from the study as they could not be paired, because of diverse scores. Another 4 children were left out of the study as they were paired against children from their own school leaving only 2 children for the experimental group from that school. This was not a feasible number to work with as many of the activities of the programme required the use of a larger group of children. Thus the 40 remaining children fell into the Experimental (20) and Control (20) groups. Two months after the programme was commenced 2 children from the

experimental group left their schools. The control partners had to be dropped from the study and the number of subjects used then stabilized at 36 with 18 children in the Experimental group (14 boys and 4 girls), and 18 children in the Control group (14 boys and 4 girls). They were distributed in the schools as follows:-

School A had 13 children, with 6 children (3 boys and 3 girls) in the Experimental group, and 7 children (4 boys and 3 girls) in the Control group.

School B had 9 children with 6 children (5 boys and 1 girl) in the Experimental group, and 3 children (2 boys and 1 girl) in the Control group.

School C had 9 children, with 6 children (6 boys) in the Experimental group and 3 children (3 boys) in the Control group.

School D had 5 children in the Control group and no children in the Experimental group.

3.2 DESCRIPTION AND ADMINISTRATION OF THE TEST

3.2.1 Bruininks-Oseretsky Test of Motor Proficiency

The Bruininks-Oseretsky Test, a test of, Motor Proficiency was administered to the educable mentally retarded children involved in the study. The test is an individually administered test that assesses the motor functioning of children from $4\frac{1}{2}$ to $14\frac{1}{2}$ years of age. The Complete Battery - 8 subtests comprised of 46 separate items - provides a comprehensive index of motor proficiency as well as

separate measures of both gross and fine motor skills and requires 45 - 60 minutes to be administered. Each of the eight subtests in the Bruininks-Oseretsky Test is designed to assess an important aspect of motor development. Four of the subtests measure gross motor skills, three measure fine motor skills, and one measures both gross and fine motor skills. The eight sub-tests are:

1. SUBTEST 1 : Running Speed and Agility (1 item)
2. SUBTEST 2 : Balance (8 items)
3. SUBTEST 3 : Bilateral co-ordination (8 items)
4. SUBTEST 4 : Strength (3 items)
5. SUBTEST 5 : Upper Limb Coordination (9 items)
6. SUBTEST 6 : Response Speed (1 item)
7. SUBTEST 7 : Visual Motor Control (8 items)
8. SUBTEST 8 : Upper Limb Speed and Dexterity (8 items)

A pretest is given first to determine the subjects' arm and leg preference.

ARM AND LEG PREFERENCE TEST

The pretest has two items that determine the subjects arm and leg preference. Since many of the subtest items require the use of the preferred arm or leg to perform tasks, the subjects preference, or the lack of preference, should be established before the test is administered.

KIT EQUIPMENT - tennis ball

PRETEST / ITEM 1

Arm preference

The subject throws a tennis ball overhand to the examiner.

ADMINISTERING AND RECORDING

Hand the ball to the subject, stand about 10 feet (3 meters) from the subject, and say "Throw the ball to me like this". Demonstrate an overhand throw - the ball is not to be thrown underhand.

After the ball has been thrown once, hand it to the subject and say "Now throw it again".

If some uncertainty exists as to which arm is preferred, have the subject throw the ball with the other arm. If uncertainty still exists, have young subject show you how they brush their teeth, comb their hair, or write.

Circle "Right" or "Left" on the individual form to record the subjects arm preference. If the subject does not show preference, circle "Mixed" and allow the subject to use either arm when a subtest item specifies the use of the preferred arm.

PRETEST / ITEM 2

Leg preference

The subject kicks a tennis ball to the examiner.

ADMINISTERING AND RECORDING

Place the tennis ball on the floor between the subjects feet and say "Kick the ball to me".

After the ball has been kicked, place it on the floor and say "Now kick the ball again".

If some uncertainty exists as to which leg is preferred, have the subject kick the ball with the other leg.

Circle "Right" or "Left" on the Individual Form to record the subjects leg preference. If the subject does not show preference, circle "Mixed" and allow the subject to use either leg when responding to the first three items in Subtest 2 - Balance.

SUBTEST 1 - RUNNING SPEED AND AGILITY

Subtest 1 has one item that measures running speed during a shuttle run.

KIT EQUIPMENT - tape measure, masking tape, block

OTHER EQUIPMENT - stopwatch

GENERAL DIRECTIONS

1. Require the subject to wear tennis or crepe-soled shoes.
2. Administer the subtest in a large area that is free of obstacles and hazards and that has a non-slippery surface. A wooden floor is preferable. If a wooden floor is not available, a concrete or asphalt floor may be used. Reduce any slipperiness by sweeping the surface.
3. Prepare the running course as shown in Figure 1. The lines to be marked on the running course are labelled on the tape measure.
 - (a) Place a 1-yard (91.4cm) piece of masking tape on the floor to mark the start/finish line.
 - (b) Tape the metal pull of the tape measure to the centre of the start/finish line. Pull the tape measure out to the timing line and place a 6-inch (15.2cm) piece of masking tape on the floor.
 - (c) Tape the metal pull of the tape measure to the centre of the timing line and pull the tape measure out to the end line. Place a 1-yard (91.4cm) piece of masking tape on the floor.
 - (d) Place the block on the end line.

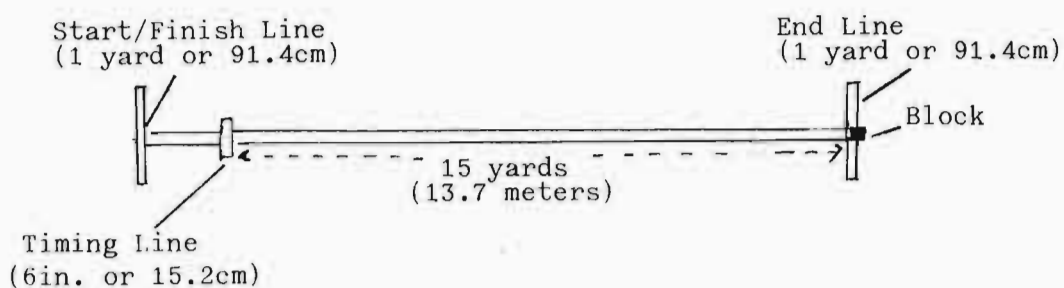


Figure 1: Layout of running course - (Subtest 1 - Item 1)

SUBTEST I / ITEM I

Running speed and Agility

The subject runs to the end line, picks up the block, and runs back across the start/finish line. The subject is timed between the first and last crossings of the timing line.

Trials - 2

ADMINISTERING AND RECORDING

Stand beside the timing line and have the subject stand behind the start/finish line. Say "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".

Start the watch when the subject crosses the timing line and stop the watch when the subject crosses the timing line with the block. If the subject slows down as she or he approaches the timing line, remind the subject to continue to run fast across the start/finish line.

Start the trial over if the subject -

- (a) stumbles or falls
- (b) fails to pick up the block
- (c) drops the block before crossing the timing line

On the second trial, encourage the subject to run faster.

Record the time to the nearest 0,2 second in the appropriate space on the Individual Form. If the hand of the stopwatch is between two numbers, record the higher number.

SUBTEST 2 - BALANCE

Subtest 2 has eight items that measure specific balance skills.

KIT EQUIPMENT - target, masking tape, balance beam, response speed stick

OTHER EQUIPMENT - stopwatch

GENERAL DIRECTIONS

1. Require the subject to wear tennis or crepe-soled shoes.
2. Prepare the target and walking line as shown in Figures 2 and 3.
 - (a) Fasten the target to the wall with masking tape so that the lowest point on the circumference is at the subjects eye level.
 - (b) Make a walking line by taping an 8 foot (2.4m.) piece of masking tape to the floor in front of the target, about 3m from the wall. The walking line should be as straight as possible.
3. For all items, stand next to the subject to observe performance most efficiently.
4. For all items, administer a second trial only if the subject does not achieve a maximum score on the first trial. When a second trial is necessary, the subjects errors should be pointed out before the second trial is administered. For example say "Lets do it again, but this time try to keep your knee bent and try not to move the leg you are standing on".

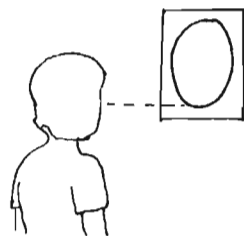


Figure 2: Correct placement of target
(Subtest 2 - Items 1,2)

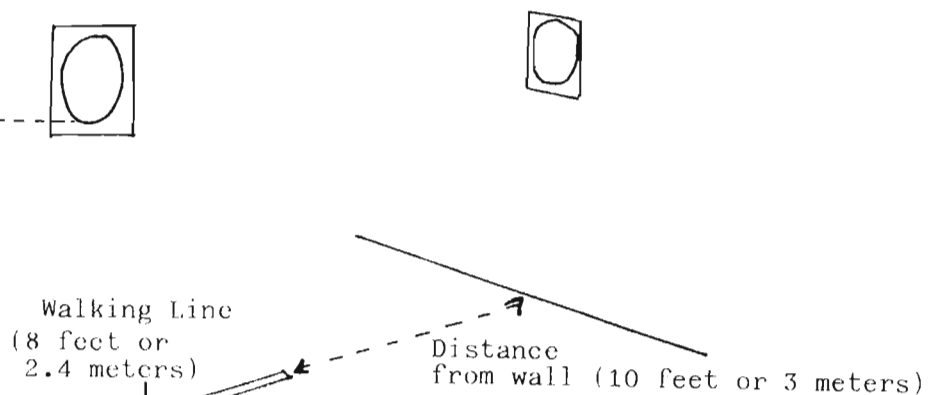


Figure 3: Correct placement of walking line
(Subtest 2 - Items 1,4,6)

SUBTEST 2 / ITEM I

Standing on preferred leg on Floor.

The subject stands on preferred leg on the walking line, looking at the target, with hands on hips, and with other leg bent so that it is parallel to the floor, as shown in Figure 4. The subject must maintain the position for 10 seconds to achieve a maximum score.

Trials - 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

ADMINISTERING AND RECORDING

Say "Place your (right/left) leg on this line (point to walking line) and raise your other leg like this (demonstrate). Place your hands on your hips and look at the target (point to target). Stand like this until I tell you to stop."

If necessary, help subject achieve the correct position. Begin timing as soon as position is achieved and remind subject as needed to keep hands on hips and to look at target. Slight swaying is acceptable. Allow only one warning to keep the raised leg parallel to the floor (or above a 45 angle).

After 10 seconds, tell the subject to stop. Stop the trial and record the time before 10 seconds if the subject -

- (a) drops the raised leg so that it touches the floor
- (b) drops the raised leg below a 45 angle after one warning, as shown in Figure 4
- (c) hooks the raised leg behind the supporting leg, as shown in Figure 4
- (d) shifts the supporting foot out of place.

On the Individual Record Form, record to the nearest second the time that the subject maintains the correct position.

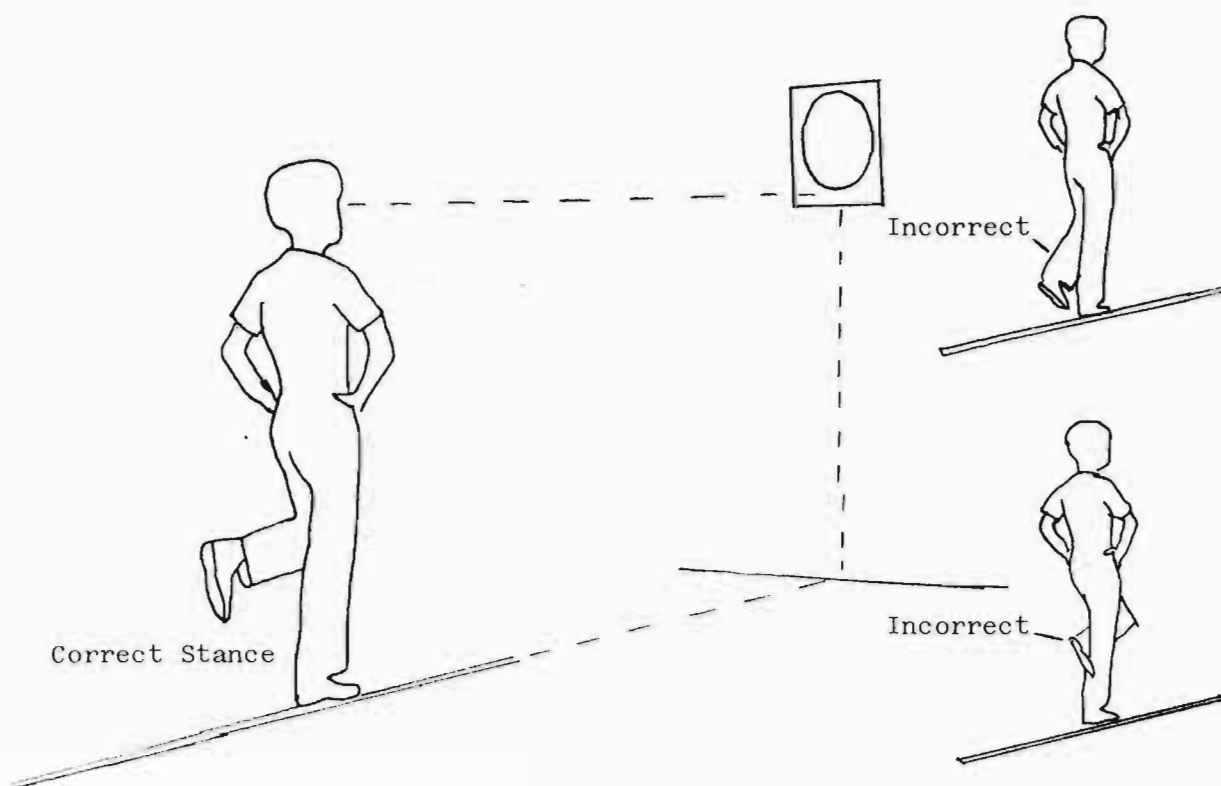


Figure 4: Standing on preferred leg on walking line or balance beam
(Subtest 2 - Items 1,2,3)

SUBTEST 2 / ITEM 2

Standing on preferred leg on Balance Beam

The subject stands on preferred leg on the balance beam, looking at the target, with hands on hips, and with other leg bent so that it is parallel to the floor, as shown in Figure 4. The subject must maintain the position for 10 seconds to achieve a maximum score.

Trials 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

ADMINISTERING AND RECORDING

Place the balance beam over the walking line.

Say "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, help subject to achieve the correct position. Begin timing as soon as position is achieved and remind subject as needed to keep hands on hips and to look at the target. Slight swaying is acceptable. Allow only one warning to keep the raised leg parallel to the floor (or above 45 angle).

After 10 seconds, tell the subject to stop. Stop the trial and record the time before 10 seconds if the subject:

- (a) drops the raised leg so that it touches the floor
- (b) drops the raised leg below a 45 angle after one warning, as shown in Figure 4
- (c) hooks the raised leg behind the supporting leg, as shown in Figure 4
- (d) shifts the supporting foot out of place.

On the Individual Record Form, record to the nearest second the time that the subject maintains the correct position.

SUBTEST 2 / ITEM 3

Standing on Preferred Leg on Balance Beam - Eyes Closed.

The subject stands on preferred leg on the balance beam, with eyes closed, hands on hips, and with other leg bent so that it is parallel to the floor, as shown in Figure 4. The subject must maintain the position for 10 seconds to achieve a maximum score.

Trials - 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

ADMINISTERING AND RECORDING

Say "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. Now close your eyes and stand like this until I tell you to stop."

If necessary, help the subject to achieve the correct position. Begin timing as soon as position is achieved and remind the subject as needed to keep hands on hips. Slight swaying is acceptable. Allow only one warning to keep the raised leg parallel to the floor (or above a 45 angle).

After 10 seconds, tell the subject to stop. Stop the trial and record the time before 10 seconds if the subject:

- (a) drops the raised leg so that it touches the floor or beam
- (b) drops the raised leg below a 45 angle after one warning, as shown in Figure 4
- (c) hooks the raised leg behind the supporting leg, as shown in Figure 4
- (d) shifts the supporting foot out of place
- (e) opens eyes.

On the Individual Record Form, record to the nearest second the time that the subject maintains the correct position.

Remove balance beam from walking line and remove target from wall.

SUBTEST 2 / ITEM 4

Walking forward on Walking Line

The subject walks forward on the walking line in a normal walking stride with hands on hips. The subject must walk forward six steps to achieve a maximum score.

Trials - 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

ADMINISTERING AND RECORDING

Have the subject stand at one end of the walking line. Say "Place your feet on the line like this (demonstrate placing one foot slightly ahead of the other). Now place your hands on your hips and walk slowly to the end of the line. Ready, Begin".

Count the subjects steps. Remind the subject as needed to keep hands on hips. After six steps have been taken, tell the subject to stop. If the subject places one or both feet completely off the line before taking six steps, stop the trial and record the number of steps taken on the line.

On the Individual Record Form, record the number of steps taken on the walking line.

SUBTEST 2 / ITEM 5

Walking Forward On Balance Beam

The subject walks 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.

Trials - 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

ADMINISTERING AND RECORDING

Place the balance beam over the walking line.

Have the subject stand at one end of the beam. Say "Place your feet on the beam like this (demonstrate 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".

Count the subjects steps. Remind the subject as needed to keep hands on hips. After six steps have been taken, tell the subject to stop. If the subject places one or both feet completely off the beam before taking six steps, stop the trial and record the number of steps taken on the beam.

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

Remove balance beam from walking line.

SUBTEST 2 / ITEM 6

Walking forward Heel-to-Toe on Walking Line.

The subject walks forward on the walking line heel-to-toe, with hands on hips, as shown in Figure 5. The subject must make six consecutive steps correctly to achieve a maximum score.

Trials - 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

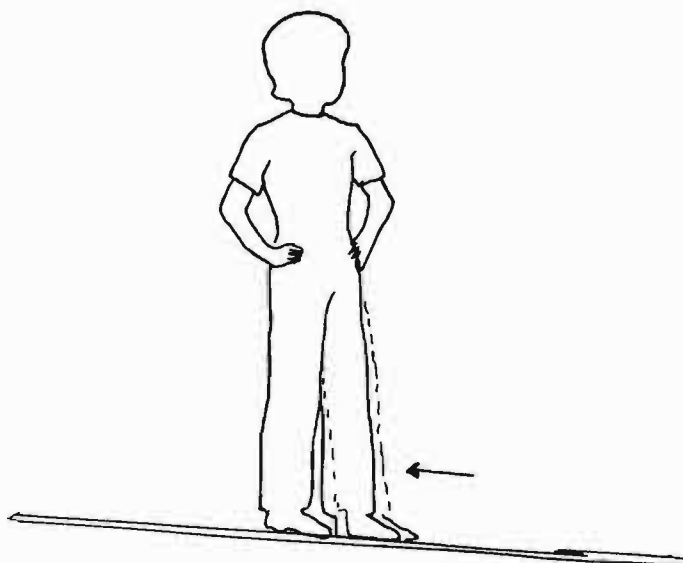


Figure 5: Walking forward heel-to-toe on walking line or balance beam
(Subtest 2 - Items 6,7)

ADMINISTERING AND RECORDING

Have the subject stand at one end of the walking line. Say "Place your feet on the line. Place your hands on your hips. When you walk, hit the toe of your back foot with the heel of your front foot (demonstrate). Walk to the end of the line. Remember, keep your feet on the line and your hands on your hips as you walk, Ready, begin".

Stand at one side of the line and count the subjects steps, keeping track of both correct and incorrect steps for six steps. A step is incorrect if the subject:

- (a) does not touch the heel of the front foot to the toe of the back foot.
- (b) moves the back foot forward to touch the heel of the front foot.

Remind the subject as needed to walk heel-to-toe and to keep hands on hips. After six steps have been taken, tell the subject to stop. If the subject places one or both feet completely off the line before taking six steps, stop the trial and record the number of steps taken on the line.

On the Individual Record Form, record the number of correct and incorrect steps. Use "1" for correct steps and "0" for incorrect steps. For example, 1-1-0-1-1-0 equals a score of 4.

SUBTEST 2 / ITEM 7

Walking Forward Heel-To-Toe on Balance Beam

The subject walks forward on the balance beam heel-to-toe, with hands on hips, as shown in Figure 5. The subject must make six consecutive steps correctly to achieve a maximum score.

Trials - 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

ADMINISTERING AND RECORDING

Place the balance beam over the walking line.

Have the subject stand at one end of the beam. Say "Place your feet on the beam like this (demonstrate). Place your hands on your hips. When you walk down the beam, hit the toe of your back foot with the heel of your front foot (demonstrate). Walk to the end of the beam. Remember, keep your feet on the beam and your hands on your hips as you walk. Ready, begin".

Stand at one side of the beam and count the subjects steps, keeping track of both correct and incorrect steps. A step is incorrect if the subject:

- (a) does not touch the heel of the front foot to the toe of the back foot
- (b) move the back foot forward to touch the heel of the front foot.

Remind the subject as needed to walk heel-to-toe and to keep hands on hips. After six steps have been taken, tell the subject to stop. If the subject places one or both feet completely off the beam before taking six steps, stop the trial and record the number of steps taken on the beam.

On the Individual Record Form, record the number of correct and incorrect steps. Use "1" for correct steps and "0" for incorrect steps. For example, 1-1-0-1-1-0 equals a score of 4.

SUBTEST 2/ ITEM 8

Stepping Over Response Speed Stick on Balance Beam

The subject walks forward on the balance beam stepping over the response stick held at the middle of the beam by the examiner, as shown in Figure 6. The subject walks in a normal walking stride with hands on hips. The score is recorded as a pass or a fail.

Trials - 2. Administer a second trial only if the subject does not pass on the first trial.

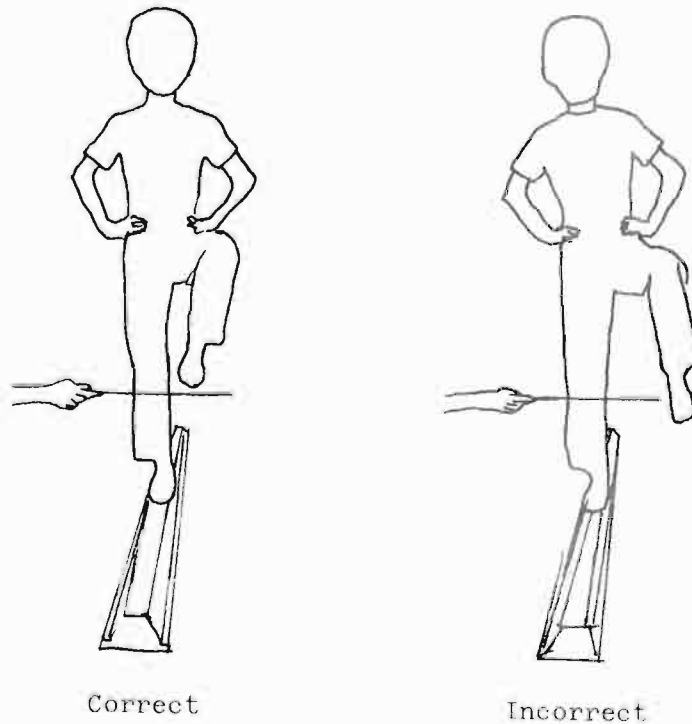


Figure 6: Stepping over response speed stick on balance beam
(Subtest 2 - Item 8)

ADMINISTERING AND RECORDING

Have the subject stand at one end of the beam. Kneel beside the centre of the beam and hold the stick over the beam at a height slightly below the subjects knee.

Say "Place your feet on the beam. Place your hands on your hips. When I say begin, walk slowly down the beam and step over the stick without touching it. Be sure to step over the stick, don't swing your leg around it. Keep your hands on your hips and walk to the end of the beam. Ready, begin".

Stop the trial and record a fail if the subject:

- (a) touches the stick firmly when stepping over it
(it is acceptable for subjects slacks to brush lightly against stick)
- (b) swings leg around the end of the stick, as shown in Figure 6
- (c) steps off the beam.

On the Individual Record Form, record pass or fail.

SUBTEST 3 - BILATERAL COORDINATION

Subtest 3 has eight items that measure the ability to sequence precise movements and simultaneously coordinate movements on both sides of the body.

KIT EQUIPMENT - Student Booklet, two red pencils

OTHER EQUIPMENT - two chairs, table, clipboard, stopwatch

SUBTEST 3 / ITEM 1

Tapping Feet Alternately while Making Circles with Fingers

The subject taps feet alternately while making circles with index fingers, as shown in Figure 7. The subject is given 90 seconds to complete 10 consecutive foot taps correctly. The score is recorded as a pass or a fail.

Trials - 1.

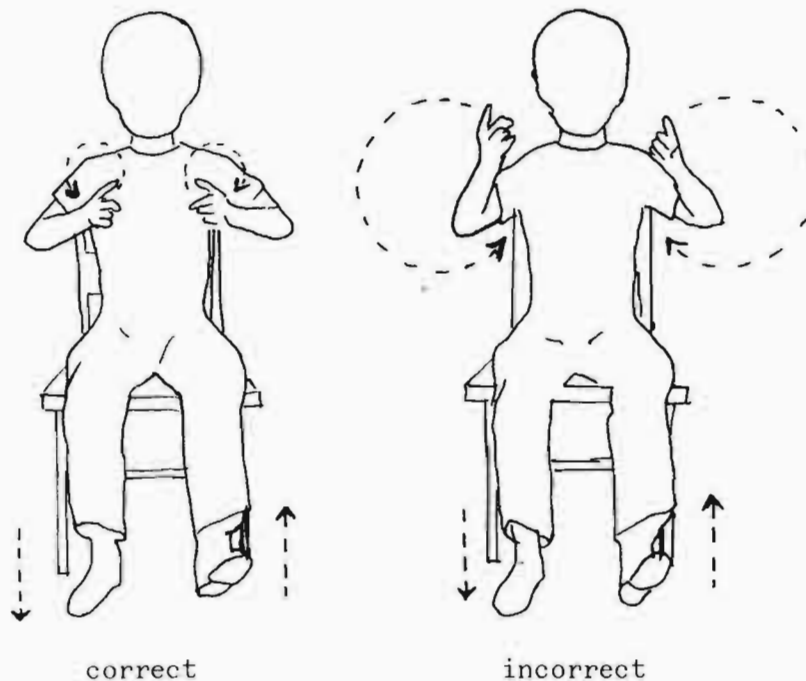


Figure 7: Tapping feet alternately while making circles with fingers
(Subtest 3 - Item 1)

ADMINISTERING AND RECORDING

Place two chairs facing each other, have the subject sit facing you. The subject's arms are held at, or slightly below, shoulder height with elbows bent and index fingers pointing towards the examiner. One index finger is to move clockwise and the other counterclockwise.

Say "First tap one foot and then the other foot like this (demonstrate). At the same time you tap your feet, hold your arms in front of you and close your hands, pointing your fist (index) fingers to me like this (demonstrate). Make circles with just your fingers, try not to move your hands, wrists or arms (demonstrate). Keep tapping your feet and making circles with your fingers until I tell you to stop. Ready, begin".

(The subject may tap toes with heels resting on the floor, tap with the entire foot, or tap heels with toes resting on floor, as long as the tapping rhythm is consistent).

Begin timing. If necessary, provide additional instruction. Start counting taps as soon as the subject establishes a consistent rhythm. During the trial, correct the subject and start counting if he or she:

- (a) does not maintain a consistent tapping rhythm
- (b) fails to alternate feet
- (c) fails to make circles simultaneously with both fingers
- (d) uses wrists and forearms in making circles, as shown in Figure 7
- (e) fails to make complete circles (wiggling fingers is incorrect).

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to complete 10 consecutive foot taps correctly. After 90 seconds, tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 3 / ITEM 2

Tapping - Foot and Finger on Same Side Synchronized

The subject simultaneously taps the foot and index finger on one side of the body, and then simultaneously taps the foot and index finger on the opposite side, as shown in Figure 8. The subject is given 90 seconds to complete 10 consecutive foot/finger taps correctly. The score is recorded as a pass or a fail.

Trials - 1.

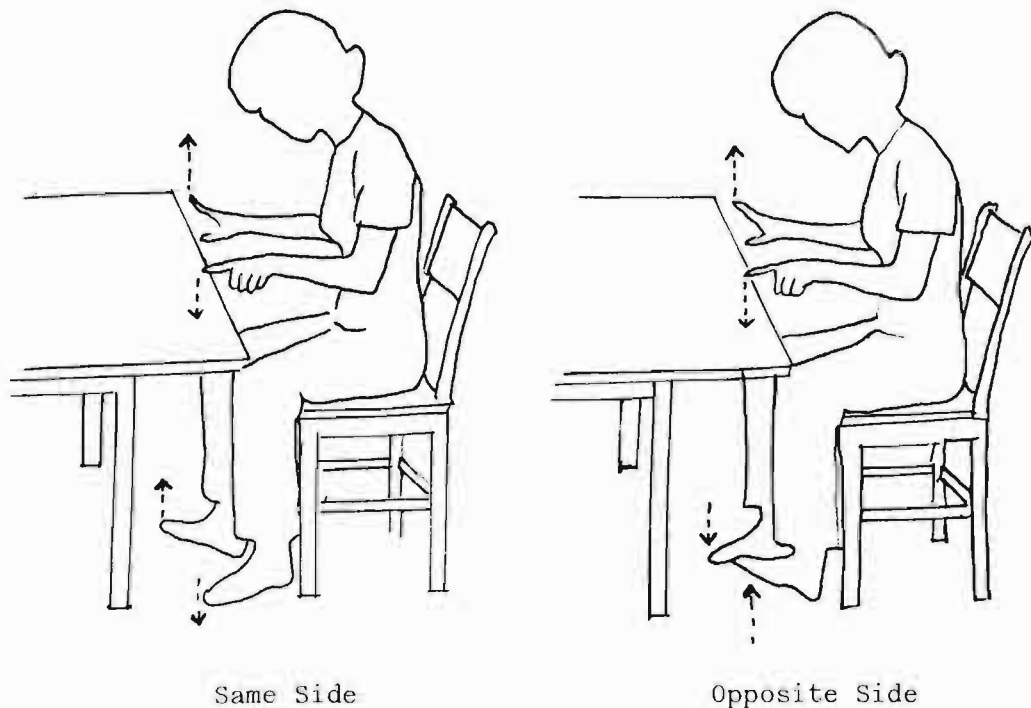


Figure 8: Tapping - foot and finger on same side synchronized
and foot and finger on opposite side synchronized
(Subtest 3 - Items 2,3)

ADMINISTERING AND RECORDING

Sit beside the subject at a table, placing the chairs so that you will be able to observe the subjects feet. Say "Tap one foot and first (index) finger on the same side of your body at the same time. Then tap the other foot and finger at the same time (demonstrate). Keep tapping until I tell you to stop. Ready, begin".

(The subject may tap toes with heels resting on the floor, tap with entire foot, or tap heels with toes resting on floor, as long as the tapping rhythm is consistent).

Begin timing. If necessary, provide additional instruction. For example, help the subject tap hands in a consistent rhythm to demonstrate the task. Start counting taps as soon as the subject establishes a consistent

tapping rhythm. During the trial, correct the subject and start counting over if she or he does not tap correctly in a consistent rhythm.

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to complete 10 consecutive foot/finger taps correctly. After 90 seconds tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 3 / ITEM 3

Tapping - Foot and Finger on Opposite Side Synchronized

The subject simultaneously taps the left index finger and right foot and then simultaneously taps the opposite foot and index finger, as shown in Figure 8. The subject is given 90 seconds to complete 10 consecutive foot/finger taps correctly. The score is recorded as a pass or a fail.

Trials - 1.

ADMINISTERING AND RECORDING

Sit beside the subject at a table, placing the chairs so that you will be able to observe the subjects feet. Say "First tap one foot and the first (index) finger on the other side of your body. Then tap the other foot and finger (demonstrate). Keep tapping until I tell you to stop. Ready, begin".

(The subject may tap toes with heels resting on floor, tap with entire foot, or tap heels with toes resting on floor, as long as the tapping rhythm is consistent).

Begin timing. If necessary, provide additional instruction. For example, help the subject tap hands in a consistent rhythm to demonstrate the task. Start counting taps as soon as the subject establishes a consistent tapping rhythm. During the trial, correct the subject and start counting over if he or she does not tap correctly in a consistent rhythm.

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to complete 10 consecutive foot/finger taps correctly. After 90 seconds, tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 3 / ITEM 4Jumping in Place - Leg and Arm on Same Side Synchronized

The subject jumps in place, starting with the preferred leg and arm forward and with the other leg and arm extended back. The subject jumps in place again, reversing the positions of the arms and legs, as shown in Figure 9. The subject is given 90 seconds to complete 10 consecutive jumps correctly. The score is recorded as a pass or fail.

Trials - 1.

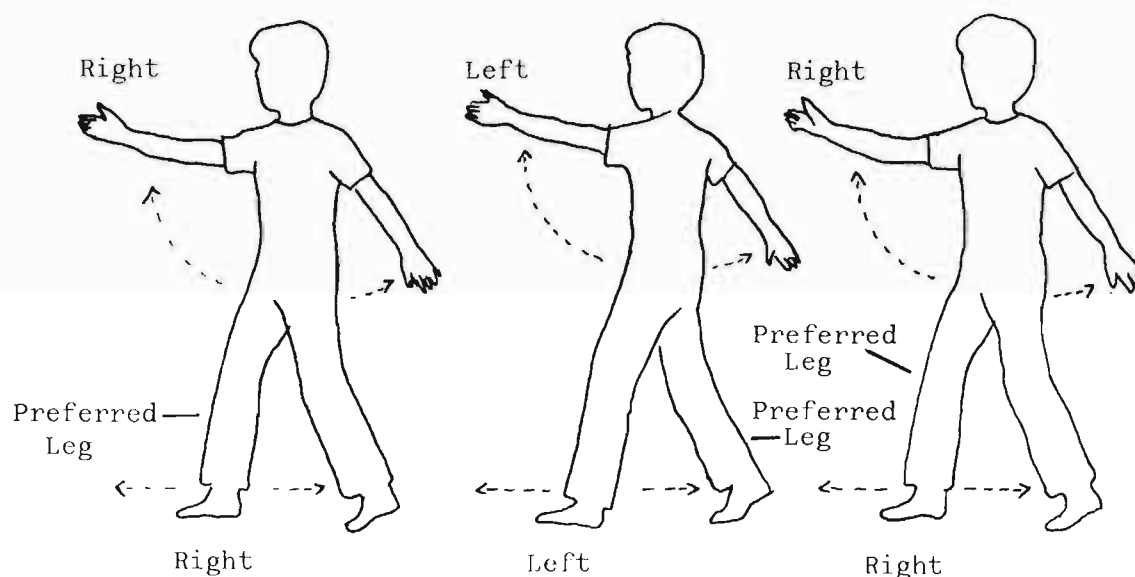


Figure 9: Jumping in place - leg and arm on same side synchronized
(Subtest 3 - Item 4)

ADMINISTERING AND RECORDING

Stand beside or facing the subject. Say "Place your (right/left) leg forward and your other leg back. Now place your (right/left) arm forward, raising it as high as your shoulder (demonstrate). Place your other arm back. When I tell you to begin, jump in place, moving one leg and arm forward and the other arm and leg back, like this (demonstrate). Keep jumping and moving your arms and legs together this way until I tell you to stop. Ready, begin.

Begin timing. If necessary, provide additional instruction. Start counting jumps as soon as the subject establishes a consistent speed. During the trial, correct the subject and start counting over if she or he:

- (a) fails to move arm and leg on the same side together
- (b) fails to make forward and backward movements in an uninterrupted pattern
- (c) takes extra steps in either the forward or backward position.

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to complete 10 consecutive jumps correctly. After 90 seconds, tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 3 / ITEM 5

Jumping in Place - Leg and Arm in Opposite Side Synchronized

The subject jumps in place starting with the nonpreferred leg and the opposite arm forward and the other leg and arm extended back. The subject jumps in place again, reversing the positions of the arms and legs, as shown in Figure 10. The subject is given 90 seconds to complete 10 consecutive jumps correctly. The score is recorded as a pass or a fail.

Trials - 1.

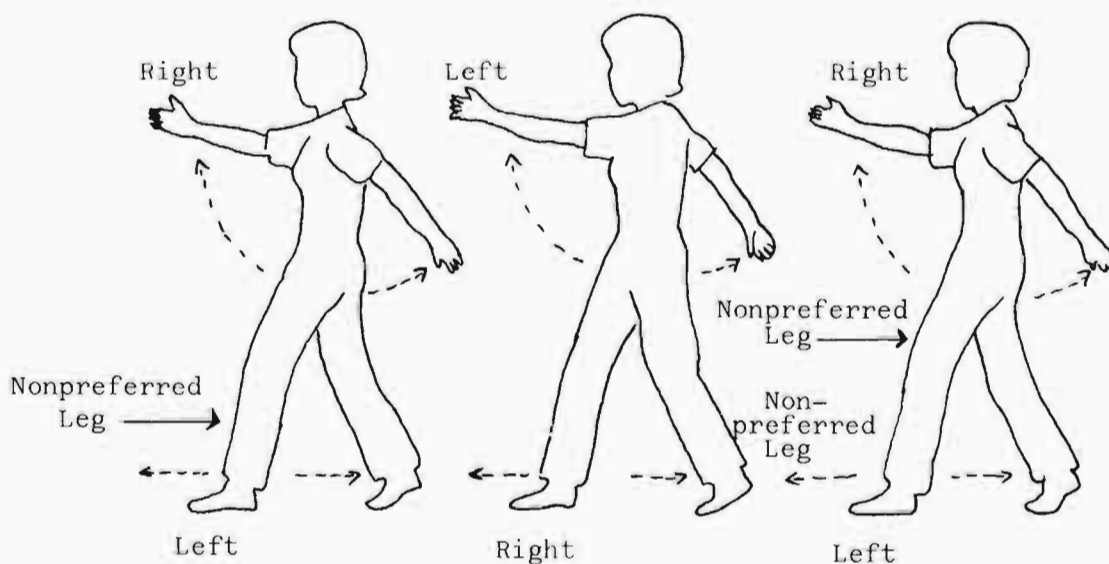


Figure 10: Jumping in place - leg and arm in opposite side synchronized

ADMINISTERING AND RECORDING

Stand beside or facing the subject. Say "Place your (right/left) (indicate nonpreferred) leg forward and your other leg back. Raise your (left/right - indicate opposite) arm in front of you, as high as your shoulder, and hold your other arm back, like this, (demonstrate). When I tell you to begin, jump in place, moving one leg and the opposite arm forward and the other arm and leg back, like this (demonstrate). Remember to raise the arm in front of you as high as your shoulder. Keep jumping and moving your arms and legs together this way until I tell you to stop. Ready, begin".

Begin timing. If necessary, provide additional instruction. Start counting jumps as soon as the subject establishes a consistent speed. During the trial, correct the subject and start counting over if he or she:

- (a) fails to move leg or arm on opposite side together
- (b) fails to make forward and backward movements in an uninterrupted pattern
- (c) takes extra steps in either the forward or back position.

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to complete 10 consecutive jumps correctly. After 90 seconds, tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 3 / ITEM 6

Jumping Up and Clapping Hands

The subject jumps as high as possible, clapping hands in front of face as many times as possible before landing, as shown in Figure 11. The subject must clap five times to achieve a maximum score.

Trials - 2. Administer a second trial only if the subject does not achieve a maximum score on the first trial.

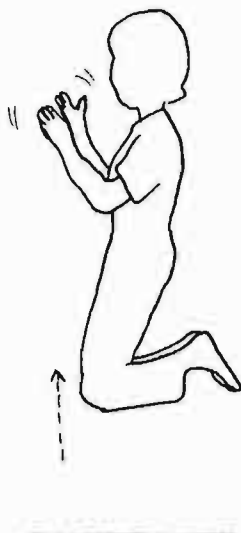


Figure 11: Jumping up and clapping hands (Subtest 3 - Item 6)

ADMINISTERING AND RECORDING

Stand facing the subject. Say "When I tell you to begin, jump straight up as high as you can. As you jump, clap your hands in front of your face as many times as you can before you land (demonstrate). Ready, begin".

Count claps as subject jumps. Do not count claps that are made while subject feet are on the floor or claps that are made below chest level. Mark the trial "0" if the subject loses balance and touches the floor with one or both hands when landing.

On the Individual Record Form, record the number of claps made correctly.

SUBTEST 3 / ITEM 7

Jumping Up and Touching Heels with Hands

The subject jumps as high as possible, touching heels with hands before landing, as shown in Figure 12. The score is recorded as a pass or a fail.

Trials - 2. Administer a second trial only if the subject does not pass on the first trial.

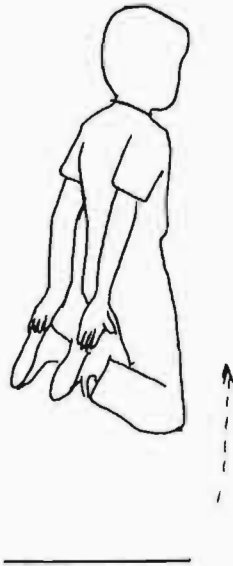


Figure 12: Jumping up and touching heels with hands (Subtest 3 - Item 7)

ADMINISTERING AND RECORDING

Say "When I say begin, jump straight up as high as you can. As you jump, bend your knees and touch your heels with your hands, like this (demonstrate). Remember to touch each heel at the same time. Ready, begin". Stand behind the subject to check performance.

Record fail if the subject:

- (a) fails to touch heels with hands simultaneously
- (b) loses balance and touches the floor with one or both hands when landing
- (c) fails to jump with both feet at the same time.

If a second trial is necessary, provide additional instruction. On the Individual Record Form, record pass or fail.

SUBTEST 3 / ITEM 8

Drawing Lines and Crosses Simultaneously

The subject draws vertical lines with the nonpreferred hand while simultaneously drawing crosses with the preferred hand, as shown in Figure 13. The subject is given 15 seconds to complete as many lines and crosses as possible. The number of times the subject draws a line and a cross simultaneously is recorded.

Trials - 1 practice, 1 recorded.

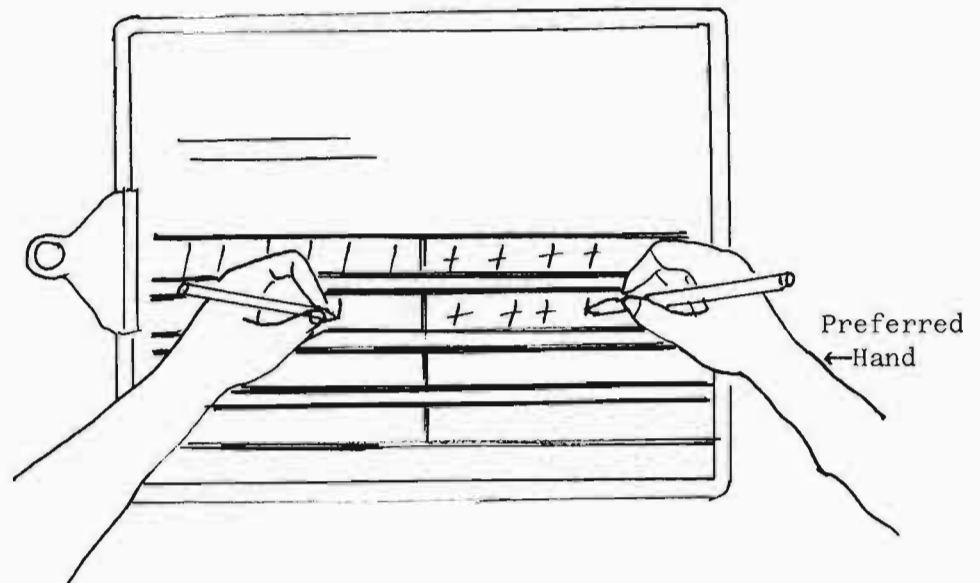


Figure 13: Drawing lines and crosses simultaneously (Subtest 3 - Item 8)

ADMINISTERING AND RECORDING

Sit beside the subject at a table. Clip the Student Booklet to the clipboard and have two red pencils ready to use.

Say "Watch me. I am going to draw lines on this side of the paper with one hand (point) and crosses on this side of the paper with the other hand (point and demonstrate by making three lines and crosses between the practice lines in a left-to-right progression with both hands). Then say "Now you try it. Draw lines on this side of the paper with your (right/left - indicate nonpreferred) hand and crosses on this side of the paper with your other hand". (Show subject which set of parallel lines to use for the practice trial).

If the subject has difficulty with the task during the practice trial, tell the subject draw vertical line and the vertical line of the cross together, and then to draw the horizontal line of the cross. It may be necessary to hold the subjects nonpreferred hand while the preferred hand completes the horizontal line of the cross. Have the subject slow down if she or he is making mistakes. Continue the practice trial until the subject has drawn three lines and crosses simultaneously.

Then say "When I say begin, draw as many lines and crosses as you can, as fast as you can, until I tell you to stop". Show the subject where to begin and tell the subject to go to the next row as each row is completed. "Remember, draw one line and one cross at the same time. Ready, begin".

Time for 15 seconds, counting the number of times a line and a cross are drawn simultaneously. The vertical lines do not need to touch the upper and lower parallel lines in the Student Booklet. Do not count a line or a cross drawn on the wrong side of the page. After 15 seconds, tell the subject to stop.

In the Student Booklet, record the number of pairs of lines and crosses drawn simultaneously - one line and one cross drawn simultaneously counts as one. Transfer the number to the Individual Record Form.

SUBTEST 4 - STRENGTH

Subtest 4 has three items that measure arm and shoulder strength, abdominal strength, and leg strength.

KIT EQUIPMENT - tape measure, masking tape, response speed stick.

OTHER EQUIPMENT - gym mat or carpeted surface, stopwatch.

GENERAL DIRECTIONS

1. If the subject seems tired, administer this subtest after a rest period or on another day.
2. Provide a short rest period between items in the subtest.
3. Prepare the jumping area, as shown in Figure 14.
 - (a) Fasten a 2-foot (61cm) strip of masking tape to the floor to mark the starting line.
 - (b) Tape the metal pull of the tape measure to the floor perpendicular to the starting line and pull the tape measure out until the number series 16 appears. Fasten the tape measure to the floor at the line following the last 16.

SUBTEST 4 / ITEM 1

Standing Broad Jump

The subject jumps forward as far as possible, starting from a bent-knee position, as shown in Figure 14. The distance of each jump is recorded.

Trials - 3.

ADMINISTERING AND RECORDING

Have the subject jump up and down a few times before starting. Then say "Stand behind this line (point to starting line) with your feet spread about as far apart as your shoulders (demonstrate). Bend your knees, lean forward, and swing your arms at your sides a few times. When I say go, put your arms back and jump forward as far as you can, letting your arms swing forward, and land on both feet (demonstrate). Remember, bend your knees, swing your arms back, and jump as far as you can. When you jump, let your arms swing forward and try to land on both feet. If you lose your balance, try to fall forward. Ready, go".

Between trails repeat instructions as necessary.

Correct the subject and readminister the trail if the subject shuffles over the starting line before jumping or if the subject jumps up instead of forward.

On the Individual Record Form, record the distance jumped on each trial by noting the number that is nearest the point where the back of the subjects heels land. If one foot lands behind the other, measure to the heel that is nearest the starting line. If the subject loses balance and falls backward, measure to the point where the subjects hands (or other part of the body nearest the starting line) touch the floor, as shown in Figure 15.

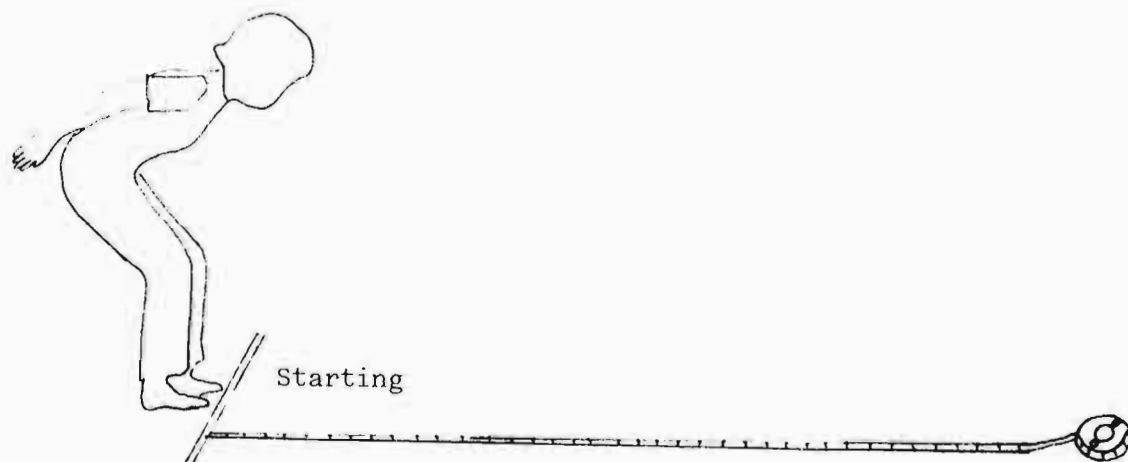


Figure 14: Layout for standing broad jump with subject in starting and

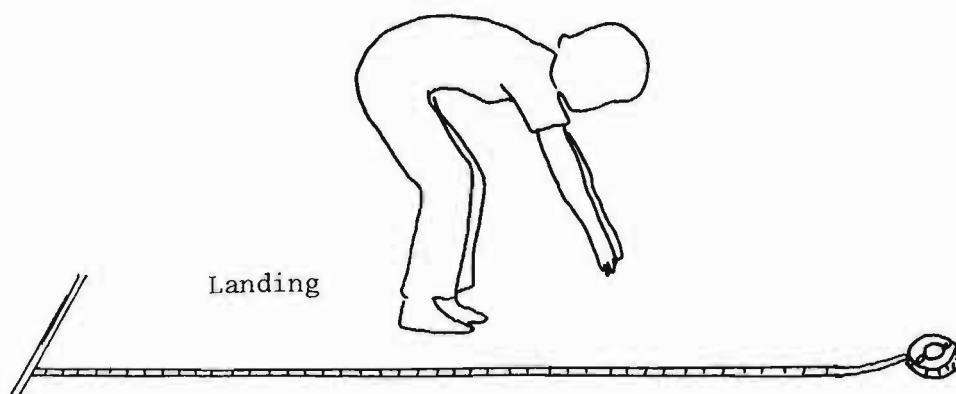


Figure 14: Layout for standing broad jump with subject in starting and landing positions (Subtest 4 - Item 1)

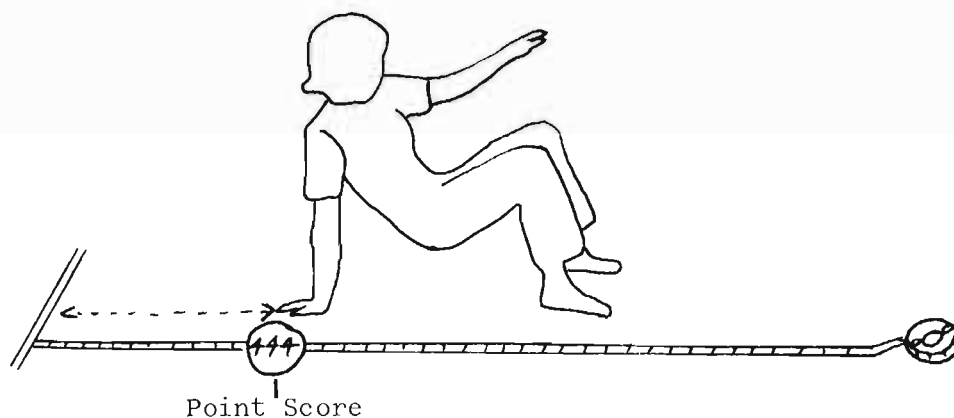


Figure 15: Point score for distance jump when subject falls backward (Subtest 4 - Item 1)

SUBTEST 4 / ITEM 2

Sit-ups

The subject does sit-ups, raising the upper portion of the body from the floor and touching the fingertips to the response stick held across the subjects knees by the examiner, as shown in Figure 16. The number of correct sit-ups performed in 20 seconds is recorded.

Trials - 1.

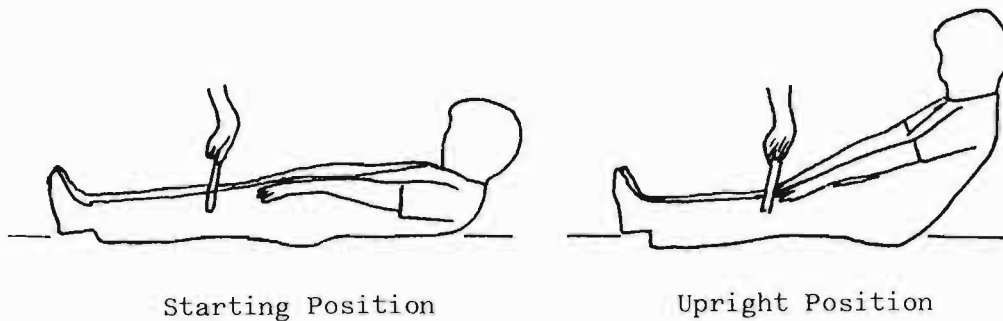


Figure 16: Sit-ups (Subtest 4 - Item 2)

ADMINISTERING AND RECORDING

Have the subject lie on a gym mat or carpeted surface. Kneel beside the subject and say "Lie flat on your back. Place your hands on the top part of your legs like this (demonstrate - placing your hands palm down on thighs). Put your chin on your chest. Keep your arms and your shoulders straight and sit up until your fingers touch this stick." Place the stick across the subjects knees. Then say "After you touch the stick, lean back until you are lying on the floor again. Have the subject do a practice sit-up. Demonstrate if necessary, make certain the subject understands the procedure. Then say "When I say go, keep doing sit-ups as fast as you can until I tell you to stop. Sit up just high enough to touch the stick. Ready, go".

Begin timing. Count the number of correct sit-ups. A sit-up is incorrect if the subject:

- (a) pushes from the floor with elbows
- (b) pulls on slacks or mat while sitting up
- (c) fails to touch the response stick with at least one finger.

During the trial, encourage the subject to perform as fast as possible. Repeat instructions as necessary. For example, if the subject twists sideways to sit up, remind him or her to keep shoulders straight. After 20 seconds, tell the subject to stop.

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

SUBTEST 4 / ITEM 3 (VERSIONS a AND b)

(Administer the version appropriate for the subjects age and sex)

ITEM 3a

Knee Push-ups (For Boys Under Age 8 and All Girls)

The subject does knee push-ups, supporting the body with hands and knees and raising the back to touch the response stick held above the subjects back by the examiner, as shown in Figure 17. The number of correct knee push-ups performed in 20 seconds is recorded.

Trials - 1.

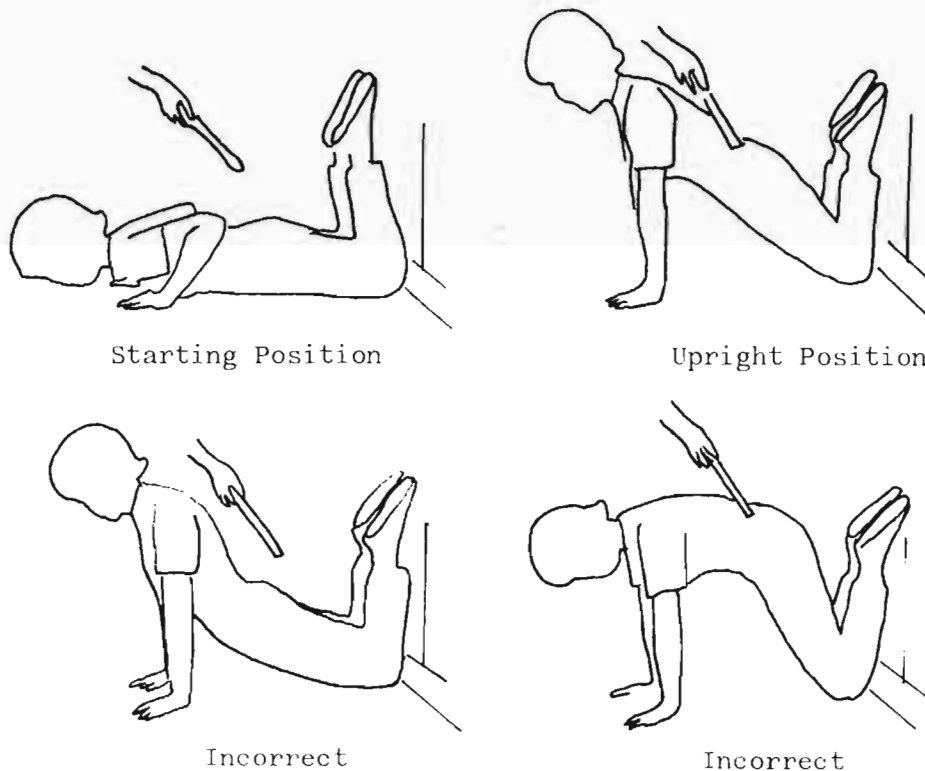


Figure 17: Knee push-ups (Subtest 4 - Item 3a)

ADMINISTERING AND RECORDING

If a gym mat or carpeted surface is used, place it so that one edge touches the base of the wall. Have the subject lie on the gym mat or carpeted surface. Kneel beside the subject and say "Lie flat on your stomach. Place both hands on the mat, next to your shoulders, and bend your knees. Now move back so that your knees touch the wall". Assist

the subject as necessary. Then hold the response speed stick over the subjects back at the waist. The stick should be held so that the subjects back just touches it when the subjects arms are fully extended. Say "Keep your back straight and push yourself up until your arms are straight and your back just touches the stick. After you touch the stick, lower yourself until you touch the floor with your chest". Have the subject do a practice push-up. Demonstrate if necessary, make certain that the subject understands the procedure. If necessary, help the subject achieve the correct position before pushing up. Then say "When I say go, keep doing push-ups as fast as you can until I tell you to stop. Keep your back straight and push up until your arms are straight. When you lower yourself, touch the floor with your chest. Ready, go".

Begin timing. Count the number of correct push-ups. If the subjects back and arms are straight, but the subject fails to touch the response speed stick, adjust the height of the stick and count the push-up. Also count a push-up when the subjects chest does not touch the floor, as long as the subject lowers himself or herself enough to achieve a full bent-arm position. A push-up is incorrect if the subject:

- (a) fails to touch the response speed stick because she or he has allowed the back to sag
- (b) lifts hips so that the back is not straight.

During the trial, encourage the subject to perform as fast as possible. After 20 seconds, tell the subject to stop.

On the Individual Record Form, record the number of knee push-ups performed correctly.

ITEM 3b

Full Push-ups (For Boys Age 8 and Older)

The subject does full push-ups, supporting the body with hands and toes, and raising the back to touch the response speed stick held above the subjects back by the examiner, as shown in Figure 18. The number of correct full push-ups performed in 20 seconds is recorded.

Trials - 1.

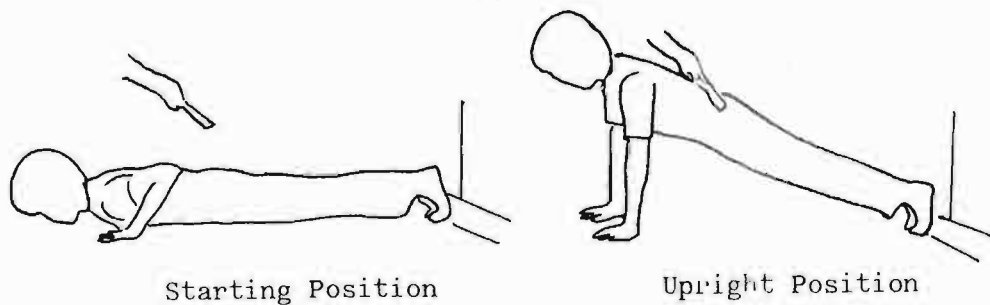


Figure 18: Full push-ups (Subtest 4 - Item 3b)

ADMINISTERING AND RECORDING

If a gym mat or carpeted surface is used, place it so that one edge touches the base of a wall. Have the subject lie on the gym mat or carpeted surface. Kneel beside the subject and say "Lie flat on your stomach. Place both hands flat on the mat, next to your shoulders. Place your feet against the wall". Assist the subject as necessary. Then hold the response speed stick over the subjects back at the waist - the stick should be held so that the subjects back just touches it when the subjects arms are fully extended. Say "Keep your back straight and push yourself up until your arms are straight and your back just touches the stick. After you touch the stick, lower yourself until you touch the floor with your chest". Have the subject do a practice push-up. Demonstrate if necessary - make certain that the subject understands the procedure. Then say "When I say go, keep doing push-ups as fast as you can until I tell you to stop. Keep your back straight and push up until your arms are straight. When you lower yourself, touch the floor with your chest. Ready, go".

Begin timing. Count the number of correct push-ups. If the subjects back and arms are straight, but the subject fails to touch the response speed stick, adjust the height of the stick and count the push-ups. Also count a push-up when the subjects chest does not touch the floor, as long as the subject lowers himself enough to achieve a full-bent-arm position. A push-up is incorrect if the subject:

- (a) fails to touch the response speed stick because he has allowed the back to sag
- (b) lifts hips so that the back is not straight (see Figure 17).

During the trial, encourage the subject to perform as fast as possible. After 20 seconds, tell the subject to stop.

On the Individual Record Form, record the number of full push-ups performed correctly.

SUBTEST 5 - UPPER-LIMB COORDINATION

Subtest 5 has nine items that assess coordination of visual tracking with movements of the arms and hands, as well as precise movements of the arms, hands and fingers.

KIT EQUIPMENT - standing mat, masking tape, tape measure, target, tennis ball, ball with string.

OTHER EQUIPMENT - stopwatch, two chairs, table.

GENERAL DIRECTIONS

1. Place the standing mat, rough-side down, on the floor so that the mat will not move. Fasten a small strip of masking tape to the floor 10 feet (3 metres) from the standing mat, as shown in Figure 19.
2. Tape the target to the wall so that the lowest point on the circumference is at the subjects eye level. Fasten a 3 foot (91.4cm) strip of masking tape to the floor 5 feet (1.5m) in front of the target, as shown in Figure 20.

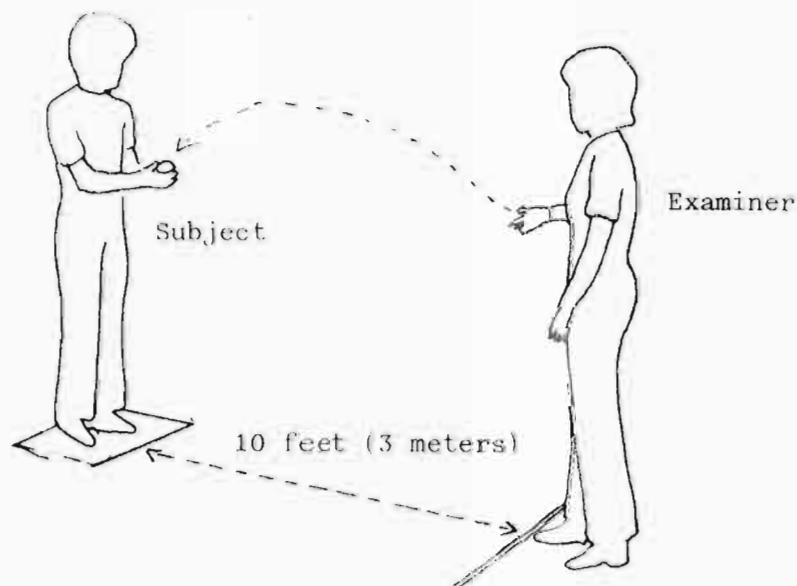


Figure 19: Correct placement of mat and masking tape (Subtest 5 - Items 3,4)

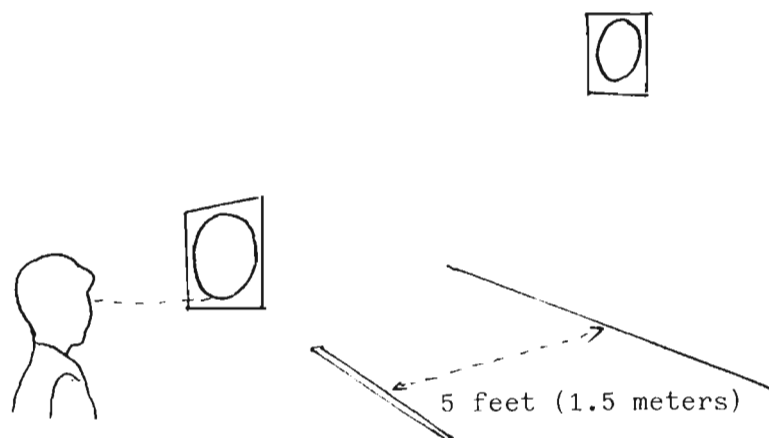


Figure 20: Correct placement of target and masking tape (Subtest 5 - Item 5)

SUBTEST 5 / ITEM 1

Bouncing a ball and Catching it with Both Hands

The subject stands on the standing mat, bounces the tennis ball on the floor, and catches it with both hands. The number of correct catches is recorded.

Trials - 1 practice, 5 recorded

ADMINISTERING AND RECORDING

Say "Stand on the mat. When I say begin, bounce the tennis ball on the floor and catch it with both hands (demonstrate). Keep your feet on the mat". Give the subject one practice trial. If necessary, remind the subject to bounce, not drop, the ball. Then say "Keep bouncing and catching the ball with both hands until I tell you to stop. Ready, begin". (It may be easier for young subjects to catch the ball with their hands held palms up.)

Count the number of correct catches made in five trials. A catch is incorrect if the subject:

- (a) misses the ball or traps it against the body, as shown in Figure 21
- (b) steps off the mat
- (c) catches the ball with one hand.

Between trials, repeat instructions as necessary. After five trials, tell the subject to stop. Take the ball away to prevent any practice between items. On the Individual Record Form, record the number of correct catches.



Figure 21: Example of an incorrect catch - subject trapping ball against body. (Subtest 5 - Items 1-4)

SUBTEST 5 / ITEM 2

Bouncing a Ball and Catching it with Preferred Hand

The subject stands on the standing mat, bounces the tennis ball on the floor, and catches it with the preferred hand. The number of correct catches is recorded.

Trials - 1 practice, 5 recorded

ADMINISTERING AND RECORDING

Say " Stand on the mat. When I say begin, bounce the tennis ball on the floor and catch it with your (right/left) hand (demonstrate). Keep your feet on the mat". Give the subject one practice trial. If necessary, tell the subject to bounce, not drop, the ball. Then say "Keep bouncing and catching the ball until I tell you to stop. Ready, begin". (It may be easier for the young subjects to catch the ball with their hands held palms up).

Count the number of correct catches made in five trials. A catch is incorrect if the subject:

- (a) misses the ball or traps it against the body as shown in Figure 21
- (b) steps off the mat
- (c) catches the ball with the nonpreferred hand or with

Between trials, repeat instructions as necessary. After five trials, tell the subject to stop.

On the Individual Record Form, record the number of correct catches.

SUBTEST 5/ Item 3

Catching a Tossed Ball with Both Hands.

The subject stands on the standing mat and, with both hands, catches a tennis ball tossed underhand from a distance of 10 feet (3 meters), as shown in Figure 19. The number of correct catches is recorded.

Trials: 1 practice, 5 recorded.

ADMINISTERING AND RECORDING

Say "Stand on the mat and catch this ball with both hands when I throw it to you". Give the subject one practice trial. Stand behind the strip of masking tape and slowly toss the ball underhand in a slight arc so that it comes down between the subject's shoulders and waist. Then say "Catch the ball with both hands each time I throw it to you".

Count the number of correct catches made in five trials. A catch is incorrect if the subject:

- (a) misses the ball or traps it against the body, as shown in Figure 21
- (b) steps off the mat
- (c) catches the ball with one hand.

If the subject misses the ball because it is thrown above the shoulders, below the knees, or outside the subject's reach, readminister that trial. Between trials, repeat instructions as necessary.

On the Individual Record Form, record the number of correct catches.

SUBTEST 5 / ITEM 4

Catching a Tossed Ball with Preferred Hand

The subject stands on the standing mat and, with the preferred hand, catches a tennis ball tossed underhand from a distance of 10 feet (3 meters). The number of correct catches is recorded.

Trials - 1 practice, 5 recorded.

ADMINISTERING AND RECORDING

Say "Stand on the mat and catch this ball in your (right/left) hand". Give the subject one practice trial. Stand behind the strip of masking tape and slowly toss the ball underhand in a slight arc so that it comes down between the subject's shoulders and waist. Then say "Catch the ball each time I throw it to you".

Count the number of correct catches made in five trials. A catch is incorrect if the subject:

- (a) misses the ball or traps it against the body, as shown in Figure 21
- (b) steps off the mat
- (c) catches the ball with the nonpreferred hand or with both hands.

If the subject misses the ball because it is thrown above the shoulders, below the knees, or outside the subject's reach, readminister that trial. Between trials, repeat instructions as necessary.

On the Individual Record Form, record the number of correct catches.

SUBTEST 5 / ITEM 5

Throwing a Ball at a Target with Preferred Hand

With the preferred hand, the subject throws a tennis ball overhand at the target from a distance of 5 feet (1,5 meters). The subject receives a point each time the ball is correctly thrown and hits the target.

Trials - 1 practice, 5 recorded.

ADMINISTERING AND RECORDING

Say "Stand behind this line (point to the masking tape on the floor in front of the target). You are to throw the ball overhand at the bull's-eye (point to target; then demonstrate). Throw from behind this line". Give the subject one practice trial. The subject may throw overhand in a modified sidearm motion with both feet stationary, or may take one step forward toward the target while throwing. Then say "Ready, begin".

Stand behind the subject and count the number of correct throws in five trials. A throw is incorrect if the subject:

- (a) misses the target (Hitting the back perimeter of the target is acceptable)
- (b) throws underhand
- (c) steps over the line.

Between trials, repeat instructions as necessary. After five trials, tell the subject to stop.

On the Individual Record Form, record a "1" for each correct throw and a "0" for each incorrect throw.

SUBTEST 5 / ITEM 6

Touching a Swinging Ball with Preferred Hand

The subject uses the index finger of the preferred hand to touch a ball as it swings in front of the subjects face, as shown in Figure 22.

The subject is given one point for each trial in which he or she hits the ball once.

Trials - 2 practice, 5 recorded.

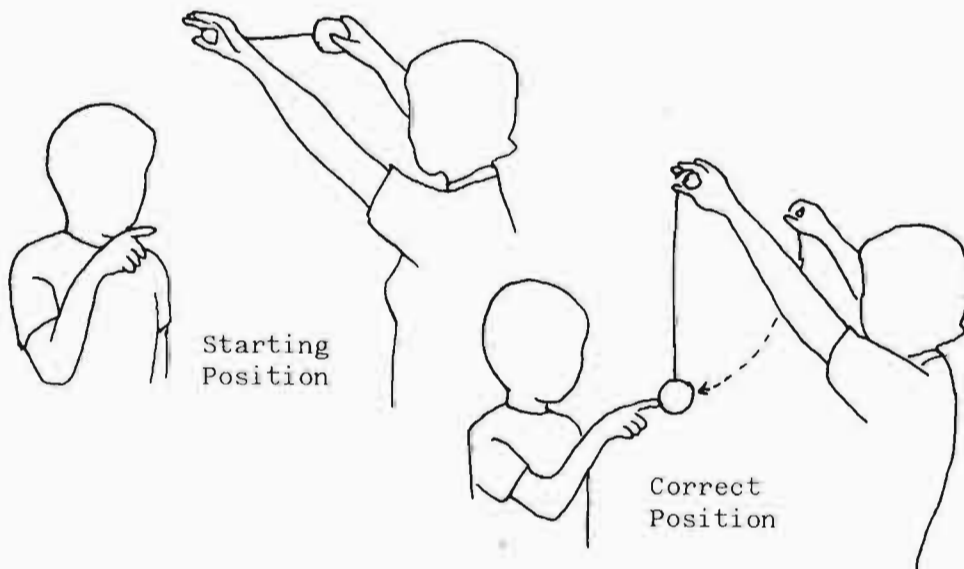


Figure 22: Touching a swinging ball with preferred hand (Subtest 5 - Item 6)

ADMINISTERING AND RECORDING

Have the subject stand facing you. (Have tall subjects kneel.) Say "Close your (right/left) hand and point your first (index) finger. Hold your (right/left) hand like this (demonstrate position shown in Figure 22)". Hold the ball in one hand at the same height as the other hand holding the loop of the string, so the ball will swing in a 180° arc. The bottom of the arc should be in front of the subject's face. Then say "Watch the ball as it swings, point at it, then hit it with your fingertip when it is right in front of your face. Do not move your feet. The ball will not hit you. Let's try it".

Give the subject two practice trials. The ball is to be swung slightly less than one arm's length away from the subject's face, swinging from either left to right or right to left. One trial consists of the ball passing in front of the subject's face four times. Make sure that the subject is holding the index finger in the correct position and is watching the ball throughout its swing.

Count as correct the test trials in which the subject hits the ball at least once during the four passes of the ball. If the subject hits the ball more than once during a trial, no additional points are given. Do not count a hit if the subject:

- (a) lunges at the ball
- (b) stops the ball with the side of the finger instead of hitting it with the fingertip.

Between trials, repeat instructions as necessary. If the ball does not swing straight, readminister the trial.

On the Individual Record Form, record the number of trials in which the subject hits the ball correctly at least once.

SUBTEST 5 / ITEM 7

Touching Nose with Index Fingers - Eyes Closed

With eyes closed, the subject touches any part of his or her nose first with one index finger and then with the opposite index finger, as shown in Figure 23. The subject is given 90 seconds to touch the nose four consecutive times. The score is recorded as a pass or a fail.

Trials - 1.

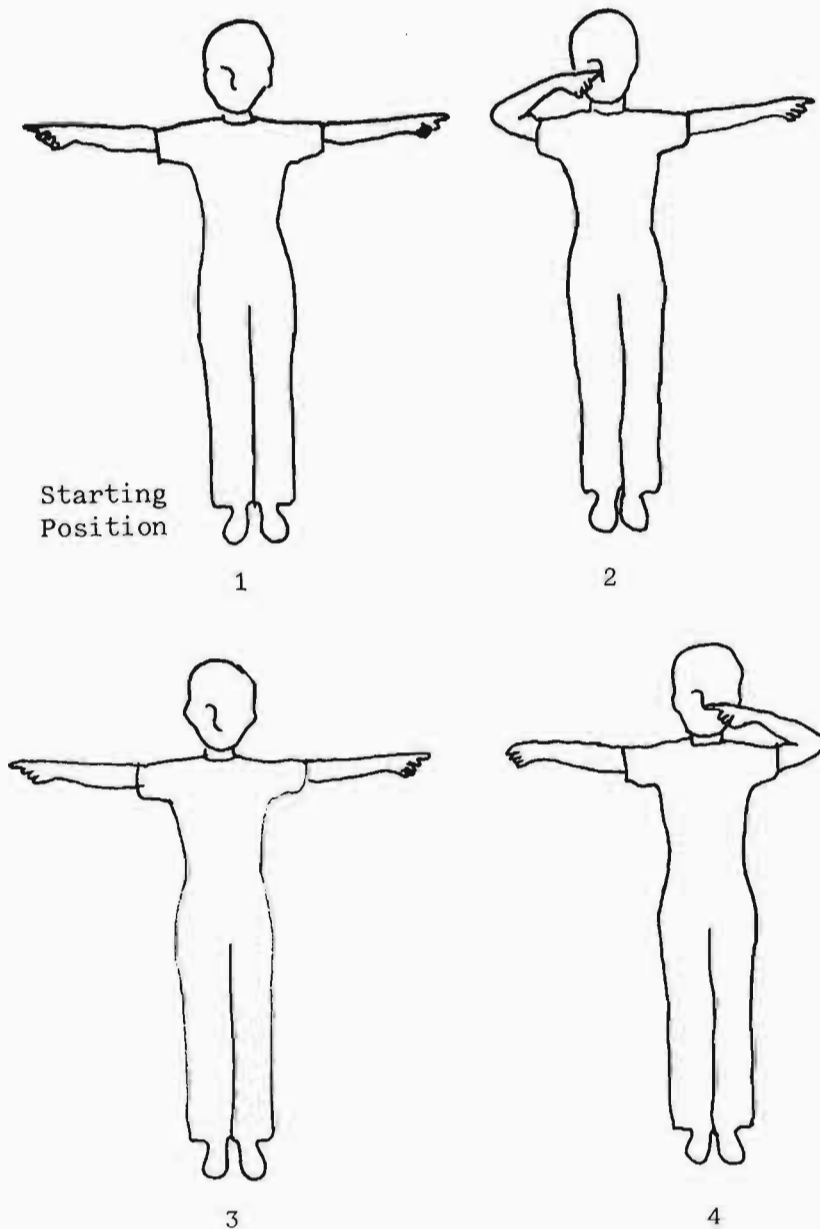


Figure 23: Touching nose with index fingers - eyes closed (Subtest 5 - Item 7)

ADMINISTERING AND RECORDING

Have the subject stand facing you. Say "Hold your arms straight out to the side. Close your hands and point with your first (index) fingers (demonstrate). Touch your nose with the tip of one of your fingers and then put your arm straight out again (demonstrate.) Then touch your nose with the other fingertip and put that arm straight out again (demonstrate).

Now do it with your eyes closed and your head still. Keep touching your nose until I tell you to stop. Ready, begin".

Begin timing. If necessary, provide additional instruction. For example, remind the subject to touch the nose with the tips of the index fingers and to return one arm to an extended position before moving the other arm. Start counting as soon as the subject is moving the arms and touching the nose correctly in a continuous movement. During the trial correct the subject and start counting over if she or he:

- (a) fails to maintain continuous movements
- (b) fails to touch the nose with the index finger
- (c) fails to alternate arms
- (d) fails to extend arms fully after touching nose
- (e) moves head to meet the finger
- (f) opens eyes.

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to touch the nose correctly four consecutive times (twice with each finger). After 90 seconds, tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 5 / ITEM 8

Touching Thumb to Fingers - Eyes Closed

With eyes closed, the subject touches the thumb of the preferred hand to each of the fingertips on the preferred hand, moving from the little finger to the index finger and then from the index finger to the little finger, as shown in Figure 24. The subject is given 90 seconds to complete the task once. The score is recorded as a pass or a fail.

Trials - 1.

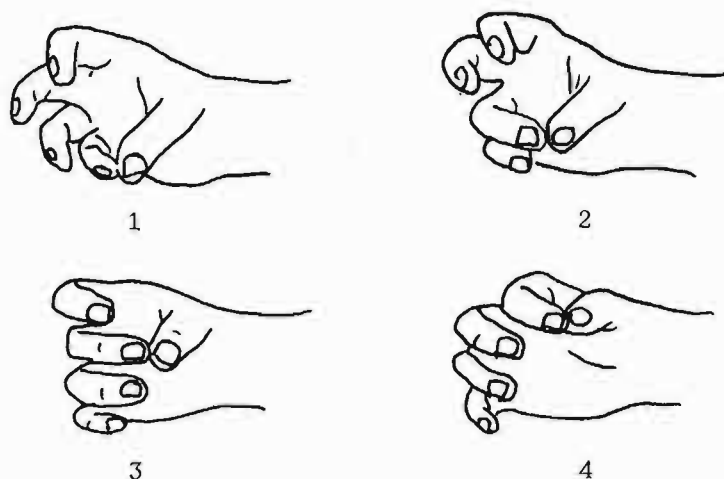


Figure 24: Touching thumb to fingertips - eyes closed (Subtest 5 - Item 8)

ADMINISTERING AND RECORDING

Have the subject sit beside you at a table. Have the subject extend the preferred arm. Then say "You are to touch your thumb to each of the fingertips on this hand. Start with your little finger and touch each fingertip in order. Then start with your first finger and touch each fingertip again as you move your thumb back to your little finger (demonstrate). Do this with your eyes closed until I tell you to stop. Ready, begin".

Begin timing. If necessary provide additional instruction. During the trial correct the subject and have the subject start over if he or she:

- (a) fails to maintain continuous movements
- (b) touches any finger except the index finger more than once in succession
- (c) touches two fingers at the same time
- (d) fails to touch fingers above the first finger joint
- (e) opens eyes.

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to complete the task once. After 90 seconds, tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 5 / ITEM 9

Pivoting Thumb and Index Finger

The subject touches the tip of the right index finger to the top of the left thumb, then pivots the hands to touch the tip of the left index finger to the tip of the right thumb. The subject continues to pivot the hands touching finger to thumb, in an upward or downward motion. See Figure 25. The subject is given 90 seconds to complete five consecutive pivots correctly. The score is recorded as a pass or a fail.

Trials - 1.

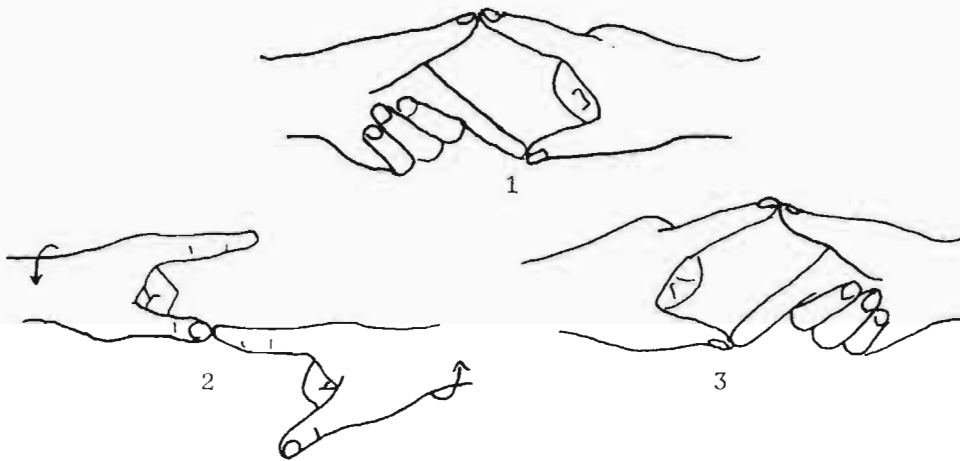


Figure 25: Pivoting thumb and index finger (Subtest 5 - Item 9)

ADMINISTERING AND RECORDING

Have the subject sit beside you at a table. Say "Touch your first (index) finger of each hand to the thumb of your other hand (demonstrate). Watch how I separate one thumb and finger and move them (demonstrate)".

If necessary, place the subject's thumbs and index fingers in the correct starting position. Then say "Keep moving your thumbs and fingers this way until I tell you to stop. Ready, begin".

Begin timing. If necessary, provide additional instruction. (For young subjects, it may be helpful to remind them of the 'Eency Weency Spider' song, which uses the same action.) Start counting pivots as soon as the subject establishes a continuous motion. During the trail correct the subject and start counting over if she or he:

- (a) fails to maintain continuous movements
- (b) places the thumbs or index fingers incorrectly.

Allow no more than 90 seconds, including time needed for additional instruction, for the subject to complete five consecutive pivots correctly. After 90 seconds, tell the subject to stop.

On the Individual Record Form, record pass or fail.

SUBTEST 6 - RESPONSE SPEED

Subtest 6 has one item that assesses the ability to respond quickly to a moving stimulus.

KIT EQUIPMENT - masking tape, response speed stick

OTHER EQUIPMENT - two chairs

GENERAL DIRECTIONS

Fasten a 1-foot (30.5cm) strip of masking tape to the wall, as shown in Figure 26.

The tape strip should be slightly below the subject's shoulders when the subject is seated and far enough off the floor so that the entire response speed stick is below the tape line when the stick is resting perpendicular to the floor. The subject must be seated high enough so that both of these requirements are met. See Figure 26.

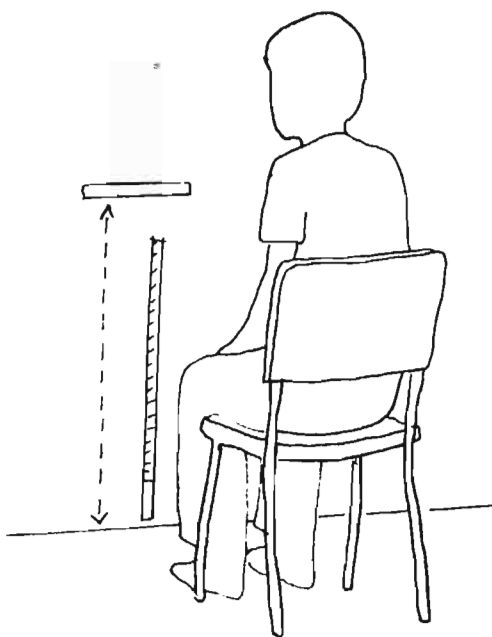


Figure 26: Correct placement of tape line (Subtest 6 - Item 1)

SUBTEST 6 / ITEM 1

Response Speed

The subject places the preferred hand flat on the wall, next to the response speed stick. The examiner holds the stick vertically against the wall and then drops the stick. The subject uses the thumb of the preferred hand to stop the stick as it drops. See Figure 27. The response speed stick number that is at or just above the tape strip when the stick is stopped is the trial score. The point score is derived from the trial scores.

Trials - 2 practice, 7 recorded.

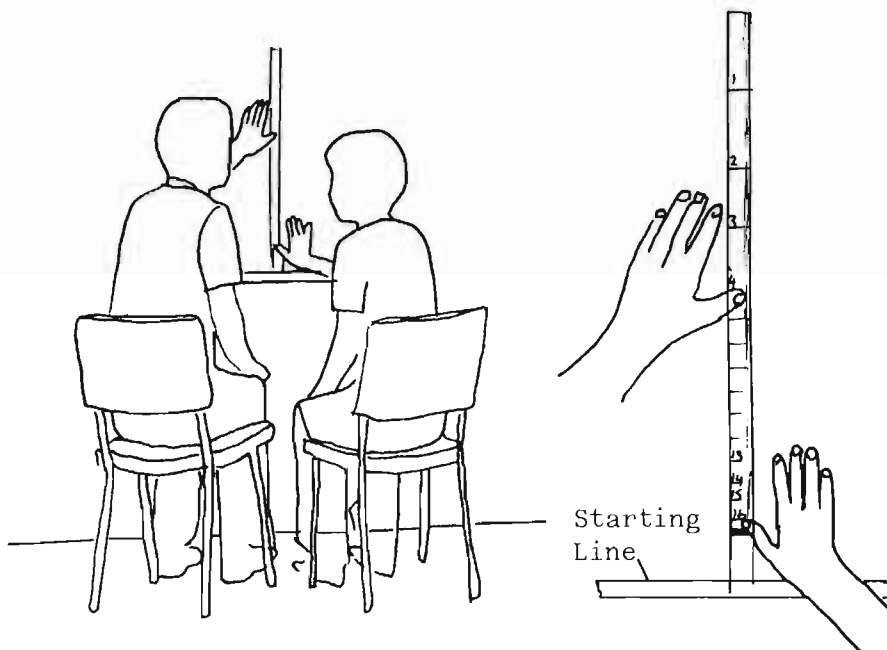


Figure 27: Starting position (Subtest 6 - Item 1)

ADMINISTERING AND RECORDING

Sit beside the subject, facing the wall, as shown in Figure 27; the subject should be seated with his or her preferred arm away from you. Say "We are going to find out how fast you can stop a falling stick". Place the response speed stick flat against the wall in front of the subject so that the starting line on the stick is even with the top edge of the tape. Then say "Let me show you what to do. Put your (right/left) hand against the wall next to the red line on the stick". Help the subject place the preferred hand against the wall with the thumb about $\frac{1}{2}$ to 1 inch (1.3 to 2.5cm) away from the stick, spreading the fingers in a comfortable, fan-like position. The thumb should be over, but not on, the stick; no part

of the subject's hand should touch the stick before it is dropped.

Say "Watch the red line on the stick (point to red line). When the red line moves, stop the stick as fast as you can with your thumb (demonstrate by placing the subject's thumb against the stick). Just before I let the stick fall, I will say "Get set!" Then, when you see the red line move, stop the stick with your thumb as fast as you can.

Give the subject two practice trials. For each trial, say "Get set!" slowly and deliberately and then wait the number of seconds shown on the table below before releasing the stick. Count the seconds silently - one thousand one; one thousand two, etc. Keep the stick perpendicular to the tape strip and make certain that the subject is observing the red line before you release the stick.

<u>Trial</u>	<u>Seconds</u>
Practice 1	1
Practice 2	3
1	2
2	3
3	1
4	3
5	2
6	1
7	1

Administer seven test trials. Repeat instructions and readminister a test trial if the subject:

- (a) fails to look at the stick when it is dropped
- (b) touches the stick before or just as it is released.

On the Individual Record Form, record the response speed stick number that is at, or just above, the tape strip when the subject stops the stick. This is the trial score. Record "0" for a trial if the subject does not stop the stick before it hits the floor.

To obtain the point score for Subtest 6, rank the scores for the seven test trials from highest to lowest. The median (middle) score is the point score. For example, if the subject's scores on the seven trials, ordered from highest to lowest, are 8-7-6-5-4-4-3 the subject's point score is 5. Then a 5 would be recorded as the score for Subtest 6.

SUBTEST 7 - VISUAL-MOTOR CONTROL

Subtest 7 has eight items that measure the ability to integrate visual responses with highly controlled motor responses.

KIT EQUIPMENT - Student Booklet, scissors, two red pencils, two black pencils

OTHER EQUIPMENT - table, two chairs, clipboard.

GENERAL DIRECTIONS

1. Administer the entire subtest with the subject seated next to you at a table.
2. Do not count errors or score any of the items in this subtest until all testing has been completed.

SUBTEST 7 / ITEM 1

Cutting Out a Circle with Preferred Hand

With the preferred hand, the subject cuts out a heavy circle embedded within six concentric circles. The number of errors made is recorded.

Trials - 1.

ADMINISTERING AND RECORDING

Tear out a square that contains concentric circles in the Student Booklet. Place scissors on the table. Say "There are some circles on this paper. Use the scissors to cut along the heaviest black line (point to line). Hold the scissors in your (right/left) hand. Take as much time as you need. Remember, cut out only the darkest circle. Ready, begin".

If the subject begins by cutting out the wrong circle, point out the mistake and have the subject start over using the second set of circles.

Have the subject go on to Item 2. Refer to the scoring directions below when the testing session has been completed.

In the Student Booklet, record as errors the number of cuts made through any of the circles that are inside or outside the heavy black circle up to a maximum of 11. If any of these circles is cut through more than once, count each cut as a separate error. Do not count as an error any cut that is made:

(a) through the outer circles as part of the initial cut to reach the heavy black circle

(b) back and forth across the heavy black circle as it is cut out.

Examples of errors are shown in Figure 28. Transfer the number of errors recorded in the Student Booklet to the Individual Record Form.

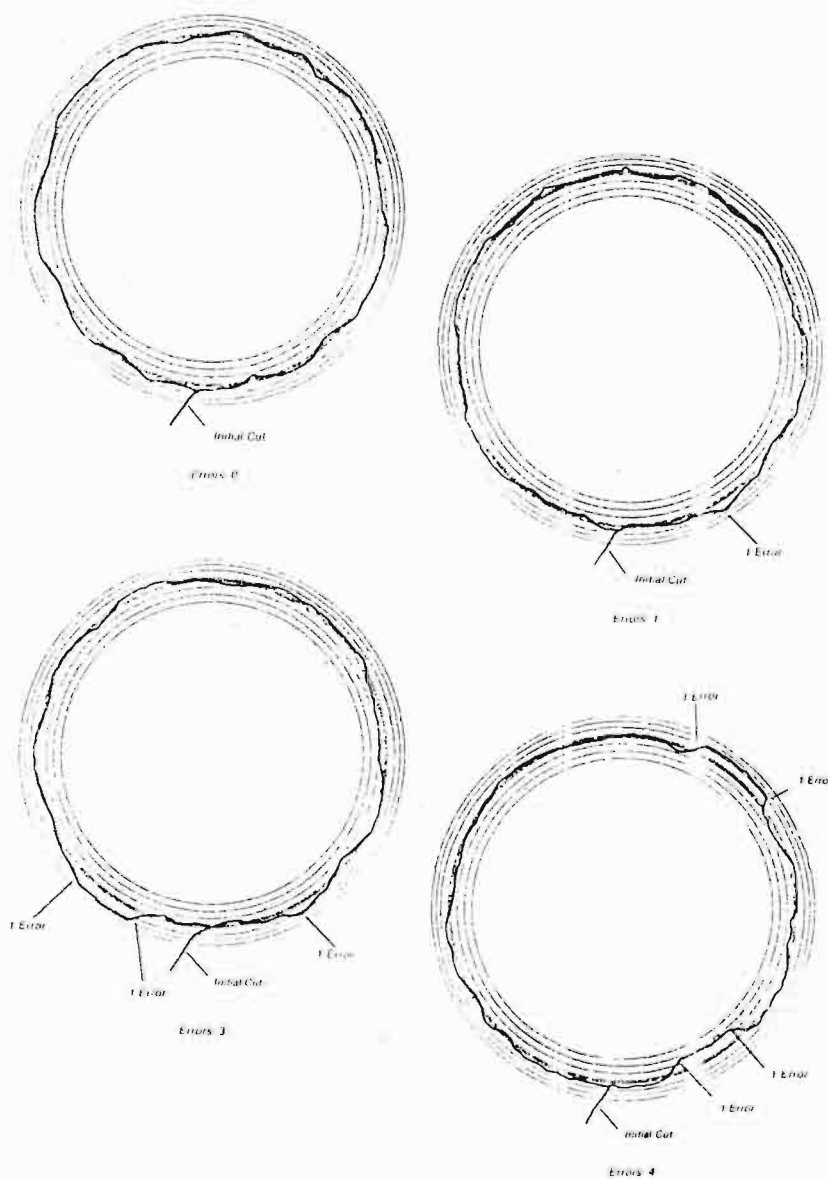


Figure 28: Examples of errors made in cutting out a circle with preferred hand (Subtest 7 - Item 1)

SUBTEST 7 / ITEM 2,3,4

Item 2 - Drawing a Line Through a Crooked Path with Preferred Hand.

Item 3 - Drawing a Line Through a Straight Path with Preferred Hand.

Item 4 - Drawing a Line Through a Curved Path with Preferred Hand.

For these three items, the subject uses the preferred hand to draw a pencil line through a path. The number of errors made is recorded.

Trials - 1 for each item.

Trials: 1 for each item

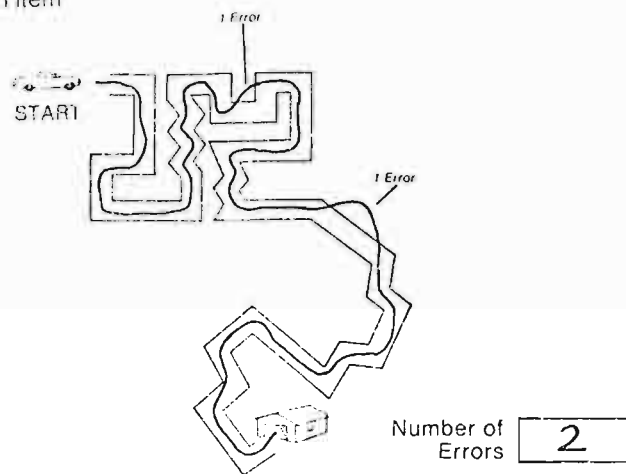


Figure 29: Examples of errors made in drawing a line through a crooked path with preferred hand (Subtest 7 - Item 2)

ADMINISTERING AND RECORDING

Clip the Student Booklet to the clipboard and have red pencils ready to use. While holding one corner of the clipboard, say "This is a road (point to path). Take the red pencil and draw a line from here (point to car) to the end of the road, here (point to garage). Stay inside the lines - try not to go off the road. Take as much time as you need. Ready, begin".

Allow as much time as necessary. Keep your hand on the clipboard and do not allow the subject to rotate the test page more than 45° while drawing.

Have the subject go on to the next item. Refer to the scoring directions below for these three items when the testing session has been completed.

In the Student Booklet, record the number of errors made, up to a maximum of seven for each item. An error is made each time the line goes outside the boundary lines. Count an additional error for each one-half inch (1.27cm) the line remains outside the boundary lines. Examples of errors are shown in Figure 29 for Item 2. Transfer the number of errors recorded in the Student Booklet to the Individual Record Form.

SUBTEST 7 / ITEM 5,6,7,8

Item 5 - Copying a Circle with Preferred Hand

Item 6 - Copying a Triangle with Preferred Hand

Item 7 - Copying a Horizontal Diamond with Preferred Hand

Item 8 - Copying Overlapping Pencils with Preferred Hand

For these four items, the subject uses the preferred hand to copy a geometric shape. The accuracy of each drawing is evaluated and scored.

Trials - 1 for each item.

ADMINISTERING AND RECORDING

Clip the Student Booklet to the clipboard and have black pencils ready to use. Say "Look at the (name shape) in this box. With your (right/left) hand make one just like it in the empty box below (point to box.) Take as much time as you need. Ready, begin".

Allow as much time as necessary for the subject to complete each drawing. Erasing is permitted. Keep your hand on the clipboard and do not allow the subject to rotate the test page more than 45° while drawing.

Have the subject go on to the next item. Refer to the scoring directions in Appendix A for these four items when the testing session has been completed. In the Student Booklet, record the number of points given for each drawing. Transfer this point score to the Individual Record Form.

SUBTEST 8 - UPPER-LIMB SPEED AND DEXTERITY

Subtest 8 has eight items that measure hand and finger dexterity, hand speed, and arm speed.

KIT EQUIPMENT - testing pad, 24 pennies, two small boxes, 50 shape cards, 20 wooden beads, shoelace, 20 wooden pegs, pegboard, Student Booklet, two red pencils, two black pencils

OTHER EQUIPMENT - table, two chairs, stopwatch, clipboard.

GENERAL DIRECTIONS

1. Administer this subtest with the subject seated across from you at a table.
2. To save time when testing older, more mature subjects, you may wish to give verbal directions for a task while you arrange the materials.
3. If the subject is finishing a task, such as stringing a bead, when time is called, give credit for that task.
4. If the subject misunderstands a task or stops performing, repeat the instructions and start over.

SUBTEST 8 / ITEM 1

Placing Pennies in a Box with Preferred Hand

With the preferred hand, the subject places pennies one at a time into an open box, as shown in Figure 30. The number of pennies placed into the box correctly in 15 seconds is recorded.

Trials - 1 practice, 1 recorded

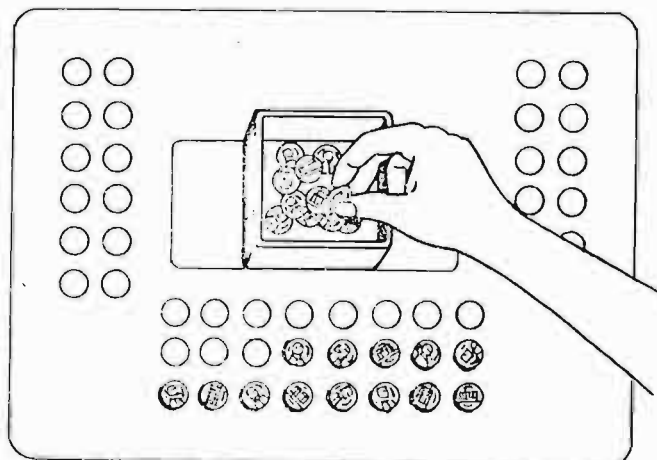


Figure 30: Placing pennies in a box with preferred hand (Subtest 8 - Item 1)

ADMINISTERING AND RECORDING

Place the testing pad in front of the subject. Arrange the 24 pennies and box on the testing pad, as shown in Figure 30. Say "When I say go, put the pennies into the box one at a time as fast as you can with your (right/left) hand. You do not have to pick up the pennies in any special order. Use only one hand and do not throw the pennies into the box (demonstrate). Put your other hand in your lap. Now you try it". As a practice trial, have the subject place five pennies into the box. The subject's hand should be over the box when releasing the penny. If the subject starts to throw the pennies into the box, remind her or him to hold hand over the box and to drop the penny into the box. Return the five pennies to their original positions on the testing pad. Say "Keep putting pennies into the box until I tell you to stop. Remember to use your (right/left) hand and put the pennies into the box one at a time as fast as you can. Ready, go!"

Begin timing when the subject touches a penny. Count the number of pennies placed in the box correctly. If the subject picks up more than one penny at a time, give credit for only one penny. Do not give credit if the subject throws pennies into the box after one warning. During the trial repeat instructions as necessary. If the subject changes hands, readminister the trial. After 15 seconds, tell the subject to stop.

On the Individual Record Form, record the number of pennies placed in the box correctly.

SUBTEST 8 - ITEM 2

Placing Pennies in Two Boxes with Both Hands

The subject simultaneously picks up a penny with each hand and places the pennies into separate boxes, as shown in Figure 31. The subject is given a maximum of 50 seconds to place seven pairs of pennies into the boxes correctly. The time taken to complete the task is recorded.

Trials - 1 practice, 1 recorded

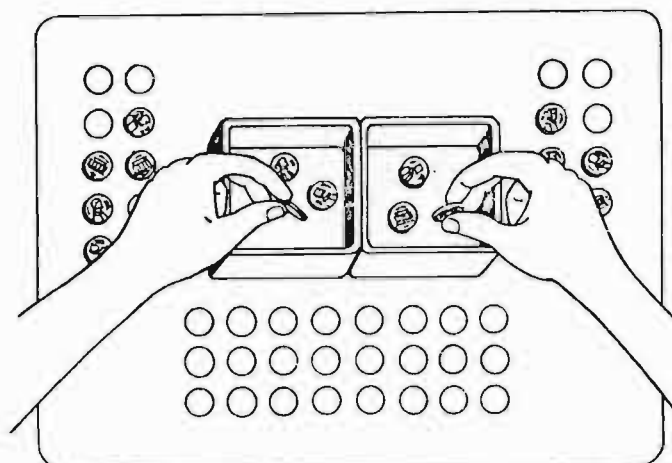


Figure 31: Placing pennies in two boxes with both hands (Subtest 8 - Item 2)

ADMINISTERING AND RECORDING

Say "When I say go, pick up one penny with each hand at the same time (demonstrate). Then put one penny into each box at the same time as fast as you can (demonstrate). You do not have to pick up the pennies in any special order. Now you try it". As a practice trial, have the subject place two pairs of pennies into the boxes. If necessary, remind the subject not to throw the pennies into the boxes. Then return the pennies to their original positions on the testing pad. Say "Keep putting pennies into the boxes both hands at the same time as fast as you can until I tell you to stop. Do not throw the pennies into the boxes. Ready, go!"

Begin timing when the subject touches a penny. Record a slash mark (/) in one of the boxes on the Individual Record Form for each properly placed pair of pennies. If the subject picks up more than one pair at a time, give credit for only one pair. Do not give credit for pennies thrown into the boxes after one warning or for pairs not put into the boxes simultaneously. After the subject has placed seven of the twelve pairs correctly, or after 50 seconds, tell the subject to stop.

On the Individual Record Form, record the time to the nearest second. Record a score of 50 seconds if the subject places fewer than seven pairs of pennies into the boxes correctly.

SUBTEST 8 / ITEM 3

Sorting Shape Cards with Preferred Hand

With the preferred hand, the subject sorts a mixed deck of red and blue cards into two piles, separating them by color. The number of cards correctly sorted in 15 seconds is recorded.

Trials - 1 practice, 1 recorded

ADMINISTERING AND RECORDING

Place one red card and one blue card on the testing pad in front of the subject. Shuffle the remaining cards. Say "When I say go, put all the red cards here (point to red card) and all the blue cards here (point to blue card). Use your (right/left) hand to sort the cards one at a time as fast as you can (demonstrate). Hold the cards in your other hand. Now you try it". As a practice trial, have the subject sort five cards. Then reshuffle the cards, leaving one red card and one blue card on the testing pad as sorting guides. Place the deck on the testing pad.

Then say "Keep sorting the cards with your (right/left) hand until I tell you to stop. Ready, go!"

Begin timing when the subject touches the cards. Count the number of cards the subject sorts correctly. If the subject sorts more than one card at a time, give credit for only one card. If the subject changes hands, readminister the trial. After 15 seconds tell the subject to stop.

On the Individual Record Form, record the number of cards sorted correctly; do not count the guide cards.

SUBTEST 8 / ITEM 4

Stringing Beads with Preferred Hand

With the preferred hand, the subject strings beads onto a shoelace. The number of beads placed correctly in 15 seconds is recorded.

Trials - 1 practice, 1 recorded.

ADMINISTERING AND RECORDING

Place the beads in random order on the testing pad in front of the subject. Say "When I say go, string the beads onto the shoelace as fast as you can with your (right/left) hand. Hold the shoelace in your other hand. Put

them on one at a time like this (demonstrate). You don't need to push them down to the end of the shoelace. Now you try it". As a practice trial, have the subject string five beads. Hold one end of the shoelace lightly, if necessary, to prevent tangling. Then return the beads to the testing pad. Say "Keep stringing beads one at a time as fast as you can until I tell you to stop. Ready, go!"

Begin timing when the subject touches a bead to the shoelace. If the subject changes hands, readminister the trial. After 15 seconds tell the subject to stop.

On the Individual Record Form, record the number of beads placed on the shoelace.

SUBTEST 8 / ITEM 5

Displacing Pegs with Preferred Hand

With the preferred hand, the subject displaces pegs on the pegboard, moving each peg to the hole directly above it, as shown in Figure 32. The number of pegs displaced correctly in 15 seconds is recorded.

Trials - 1 practice, 1 recorded.

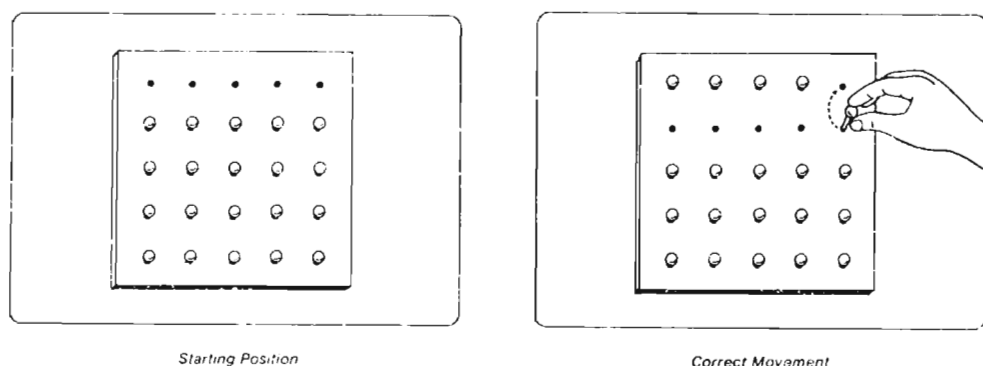


Figure 32: Displacing pegs with preferred hand (Subtest 8 - Item 5)

ADMINISTERING AND RECORDING

Set up the pegboard, as shown in Figure 32. Place the pegboard on the testing pad in front of the subject and hold the board stationary. Say "When I say go, move each peg to the hole just above it with your

(right/left) hand as fast as you can (demonstrate). Put your other hand in your lap. If you drop a peg, don't stop to pick it up. Now you try it." As a practice trial, have the subject displace the pegs in the top row. The pegs may be moved up in any order as long as each peg is placed in the hole directly above it. Then return the pegs to their original positions. Say "When you finish one row, go on to the next. Keep moving pegs until I tell you to stop. Remember, use your (right/left) hand and move each peg to the hole just above it as fast as you can. Keep your other hand in your lap. Ready, go!"

Begin timing as soon as the subject touches a peg. If the subject changes hands, readminister the trial. After 15 seconds, tell the subject to stop.

On the Individual Record Form, record the number of pegs displaced correctly.

SUBTEST 8 / ITEM 6

Drawing Vertical Lines with Preferred Hand

The subject draws straight, vertical lines between pairs of horizontal lines. The number of vertical lines drawn correctly in 15 seconds is recorded.

Trials - 1 practice, 1 recorded.

ADMINISTERING AND RECORDING

Clip the Student Booklet to the clipboard and have red pencils ready to use. Say "When I say go, take the red pencil in your (right/left) hand and draw as many straight lines as you can between these heavy lines (point to lines). Touch the top line and the bottom line, but do not let your lines go across either line (demonstrate by drawing three lines in the practice area). Now you try it." As a practice trial, have the subject draw five vertical lines in the practice area. Then say "Now move down to the next set of heavy lines (point to next two horizontal lines). Keep drawing lines as fast as you can until I tell you to stop. Touch the top line and the bottom line but don't go above the top line or below the bottom line. When you finish one row, draw lines between the next set of heavy lines. Ready, go!"

Begin timing when the subject touches the pencil to the paper. The subject may place the nonpreferred hand on the clipboard. After 15 seconds, tell the subject to stop.

In the Student Booklet, record the number of vertical lines drawn correctly. A line is incorrect if:

- (a) it fails to touch both parallel lines
- (b) it crosses one or both parallel lines.

Examples of errors are shown in Figure 33. Transfer the number of correct lines to the Individual Record Form.

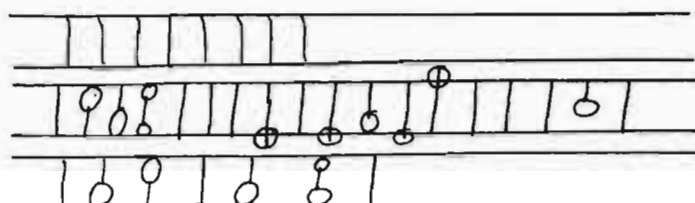


Figure 33: Examples of errors made in drawing vertical lines with preferred hand (Subtest 8 - Item 6)

SUBTEST 8 / ITEM 7

Making Dots in Circles with Preferred Hand

The subject makes a pencil dot inside each of a series of circles. The number of circles dotted correctly in 15 seconds is recorded.

Trials - 1 practice, 1 recorded.

ADMINISTERING AND RECORDING

Clip the Student Booklet to the clipboard and have red pencils ready to use. Say "When I say go, take the red pencil in your (right/left) hand and make one dot in each circle as fast as you can." Demonstrate by tapping with the eraser end of the pencil in a left-to-right progression in the practice circles. Then say "Now you try it here" (point to practice

circles). Have the subject make one dot in each of the practice circles. It is not necessary for the subject to make dots from left to right. Then say "Make one dot in each of these circles (point to circles below line). Put a dot in as many circles as you can as fast as you can. Ready, go!"

Begin timing when the subject touches the pencil to the paper. After 15 seconds, tell the subject to stop.

In the Student Booklet, record the number of circles dotted correctly. Do not count circles without dots or circles with two dots. Transfer the number to the Individual Record Form.

SUBTEST 8 / ITEM 8

Making Dots with Preferred Hand

The subject makes pencil dots on a blank page. The number of separate dots made in 15 seconds is recorded.

Trials - 1 practice, 1 recorded

ADMINISTERING AND RECORDING

Clip the Student Booklet to the clipboard and have black pencils ready to use. Say "When I say go, take the pencil in your (right/left) hand and make dots on the paper as fast as you can. Try to make the dots without moving your arm and try not to make more than one dot in the same place." Demonstrate by tapping with the eraser end of the pencil. Then say "Now you try it here" (point to practice box). Have the subject make five dots in the practice box. Say "Make dots here (indicate rest of page). Keep making dots as fast as you can until I tell you to stop. Try to keep your arm still. Ready, go!"

Begin timing when the subject touches the pencil to the paper. After 15 seconds, tell the subject to stop.

In the Student Booklet, record the number of separate dots. With a coloured pencil, draw a small circle around each dot to aid in counting. Transfer the number to the Individual Record Form.

3.2.2 Procedure followed in the Administration of the Test

The pre-test (T_1) of the 48 Educable Mentally Retarded children, 40 boys and 8 girls, began on 21 January and ended on 30 January, 1981.

The post-test (T_2) of the 36 Educable Mentally retarded children, 28 boys and 8 girls, began on 22 June and ended on 3 July, 1981. Testing went on throughout the hours of the school day from:-

- a. 8h00 - 14h00 for School A
- b. 7h30 - 13h15 for School B
- c. 8h00 - 13h45 for Schools C and D.

The test was administered by the researcher, together with 2 testing assistants. The assistants helped only in the pre-test (T_1). The directions as prescribed on the test were followed, without making any changes or modifications.

3.2.3 Testing Assistants

The researcher acted as the principal investigator. Her duties included the training of the 2 testing assistants in the procedures to be used for the test. The assistants only helped in the pre-test (T_1). The principal investigator was able to accomplish the post-test (T_2) alone because of the smaller number of children that had to be tested at that stage. The assistants were trained on 2 days prior to the test. Two children of standard ability, a girl, 8 years old and a boy, 11 years old acted as subjects for the tests, in the training of the assistants.

3.3 THE PROGRAMMES

3.3.1 Administration of the Programmes

A special physical education programme was given to the experimental group only. The researcher conducted this programme with each of the 3 classes in the group, two times a week on Mondays and Thursdays for 30 minutes each class period. Also, the combined group of experimental and control children were given physical education activities by the class teachers, 2 times a week.

Thus, the experimental group received physical education instruction 4 times a week and the control group received physical education instruction 2 times a week.

These programmes commenced on 2 February and ended on 19 June 1981. They covered a period of 19 weeks excluding the Easter vacation from 11 April to 20 April, 1981.

3.3.2 The Special Physical Education Programme for Educable Mentally Retarded Children - Experimental Group Only

The activities selected for the programme were arranged according to the objectives of the Syllabus for Physical Education as follows:-

GENERAL PROGRAMME

I. MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT

- A) Movements without the use of objects (Objective approach)
- B) Movements without the use of objects (Subjective approach)
- C) Movements with the use of objects
- D) Handling of objects
- E) Combinations of body movements and handling of objects

II. EMOTIONAL AND SOCIAL DEVELOPMENT

- A) Small Games
- B) Dances and combinations of expressive movement
- C) Competitions

A description of the activities used is given in Appendix A pp. 133-189.

3.3.3 The Physical Education Programme for Educable Mentally Retarded Children - Combined Groups

The General Programme of the Syllabus for Physical Education was used. This is a programme for normal children and is not adapted to suit the needs and abilities of the retarded child. Supplementary activities, also arranged according to the objectives of the Syllabus, were added.

A description of the supplementary activities used is given in Appendix B pp. 190-212.

3.4 STATISTICAL METHOD

The \bar{t} -test of significance was used in order to determine the difference in the mean scores of the experimental and control groups from pre-test (T_1) to post-test (T_2). (3 : 254-255)

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CHAPTER 4

BASIS FOR CONSTRUCTION OF THE SPECIAL PHYSICAL EDUCATION PROGRAMME
FOR EDUCABLE MENTALLY RETARDED CHILDREN4.1 PROGRAMME AIM

This is a programme for special education teachers of educable mentally retarded children, aged 8-15. It is designed to develop an understanding, appreciation and knowledge of the contribution of physical education to the growth, development and needs of educable mentally retarded children.

4.2 OBJECTIVES

To consider the physical characteristics of educable mentally retarded children. To examine and teach a physical education programme developed for educable mentally retarded children. To present techniques, methods and procedures for teaching physical education activities to educable mentally retarded children using the classrooms and playgrounds.

4.3 CONTENT4.3.1. Relationship of Special Education to Physical
Education

"When a programme of physical activities is conceived in accord with today's best knowledge and administered by persons aware of the many sided potentialities of these activities and when both the planning and the execution of the programme are aimed to serve the physical, mental and social well-being of the participant, then the effort may be called physical education." (8 : 72)

Physical education can thus be described as that branch of education which endeavours to comprehend man in movement in specific and properly organised ways, to influence and develop total man for more abundant living.

Physical education for educable mentally retarded children can be seen as one phase of the broad special education curriculum. Physical education can be adapted to suit the needs and abilities of exceptional children in special classes. Educable mentally retarded children may be handicapped as far as academic knowledge is concerned but they may be able to learn physical skills. They must be given the opportunity to learn to the best of their mental and physical capacities. It is the duty of the special educator to see that the methods and procedures used in both the academic and physical phases of education are presented to the educable mentally retarded children.

4.3.2 Overview of the Differences and Likenesses between Normal and Educable Mentally Retarded Children

The physical growth and maturation of the educable mentally retarded child follows closely that of the normal child. It has been observed, however, that as a group they are to a certain degree inferior in size and weight to normal children. It is hard to determine whether this inferiority is due to mental retardation or to the conditions of the environment. One must keep in mind, however, the fact that physiologically educable mentally retarded children are basically like normal children. (6:206)

The educable mentally retarded child is usually slightly inferior to the normal child where motor skills are concerned. There are many reasons for this; insufficient practice of these motor skills at home, failure of the school to develop these motor skills because of inadequate physical education programmes for educable mentally retarded children, and a lack of knowledge on the part of the special education teacher for teaching these motor skills to educable mentally retarded children.

The educable mentally retarded child is usually most different from the normal child in his intellectual development. His rate of learning depends on his mental development. Special classes allow him to be with children of his own intellectual level and thus usually foster a better learning climate.

The normal child finds social adjustment much easier than does the educable youngster. The retarded child's play patterns are related to his mental age rather than to his chronological age. He must be in an environment where he can succeed and be praised. The special class seems to offer the best opportunity.

4.3.3 Characteristics and Needs of "Normal" Children in reference to Physical Education

Since the age limits of the educable mentally retarded children in this study are from 8-14½, all of the characteristics noted for both normal and educable mentally retarded children fall within this range. It should be noted that each child grows and develops in his own individual pattern. Therefore, each child's development should be considered in terms of his or her own growth rate.

a. PHYSICAL CHARACTERISTICS
BOYS AND GIRLS - AGES 8-12

CHARACTERISTICS

Growth is going from steady to generally fast. Height and weight tend to increase faster in girls than boys. Muscular strength is not equal to growth. Some secondary characteristics begin to appear and girls may begin menstruation by ages 11 or 12. Each child has his own pattern of growth. Overweight may be a problem. (5:13)

NEEDS IN REFERENCE TO
PHYSICAL EDUCATION

There is a need to recognise and stress individual differences. There may be poor posture habits which should be attended to. Instruction should be in basic body mechanics and in relaxation. Need for vigorous activities of all types : stunts, apparatus, team games, dances, and so forth. (5:13)

b. PHYSICAL CHARACTERISTICS
BOYS - AGES 13-15

CHARACTERISTICS

Growth is rapid since last few years. Co-ordination shows very little improvement during rapid growth period. Muscular growth is very rapid. Boys are more muscular than the girls. (4 : 24)

NEEDS IN REFERENCE TO
PHYSICAL EDUCATION

Need to know and understand physical needs and be assured that these changes are normal. Need instruction in body mechanics and skills through a daily well-rounded activity programme. Teacher should be aware of fatigue and adjust the activity to meet the physical ability and maturity of the boy. Some strenuous activity is

needed for muscular growth. (4 : 24)

c.

PHYSICAL CHARACTERISTICSGIRLS - AGES 13-15CHARACTERISTICS

Increase in growth. Girls are usually ahead of boys in height and weight development. Metabolic rate tends to be slower than that of boys. But strength is increasing. (4:25-26)

NEEDS IN REFERENCE TOPHYSICAL EDUCATION

There is need for instructions in body mechanics and fitness skills through a varied activity programme. Teachers should be on the alert for signs of fatigue. Bulk strength is not necessary for girls but they need adequate physical fitness to participate with success in the programme. Grace and co-ordination may be developed through dance and specific team games. (4:25-26)

d.

MOTOR DEVELOPMENTBOYS AND GIRLS - AGES 8-12CHARACTERISTICS

Fast strength increase, especially in boys. At approximately 11, co-ordination is improved and skills are automatic. Locomotion is much more steady and there is more grace and skill. Girls and boys may exhibit equal skill in some activities. This is a golden age of skill development.

(8:45)

NEEDS IN REFERENCE TOPHYSICAL EDUCATION

Provide more skill instruction and longer activity periods. Provide an outlet for group and individual emotions and tensions through physical activities. Offer instruction in body mechanics, posture and movement in daily life. Avoid highly competitive sports. Offer activities on balance and rhythm. Provide individual instruction to help pupils in skill development. Stress the need to belong by offering team and squad games and relays. Offer tumbling, swimming and dance for girls and activities to stress strength, speed, and endurance for boys by using balls of various sizes.

(8:46)

e.

MOTOR DEVELOPMENTGIRLS - AGES 13-15CHARACTERISTICSNEEDS IN REFERENCE TOPHYSICAL EDUCATION

At the start of this period, girls may be more skilled than boys. Later boys improve rapidly in motor skills; some girls improve slightly; others fail to improve at all. This decline in motor performance is due to structural development and muscular development. Lack of interest may also be present. There is interest in co-educational physical activity programmes. Boys at this level usually show little interest in such a programme. (4:28)

Offer a varied programme of team and group activities. Instructions should be given in skill drills and fundamentals in order to play all positions in different sports. Provide dance activities. Pay attention to individual differences and the need to equate teams and groups. Provide progression for the teaching of activities as well as evaluation at the end of the unit. (4:28)

4.3.4 Characteristics and Needs of Educable Mentally Retarded Children in reference to Physical Education

a.

PHYSICAL CHARACTERISTICS

BOYS AND GIRLS - AGES 8-12

CHARACTERISTICS

Most educable mentally retarded children compare with normal children in weight and height. Some are physically inferior to normal children because of organic reasons for retardation such as brain damage. Some have more handicaps of vision and hearing than normal children and come from homes that are inferior in health standards and in sanitation. (3:109-111)
Some have low vitality functions of sense receptors and preceptors are often poor in these children.
Some of these retarded children are awkward, weak and have little endurance.
(7:30-31, 50-51)

NEEDS IN REFERENCE TO

PHYSICAL EDUCATION

The teacher should recognize individual needs, interests, and abilities. Posture instruction should be stressed. Movement education should be provided. Offer in the programme some methods and procedures in body mechanics. Programme should be varied to include activities strenuous enough to strengthen the muscles. Teacher should know and understand bodily growth and development. Rhythmical activities and dance activities appeal to the mentally retarded. The programme should fit the needs, interests and abilities of both girls and boys. Provide progression for teaching the activities.

b.

MOTOR DEVELOPMENTBOYS AND GIRLS - AGES 8-15CHARACTERISTICS

Some educable mentally retarded children have poor body mechanics. Malpass states that mentally retarded children do not have the desire to practice motor skills as much as do normal children. Many retardates receive a good deal of attention from adults, but the attention they receive is often inappropriate for their motor development. (2:609)

Cruickshank and Johnson cite Sloan's work in comparing the motor skills of educable retarded children and normal children in which Sloan concluded that the motor ability of the retardate is poorer than that of the normal child. (1: 202)

Kirk claims that in motor coordination the educable retardate is approximately the same as the normal child. (3:109)

NEEDS IN REFERENCE TOPHYSICAL EDUCATION

Teachers should recognize individual needs, interests, and abilities. Need to emphasize both fine and gross motor skill instruction in the programme. Movement education and body mechanics should be provided.

Rhythmics and dance are appealing. Some students will need individualized instruction in skills. Various types of ball games are very good in the programme. Relays and gymnastic activities will be valuable for most students. Swimming is welcome in the instructional programme. Remember to provide activities for development in strength, flexibility and stamina. The programme should fit the needs, interests, and abilities of both girls and boys. Provide progression for teaching the activities.

4.4 TEACHER OBJECTIVES FOR THE PUPILS

- a. To develop fundamental motor skills such as running, jumping, dodging climbing, hopping, skipping, throwing, catching and others used in physical activities.
- b. To understand the growth and development patterns of children.
- c. To develop social skills and abilities which are necessary for group, school, and community living.
- d. To develop a friendly and social attitude towards others, to learn to accept and share, to take part in games or contests, to take turns, to share supplies and equipment.
- e. To gain a happy and enjoyable experience from participation in physical education.
- f. To experience a feeling of accomplishment and achievement from a physical education programme.
- g. To improve concentration and attention span.
- h. To gain a deeper interest in play and physical activities to use in leisure time.

4.5 SUGGESTIONS FOR TEACHING PHYSICAL EDUCATION TO EDUCABLE MENTALLY RETARDED CHILDREN

- a. Mental age and physical growth and maturity rather than chronological age should be factors used in making the choice of activities and the rate of progression.

- b. Keep the directions and the rules simple. Make and use only rules essential to the playing of the activity.
- c. As the attention span of these children is rather short, change the activity frequently, preferably at the high point of interest. Follow active games with quiet games in order to quiet the emotions.
- d. Classes should be carefully organised and well supervised.
- e. Learn from the pupils; adjust the teaching techniques to those methods which will get the desired results.
Retarded pupils like to mimic and imitate. Demonstration and teacher participation help these students and are valuable teaching strategies.
- f. Praise and encouragement are necessary in order to establish a learning situation which will achieve results. Introduce new activities early in the physical education period because retarded children fatigue easily. The teacher should be as patient as possible at all times when teaching activities.
- g. Review and repetition are more necessary with the retarded than with the regular class.
- h. Evaluation of activities and of methods of teaching them should be continually examined and modified as needed.
- i. Motivation and stimulation of the students should be a continuous process.

- j. Safety should be stressed in every activity.
- k. Make the activities fun. In most cases children play because it is fun. Communicate the feeling of pleasure.
- l. Suggest the use of the physical education activities during leisure hours.
- m. Initiative, ingenuity, and resourcefulness on the part of the teacher are valuable in the conduct of a good physical education programme. (7 : 37-38)

4.6 ACTIVITIES IN THE SPECIAL PHYSICAL EDUCATION PROGRAMME

The activities for the programme were arranged as follows:-

GENERAL PROGRAMME

I. MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT

- A) Movements without the use of objects (Objective approach)
- B) Movements without the use of objects (Subjective approach)
- C) Movements with the use of objects
- D) Handling of objects
- E) Combinations of body movements and handling of objects.

II EMOTIONAL AND SOCIAL DEVELOPMENT

- A) Small Games
- B) Dances and combinations of expressive movement
- C) Competitions

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CHAPTER 5

RESULTS OF STUDY5.1 PRESENTATION ANALYSIS AND DISCUSSION OF RESULTS

The Bruininks-Oseretsky Test, a test of motor proficiency, was administered to the total group of children. Then on the basis of sex and the scores obtained from the test the children were randomly assigned to either Group A (Experimental Group) or Group B (Control Group). The means of the 2 groups were as follows: Group A 27,8; Group B 27,6. The similarities of the means on the Bruininks-Oseretsky Test indicates statistically that the children were divided into the 2 groups in such a manner that each group was evenly matched and that there was little or no difference in their motor ability.

5.1.1 GROUP A: Administered the Special Physical Education Programme for Educable Mentally Retarded Children

Table 1 (page 112) provides a summary of the data for the motor ability test (Bruininks-Oseretsky Test of Motor Proficiency) from pre-test to post-test for the experimental subjects.

(a) Vertical sets of numbers indicate the actual number of children who improved, remained the same, or regressed in the group.

(b) % indicates the actual percentage of children who improved remained the same and regressed in the group.

TABLE I

GROUP A: Administered the Special Physical Education Programme
for Educable Mentally Retarded Children

Percentage Change of Battery Items

TEST ITEM	STATUS	ACTUAL NUMBERS (a)	% (b)
Running Speed and Agility	Improved	13	72
	Same	2	11
	Regressed	3	17
Balance	Improved	16	89
	Same	0	0
	Regressed	2	11
Bilateral Coordination	Improved	18	100
	Same	0	0
	Regressed	0	0
Strength	Improved	18	100
	Same	0	0
	Regressed	0	0
Upper-Limb Coordination	Improved	16	88
	Same	1	6
	Regressed	1	6
Response Speed	Improved	17	94
	Same	1	6
	Regressed	0	0
Visual-Motor Control	Improved	15	83
	Same	2	11
	Regressed	1	6
Upper-Limb Speed and Dexterity	Improved	18	100
	Same	0	0
	Regressed	0	0

From the table it can be seen that there was a 100% improvement in 3 of the 8 test items, viz. Bilateral Coordination, Strength and Upper-Limb Speed and Dexterity. A significant improvement was also noted for all the other test items viz. Balance 89%, Upper-Limb Coordination 88%, and Response Speed 94%. The item that improved the least was the one on Running Speed and Agility. 91% of the pupils showed an improvement in the Motor Ability test.

5.1.2 GROUP B: Administered the Physical Education Programme

Table II (page 114) provides a summary of the data for the Bruininks-Oseretsky Test of Motor Proficiency from pre-test to post-test for the Control Subjects.

- (a) Vertical sets of numbers indicate the actual number of children who improved, remained the same or regressed in the group as noted in the status column.
- (b) % indicates the actual percentage of students who improved remained the same or regressed in each class.

From Table II it can be seen that there was a good improvement in 5 of the 8 test items, viz. Running Speed and Agility, Bilateral Coordination, Strength, Upper-Limb Co-ordination and Upper Limb Speed and Dexterity. In Balance and Response Speed there was only a 44% improvement. Least improvement was shown in the test item on Visual Motor Control. A comparison of Tables I (page 112) and II (page 114), show that for 7 of the 8 test items the Experimental Group showed a greater percentage improvement in performance over the

TABLE II

GROUP B: Administered the Physical Education Programme

Percentage Change of Battery Items

TEST ITEM	STATUS	ACTUAL NUMBERS (a)	% (b)
Running Speed and Agility	Improved	14	78
	Same	1	6
	Regressed	3	16
Balance	Improved	8	44
	Same	6	33
	Regressed	4	23
Bilateral Coordination	Improved	15	83
	Same	0	0
	Regressed	3	17
Strength	Improved	13	72
	Same	2	11
	Regressed	3	17
Upper-Limb Coordination	Improved	14	78
	Same	2	11
	Regressed	2	12
Response Speed	Improved	8	44
	Same	2	11
	Regressed	8	44
Visual Motor Control	Improved	7	39
	Same	4	22
	Regressed	7	39
Upper Limb Speed and Dexterity	Improved	16	88
	Same	1	6
	Regressed	1	6

Control Group. It was only in the test item on Running Speed and Agility that the Control Group showed a higher percentage improvement in performance (78%) over the Experimental Group (72%);

5.1.3 Percentage Changes for Both Groups

Table III (below) gives a summary of the percentage of change of Group A and Group B for the motor ability test.

TABLE III
Percentage Change for Both Groups

STATUS	GROUP A (a)	% (b)	GROUP B (a)	% (b)
Improved	131	91	95	66
Same	6	4	18	12
Regressed	7	5	31	22

- (a) Vertical sets of numbers indicate the actual test items in which subjects improved, remained the same or regressed in each group for the total battery of 144 tests as noted in the status column.
- (b) % indicates the actual percentage of students who improved remained the same or regressed in each group for the total battery of tests.

Comparing the percentage of improvement from pre-test to post-test performance indicates that Group A (91%) had a greater percentage of improvement as compared to Group B (66%). A difference of 25% can be observed in favour of the Experimental Group.

5.1.4 Achievement Level of Performance of Battery Items

Within the Two Groups.

The achievement level of performance of battery items within each of Group A and Group B was treated by the \bar{t} test of Significance. Table IV provides a summary of the data for the battery items.

TABLE IV
Performance of Battery Items Within Groups -
 \bar{t} test of Significance

TEST ITEM	TEST	MEANS GROUP A	\bar{t} VALUE	MEANS GROUP B	\bar{t} VALUE
Running Speed and Agility	Pre	10,78	2,32*	9,9	2,35*
	Post	14,61		13,9	
Balance	Pre	11,33	3,74* ₁	10,6	0,58
	Post	18,55		11,9	
Bilateral Coordination	Pre	5,61	7,45* ₁	4,4	2,5*
	Post	13,94		6,9	
Strength	Pre	7,11	6,22* ₁	8,0	2,39*
	Post	16,06		10,8	
Upper-Limb Coordination	Pre	10,50	4,85* ₁	8,8	2,28*
	Post	18,80		12,9	
Response Speed	Pre	8,39	4,99* ₁	7,7	0,38
	Post	15,33		8,2	
Visual Motor Control	Pre	8,44	3,8* ₁	9,7	0,26
	Post	16,22		10,4	
Upper-Limb Speed and Dexterity	Pre	2,94	10,23* ₁	3,4	2,06*
	Post	17,06		8,5	
Overall	Pre	27,80	7,93* ₁	27,6	2,13*
	Post	55,30		34,6	

* Significant improvement at 5% level of confidence.

*₁ Significant improvement at 1% level of confidence.

The experimental group showed a significant improvement in post-test over the pre-test performance in all 8 test items at the 5% level of confidence. Only the post-test performance result of test item on Running Speed and agility was not significant at the 1% level of confidence.

The control group showed a significant improvement in post-test over the pre-test performance in 5 of the 8 test items at the 5% level of confidence, viz. Running Speed and Agility, Bilateral coordination, Strength, Upper-limb coordination and Upper-limb Speed and Dexterity. None of the 8 test items was significant at the 1% level of confidence.

There was no significant improvement from the pre-test to the post-test performance in 3 test items, viz. Balance, Response Speed and Visual Motor Control.

The overall results show that there was a significant improvement in the performance of the Experimental group from the pre-test to the post-test. Improvement was significant both at the 5% and 1% levels of confidence.

There was also an improvement in the performance of the Control group from the pre-test to the post-test, this improvement being significant only at the 5% level of confidence.

5.1.5 Difference in Achievement Level Performance of Battery Items Between Group A and Group B

The difference in achievement level of performance of battery items between the 2 groups was treated by the \bar{t} test of significance. Table V (page 118) provides a summary of the data for the motor ability test.

TABLE V

Difference in Performance of Battery Items Between Groups -
 \bar{t} test of Significance

TEST ITEM	\bar{t} VALUE
Running Speed and Agility	0,28
Balance	3,52* ₁
Bilateral Coordination	6,12* ₁
Strength	-2,04*
Upper-Limb Coordination	3,55* ₁
Response Speed	5,84* ₁
Visual Motor Control	2,54*
Upper-Limb Speed and Dexterity	6,25* ₁
Overall	5,35* ₁

* Significant difference at the 5% level of confidence.

*₁ Significant difference at the 1% level of confidence.

From the summary it can be observed that there was no significant difference in the post-test performance of the Experimental and Control groups for the test item on Running Speed and Agility.

A significant difference in performance was shown for the remaining 7 of the 8 test items at the 5% level of confidence. Five of the 8 test items were also significant at the 1% level of confidence viz. Balance, Bilateral coordination, Upper-limb coordination, Response Speed and Upper-Limb Speed and Dexterity.

The overall results show that there was a significant difference in performance between the Experimental and Control groups in the post-test. This difference was significant at both the 5% and 1% levels of confidence.

It becomes evident from a study of these results that a well organised motor activity programme made impressive improvements in the test items of the Bruininks-Oseretsky Test of Motor Proficiency.

CHAPTER 6

SUMMARY AND CONCLUSION6.1 SUMMARY

The study encompassed the development and evaluation of a motor activity programme for educable mentally retarded children, ages 8 to 14,5. A special physical education programme was developed and taught by the researcher. The programme was evaluated by comparing the results of the scores the children achieved in motor ability with the scores of children who were not given the special programme.

There were 2 groups in the study:-

Group A : Administered the Special Physical Education programme. They also joined Group B for the General Programme.

Group B : Administered the General Programme of the syllabus of the Department of Internal Affairs Division of Education - with some supplementary activities.

The children who participated in the study were evaluated by the Bruininks-Oseretsky Test of Motor Proficiency. The test was administered preceding and following the completion of the physical education programmes assigned to the 2 groups in the study.

The population for the study consisted of 36 educable mentally retarded children, ages 8 - 14,5, drawn from 4 different schools. Upon completion of the pre-test, the physical education programme, and post-tests of the 36 children, the \bar{t} test of significance was used to determine whether there were any significant differences between the percentages of improvement of the 2 groups. Significance was set at the 5% level of confidence.

6.2 FINDINGS

A significant difference was found in favour of Group A (91%) over Group B (66%). Group A showed significant improvement in all eight events of the post-test over the pre-test performances : Running speed and Agility, Balance, Bilateral Coordination, Strength, Upper-Limb coordination, Response Speed, Visual-Motor control and Upper-limb speed and Dexterity.

Group B showed a significant improvement in 5 events of the post-test over the pre-test performance : Running speed and agility, Bilateral coordination Strength Upper-limb coordination and Upper-limb Speed and Dexterity.

There was significant difference in the post-test performance of Group's A and B for seven of the eight test items: Balance, Bilateral coordination, Strength, Upper-limb coordination, Response speed, Visual motor control, and Upper-limb speed and dexterity.

The overall results show that there was a significant improvement in the performance of the Experimental group from the pre-test to

post-test. The performance change from pre to post test was also significant for the control subjects but it was not as dramatic as it was for the Experimental subjects.

There was also a significant improvement in the performance of the experimental group over the control group from pre-test to post-test.

6.3 CONCLUSION

The results of this study indicated that a special physical education programme would be beneficial in the teaching of educable mentally retarded children.

Physical education teachers should probably have a course in mental retardation so that they may learn how to work with and understand educable mentally retarded children.

A physical education programme which provides a developmental approach, a progressive sequence of diversified activities and specific instruction focussed on teaching physical education has been shown to result in enjoyment, learning and success for educable mentally retarded children. Such a physical education programme which is adapted to the needs, interests and abilities of educable mentally retarded children should be a part of the school programme.

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APPENDIX A

1. THE SPECIAL PHYSICAL EDUCATION PROGRAMME FOR EDUCABLE
MENTALLY RETARDED CHILDREN

The aim of Physical Education of the Syllabus for Physical Education serves as the basis for the development of this programme of activities.

What is this aim of Physical Education?

Stated broadly, it is seen as the attempt to contribute towards the development of a mature, harmoniously developed personality, to enable an individual to make a positive contribution to society.

The activities of the programme have been arranged according to the general and specific objectives of this aim, in accordance with the General Programme of the Syllabus.

GENERAL PROGRAMME

I. MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT

A) MOVEMENTS WITHOUT THE USE OF OBJECTS (OBJECTIVE APPROACH)

1. Locomotor movement, maintaining contact

a. Without turning (translatory movement)

Duck Waddling

Crouch with hands on knees, waddle about freely like a duck. (15 : 57)

Catterpillar Walking

From front lying support take short steps towards hands, keeping the knees straight, then move hands forwards alternately to starting position. (15 : 58)

Caged Tiger

On all fours, walking to and fro, a few paces up and down the cage, making quick angry turns each time. (15 : 59)

Wicket Walk

Bend down and put hands flat on the ground and as near as possible to the toes. Progress forwards by moving the hand and foot of the same side. Keep the legs straight throughout. (16:115)

Crab Walk

With the back facing the ground, start with the hands and feet on the ground. Walk forward by lifting the left hand and right leg up and forward. Walk backward repeating the same action. (21:49)

Wheelbarrow

One partner lies on the floor, spreads his legs, and extends his arms. The other partner stands between the extended legs and grasps his partner's lower legs. The lead partner takes short steps with his hands while the other player follows with short walking steps. (21 : 52)

Line Walking

Use a line on the floor. Children walk forward and backward on the line as follows:

- a. Regular steps
- b. Follow steps - the front foot moves forward and the back foot moves up. One foot always leads.
- c. Heel and toe.

Coffee Grinder

Put one hand on the floor, and extend the body with that side to the floor in a side-leaning position. The child walks around his or her hand, making a complete circle while keeping his or her body straight. The stunt should be done slowly with controlled movements. The straight body alignment should remain constant throughout the complete circle movement. (18 : 108)

Chinese Boxing

Partners stand facing each other grasping the opposite right wrist with the left hand. Each tries to touch the others hair with his open right hand. Change hands. (16 : 96)

- b. With turns (rotation)

Wet Dog

Front kneeling. Wriggle and shake around trunk as much as possible before rolling to and fro on the floor. (15 : 59)

Turn the Turtle

One player spreadeagles himself face downwards on the floor. Gripping him by the arm and leg of one side, his partner tries to turn him over. (16 : 114)

Rolling Log

Lie on back with arms stretched overhead, Roll sideways the length of the mat. Repeat in the opposite direction. To roll in a straight line, keep the feet slightly apart. (5 : 323)

Forward Roll

Crouch, hands on the ground, shoulder width apart, with the fingers pointing forward. Tuck the head well under with the chin on the chest at the same time stretching the knees so that the hips come well over the head. Bend the arms to allow the back of the neck and shoulders to touch the ground then a little push from the feet should cause the body to roll forward. The knees are well drawn up throughout the movement.

NOTE: The head must be well tucked in before the roll is made. Support is given from the side, one hand on the back of the head, the other hand behind the thigh. A slight pressure is all that is required to start the movement. (17 : 265)

Variations:

- i. Forward Roll to Standing - As above but the child should initiate the roll more forcefully. The additional thrust provides the momentum required to continue the roll to the standing position.
- ii Forward Roll from Standing - Start from a standing position. Keep legs straight as hands are being placed on the mat. Roll keeping the legs straight. Bend legs to stand as the weight leaves the shoulders.
- iii Forward Roll - Straddle - As for variation 2, except start with the feet in a straddle position.

Back Rocker

Begin in a crouched position, knees together and hands resting lightly on the floor. Roll backward, securing momentum by bringing the knees to the chest and clasping them with the arms. Roll back and forth rhythmically. On the backward movement, the roll should go well back on the neck and head. Try to roll forward to original position. Where children have difficulty in rolling back to original position, have them cross the legs and roll to a crossed-leg standing position. (5 :324)

Backward Curl

Begin in a sitting position, with the knees drawn up to the chest and the chin tucked down. The arms are placed out to the sides as the shoulders make contact with the mat. Roll backward until the weight is on the shoulders and the feet and legs come back over the head so the toes touch the mat. Roll back to starting position. (5 : 330)

Wring the Dishrag

Two children face each other and join hands. Raise one pair of arms (right for one and left for the other) and turn under that pair of arms, continuing a full turn until back to original position. Care must be taken to avoid bumping heads. (22 : 476)

2. Non-locomotor movement, maintaining contact (supported)Elbow Wrestling

Partners kneel with their right elbows on the mat and holding hands. Their left forearms should be in contact with the mat. On the signal, and without taking their elbows off the mat, partners attempt to push each other's hands to the mat. (12 : 407)

Angry Cats

Standing freely on all fours looking up. Two or three dogs (boys with bands on) run freely among the cats. As each dog passes a cat, the cat stretches quickly, stretches its knees and hisses. (15 : 59)

Crowing Cocks

In kneeling position, arms bent, the cock bends forward to peck at mealies, then suddenly it stretches up, flaps its wings and crows. (15 : 59)

Dog Digging a Hole

In straddle stoop standing, the dog digs with its front paws, then bends down to smell. (15 :59)

Wriggling like an Earthworm

In stretch front-lying, roll quickly in one direction, then in opposite direction, keeping feet and arms off floor. (15 : 61)

Sawing Wood

In scissors standing, trunk twisting to alternate side with punching action of arms.

Chopping Wood

In scissors standing with arms upward, trunk swinging downwards and stretching up in chopping action.

Trees Swinging in the Breeze

In straddle standing, arms sideways with elbows slightly bent and wrists relaxed, the tree sways to and fro with a twisting motion.

Fresh Flowers and Faded Flowers

From stretch straddle standing, with fingers extended and looking upward, the flower slowly wilts in hot sun to stoop standing. On being watered, the flower freshens up.

Scrubbing the Floor

In stretch kneeling - sitting, keeping head up and arms straight, stretch shoulders rhythmically in scrubbing action. (2 : 7)

Circling Arms

Circling arms backwards and forwards, fully stretching and rotating the shoulders. Keep the circling brisk and lively, alternating with single and both arms working. Make sure that the arms are straight and a full circle is achieved, thus producing suppleness in the shoulders. This exercise may be performed whilst standing still or whilst moving around the room with walking steps.

Arm Stretch

Standing with feet astride stretch the arms overhead, pulling the stomach in. Reach sideways with the arms and at the same time bend sideways and continue to circle the arms and body downward in front of the legs to the opposite side and upward again to the stretched position. Repeat in the opposite direction. Be sure to take the circling of the arms and body to a complete stretch, bending the body close to the legs in the downward movement.

Knee Bends

From standing position with both arms stretched overhead, bend the knees, keeping the back very straight, to the squat position, bringing the arms down to the sides of the body during the squat. Return to the standing position with arms stretched overhead. Repeat this exercise fifteen to twenty-five times in quick succession. Lift the heels from the ground in the squat but lower them again when standing. Keep the back straight throughout. (19 : 28)

Side Bending

From the standing position, with the arms stretched overhead, keep the shoulders relaxed and the stomach pulled in, bend sideways, with the upper part of the body as far as possible. Return to the upright position and repeat to the other side. Do not allow the hips to move from their original position during the bend. There should be a feeling of extension throughout the body, even when bending. Repeat ten times to each side. (19 :30)

Leg Stretch

Sitting on the floor with legs stretched forward and together take the arms overhead, pulling in the stomach, back straight and diaphragm lifted. Bend forward over the legs keeping the back quite flat with head up. Press forward in this position with rhythmical effort to the count of one, two, three, and return to the sitting position, arms at sides. Repeat ten times. The bend of the body should be from the hip joints and not from the rounding of the back. This exercise is for suppling. The gymnast must be capable of folding into a pike position which is closed absolutely tight. (19 : 30-31)

Back Exercise

Front lying position with the hands underneath the shoulders, legs straight and together. Push the hands straightening the arms and lifting the body backwards to bend as far as possible. Do not allow the hips to lift from the floor but press them towards the ground. Avoid hunching the shoulders. The tendency will be for them to lift up towards the ears, making an ugly hunched position. Stretch the neck out of the shoulders and press the head backwards. Return to the lying position and repeat. (19 : 32)

Leg Swinging

With hand support against the wall bars or beam swing leg in all directions - forwards, sideways and backwards. Twenty repetitions on each leg. (19 : 33)

Leg Wrestling

Partners lie on their backs facing opposite directions. On the signal 'go', both raise their inside legs so that their knees are crossed. From this position, each partner tries to force his opponent's leg down to the mat. (12 : 408)

See-Saw

Two children of like size sit on the floor facing each other, with their feet together. They clasp hands, and as one child leans forward the other pulls back as far as he can. They then see-saw back and forth slowly. (18 : 102)

Chinese Get-up

Partners sit back to back with their elbows locked, knees bent and together, and feet flat on the floor. Both rise off the floor by pushing against each other and, if necessary, taking short backward steps. (18 : 111)

Partner Pull-up

Partners sit down facing each other in a bent-knee position, with heels on the floor and the toes touching. Pulling co-operatively, both come to a standing position. Return to the floor. (5 : 342)

Cycling

Lie on back with hips high and supported by hands with elbows and upper arm on ground. Make full cycling movements with legs. (16 : 98)

Windmills

Stand erect, holding head well up and circle arms to represent a windmill. Either one arm at a time or both arms can be used. The arm movement begins forward and then upward, never backward-upwards. (16 : 115)

V-Sit

Sit with the knees bent, the feet flat on the floor, and the hands grasping the ankles, extend the knees and balance on the seat.

Variation: Repeat with hands on the ground at the sides. (22 : 475)

The Bridge

Sit on the edge of the mat holding the elbows high and the palms of hands facing up. Lower the back and place the palms on the mat. Move the heels close to the seat, then arch the body. (12 : 405)

Toe Toucher

Partners lie on their backs with their heads near each other and their feet in opposite directions. They grasp each other, using a hand-wrist grip, and bring up their legs (both partners) so their toes touch. Keep high on the shoulders and touch the feet high.

Seesaw

Two children face each other and join hands. One child stoops down. The seesaw moves up and down, with one child stooping while the other rises.

Seat Circle

Sit on the floor, knees bent and hands braced behind. Lift the feet off the floor and push with the hands, so the body spins in a circle on the seat as a pivot. Spin right and left.

Variation: Place a beanbag between the knees or on the toes, and spin without dropping it.

Mule Kick

Bend forward placing the hands on the mat, shoulder distance apart, and at the same time kick up the right foot followed by the left. As the left leg goes upward the right returns to the floor. (21 : 58)

3. Locomotor movement, losing contact (unsupported)

a. Without a turn (translation)

Monkey Running

Free running on all fours, stopping every few metres to scratch under the armpit. (15 : 57)

Sparrow Hopping

With elbows bent and hands flapping at shoulders, free hopping with stiff knees - short quick jumps like a sparrow. (15 : 57)

Frog Jumping

From crouch with hands on floor between legs, free jumping to land first on feet and then the hands - like a frog flopping from stone to stone.

Gallopng Horses

Free skipping with leading knee high raising, using a vigorous arm action. (15 : 58)

Crab Running

On all fours a few metres sideways, pivot on the hands, then continue running sideways in the opposite direction. (15 : 61)

Snakes

Children form snakes by holding hands (one in front, one behind). Have small snakes at first, then larger. The snake then runs about, taking care not to bump other snakes or get broken.

Wind, Rain, Thunder

As each word is called out, the children run about appropriately -
 "Wind" - run swiftly, quietly, saying "sh wh sh - woosh".
 "Rain" - run with tiny steps.
 "Thunder" - stamp on the ground. (2 : 7)

Jump and Run

Children run freely until given instructions, eg. "jump high", "long jump", "do what I do". After carrying out instructions they return to free running.

Chase Him

Teacher calls the name of a child and all the rest chase him - then another child is named and they all chase him. This is repeated with frequent changes of name. (2 : 7)

Shadows

Find a partner and try to shadow him.

Partners Touch

In pairs, one child chases his partner until he catches him and then the other becomes the chaser. (2 : 8)

Running on Spot

With high knee raising... on signal change to jogging in a circle with high knee raising... on signal teams break away and follow respective leaders... leaders jogging to form own pattern.

Circle Running

On signal, prone fall... three press-ups in front lying support... jump up to run on the spot... continue circling running.

Free Running

On signal, halt in crouch... five stretch jumps... free running, halt in crouch... five star jumps... free running... halt in crouch... 5 burpees.

Chain Tag

This activity can be done in a limited space. Two pupils join hands and try to tag the others, who, if tagged, form a chain to tag the rest. The chain should be limited to six or eight. Only the two on the outside of the chain can tag.

Crow-hops

From a standing position with the feet together, bend the knees fully. Place hands on knees, keeping the head and trunk erect and hop with the feet together in different directions. (16 : 97)

Dodge and Mark - A warming-up activity introducing running and the fundamentals of attack and defence. Players place themselves two and two together, one the attack and the other the defence. At a given signal the attacks must try to get free, and the defences must follow them closely, and try to keep within an arms distance, so that when the signal is given, they can touch their opponent. The players then reverse the positions, so that both get a turn in covering their man. (16 : 98)

Duck Fighting - Partners face each other in knees full bend position. By hopping and dodging each tries to push the other over backwards. (16 : 99)

Follow My Leader - One child is chosen as leader. The rest fall in behind him and endeavour to imitate whatever he does. The leader must set them certain tasks, such as jumping, climbing over obstacles, etc. Those failing to do the required task may either fall out or go to the end of the line.

Follow My Thumb - The class runs to wherever the teacher points his thumb. If he points it downwards they do crouch jumps with hands on knees and if he points it upwards they skip.

Giant Strides

The children run about making each stride as long as possible. They also cover a given distance in as few strides as possible.

Hunt Your Leader

Free running. On signal, chase the leader of the team. Whoever tags him becomes the new leader. (16 : 103)

One Against Three

The children are in groups of four. Three join hands in a circle leaving one to be the catcher. Each child has a number and before the activity commences the teacher indicates the number to be caught. The catcher, by means of dodging round the circles, tries to catch the pupil indicated. The pupils in the circle try to prevent this by circling right or left. (16 : 107)

Scoring Runs

Players line up behind a chalk line and on a signal dart across to touch another chalk line and back, continuously. Make as many runs as possible in a given time. (16 : 110)

Statues

Free running. On signal children stop and make a statue of their own choosing. (16 : 111)

Lame Puppy Walk

Begin with both hands and one foot on the floor. Keep the head up and walk or run 'on all threes' like a lame puppy.

Variation: Do a double lame puppy walk, with one hand and one foot off the floor. (12 : 388)

Rabbit Jump

Begin in a squat position with the body weight over the toes. Leap forward and land on the hands and then the feet to simulate a rabbit hop. (12 : 388)

Leap Frog

One partner squats, with his head on his knees. The other partner assumes a semi-crouched position about two feet behind, with his hands resting on his partner's shoulders. Back partner spreads his legs and leaps over his partner. Continue sequence for several jumps. (12 : 370)

Sewing Machine

Children run in place hands on hips. They start slowly and lightly, and gradually increase the speed at which they work. (18 : 101)

Pogo Stick

Pretend to be a pogo stick by keeping a stiff body and jumping on the toes. Hold the hands in front as if grasping the stick. Progress in various directions.

4. Non-locomotor movement losing contact (unsupported)

- a. Elevation without a turn

Rocking Back to Back

Partners stand back to back with elbows interlocked. One partner leans forward, lifting his partners feet off the ground and pulls him over his back to an arched position. On coming back to the starting position the partner takes a turn and repeats the action. (16 : 109)

Jump and Touch Toes

Jump into the air, extend legs forward and upward with feet apart. Touch toes, keeping back vertical throughout jump. Extend legs downward and return to floor with a two-foot landing. (22 : 475)

- b. Elevation with a turn

Corkscrew Jump

Jump upwards from the feet and attempt a full twist in the air so that the landing is made facing the same direction as at take-off. (16 : 97)

Top

From a standing position with arms at the side, try jumping, turning to face the opposite direction, turning three-quarters of the way around, and making a full turn facing the original direction. Child should land in good balance with hands near the sides. No movement of the feet should occur after landing.

5. Positioning (whole body)Handstand

The child stands facing a partner, and places his hands on the floor about shoulder width apart, fingers spread and pointing ahead. Keeping one leg straight and the shoulders well forward of the hands, kick up with the straight leg and push off with the bent leg. With the back arched, the shoulders are brought back to a point directly over the hands. Partner holds the feet, then feet are lowered to the ground. (5 : 353)

HEAD STAND

From a crouch position the hands are placed on the mat, shoulder width apart. The head is then placed in front of the hands on the forehead so that an equilateral triangle is formed by the hands and head. The feet are then straightened and walked up until the back is fairly straight (almost at a 90° angle to the ground). The performer then exerts pressure with the hands and draws the feet off the ground. The knees are bent at this stage and are slowly straightened out. The head must be kept still throughout; it must not be allowed to roll so that the top of the head is on the mat. The elbows should be kept pulled inwards and not allowed to sag sideways. (16 : 200)

B. MOVEMENTS WITHOUT THE USE OF OBJECTS (SUBJECTIVE APPROACH)1. BODY ASPECTS

b. Use of the Body

Stretched and Curled

- i. You are a little seedling. Show me how you are going to grow into a tall tree.
- ii. The rock is very heavy. Show me how you are going to push it over the edge of the cliff. Watch you don't step or you may fall. (17 : 115-116)

Balance

Can you throw the bean bag up and catch it with one hand? the other hand?.... both hands together? Can you run as you catch the bean bags? in different ways? Can you place the bean bag between your feet and hop around? (17 : 115-116)

OCCUPATION

The teacher and children select any occupation, such as fireman, teacher, doctor, etc. They discuss the kinds of things people do in the occupation and how they do them. The children then explore movement which shows how people do these things. Children might work in unison or each might work on a separate part of an occupation. The children explore variations in movement:

- a. Perform movements fast and slow.
- b. Perform large movements, then small movements.
- c. Move in different directions.
- d. Move on different levels.
- e. Use different parts of the body.

COMBINATION MOVEMENT

Can you walk fast, faster, even faster? How slowly can you walk? What other ways can you walk? Can you swing your shoulders? How can you swing your shoulders while you are walking? What are the other ways we can move around the room besides walking? How heavy can you make yourself? Think of something very heavy; make yourself like that. How would you move if you were in a very tiny box?

Now, how could you move if you were in a great big box? Move out and take a little space. Let us see if we can go down as low as we can. How low can we go? Lets jump up high? What body part would help us to jump up high? Good copy Jimmy (child's name).

2. MOVEMENT ASPECT

a. Types of movement

1) Locomotor movement with rhythmical repetition

WALKING

1. How many different ways can you walk?
2. Can you walk only on your toes? Heels? Inside of your feet? Outside?
3. Can you vary the length of your steps?
4. Imagine you have to walk on ice, on eggs, on gooey mud. How would you do it?
5. Run in a pattern to music, eg. a figure 8 pattern, or letters of the alphabet. (6 : 75) (24 : 356-358)

RUNNING

1. Who can show me the greatest number of different ways of running?
2. Can you run while bouncing a ball?
3. Make different patterns as you run.
4. Combine the walk and run.
5. Run to music.

HOPPING

1. Can you show me how to hop?
2. I can hop in a circle. How many other patterns can you hop?
3. Hop in patterns to music.

SLIDING

1. Can you show me how you slide?
2. See how many different ways you can slide besides going forwards.
3. Slide along with a partner. Change your directions.
4. Slide around in a circle with a partner.
5. Sliding to music.

SKIPPING

1. Who can show me the skipping step?
2. Can you skip holding hands with a partner?
3. How fast can you skip? How slowly?
4. Slide along, skip along, hop hop hop in different ways and directions.
5. Skip to music. (16 : 75) (24 : 356-358)

SHAPES - MOVING

Move around among each other and do not touch anyone. Walk slowly to the drum beat. When the drum stops, make a shape. (Repeat with running and skipping).

This time let me see you change levels as you move through space, sometimes low, sometimes high.

Now let us watch some interesting shapes and see how many different ways each of us can move. (11 : 75-76)

2) Non-locomotor movement

JUMPING

- i. How many times can you jump up and down on one foot? On both feet?
- ii. There is a big hole in front of you. Show me how you will jump across it. (6 : 75) (24 : 356-358)

SHAPES

As you sit here on the floor around me, notice that your body is making a shape in space. I'm going to count to three. On three, I want you to sit in a different shape.

This time, find an unusual shape, maybe standing or lying or squatting. Ah! there are some bent shapes, some stretched shapes, some twisted shapes. Now let me see a one-legged shape. An upside-down shape - a stretched shape. (11 : 75-76)

3. ENVIRONMENTAL ASPECTS

SIMPLE RHYTHMIC LESSON

1. Children sit cross-legged. The following beat is used and without music they -
 - a. Clap hands 4 times
 - b. Clap the floor 4 times
 - c. Clap the knees 4 times
 - d. Clap shoulders 4 times.

2.
 - a. Have the children listen to the music for the 4/4 meter (4 beats per measure).
 - b. Repeat 1 a-d with the music. Children start after the 4th measure and repeat 3 times. (12 : 509)

3. Children move parts of the body to the rhythm of music. The movements are practiced without music first.
 - a. Stretching
 - b. Bending
 - c. Twisting
 - d. Swinging

4.
 - a. Children work in pairs. Partners sit facing each other. One starts with 4 claps on some part of his body, partner imitates. Continue with 3 more parts of the body.
 - b. Join partners clapping: Partners still facing each other, slap 4 times on floor, then 4 times together and then 4 times on floor again and 4 times together.
 - c. Partners clap 4 times above the head, 4 times together (cross hands), 4 times above the head, and 4 times together.
 - d. Repeat 4 a-c to music. (12 : 24-25)

FREEZE

Children are scattered around the room. When the drum beat is started, they move around the room guided by the character of the beat. They walk, run, skip, or use other locomotor movements depending on the selected beat. When the beat is stopped they freeze and do not move. Any child caught moving after the cessation of the rhythms pays a penalty. (6 : 95)

C) MOVEMENT WITH THE USE OF OBJECTS1. Objects (moving or stationary) for support and on which to hang

a. On objects (centre of gravity ABOVE base of support)

2) Movements over and on to objectsBENCH ACTIVITIES

1. Stand facing forward on the bench.
2. Stand facing sideways.
3. Walk forwards with arms at different positions - held forward, sideward, overhead. Stop at centre make a $\frac{1}{2}$ turn and walk back to the starting point.
4. Walk sideways on the balance bench. Walk with the left foot leading. Walk with the right foot leading.
5. Perform a tuck sit on the bench.
6. Perform a v-sit on the bench.
7. Walk backwards.
8. Walk forwards, step over a stick and continue walking to the end.
9. Walk forwards with a beanbag in each hand.
10. Run along the bench and jump off as high as possible.
11. Catwalk along bench. (22 : 483-484) (: 288)
12. Crouch jump - place both hands on the bench and jump back and forth over the bench.
13. While standing on the bench throw and catch a ball with a partner who is on the floor some distance away. (5 : 303)

- b. With temporary contact

VAULTING

Stunts from the Springboard

1. Stand on the springboard, jump up once, jump off.
2. Jump onto the springboard, jump off.
3. Jump onto the springboard, jump up and down a few times, jump off.
4. Approach and take-off - Begin the approach several metres back from the take-off point. Run toward the board. Land on the balls of the feet approximately 15-30cm. away from the end of the board. The knees should be bent slightly at the moment of contact. Push off from the board in an upward and slightly forward direction.
5. The following stunts can be performed off a springboard
 - a. Jump and tuck
 - b. Jump and clap hands in front.

Stunts over the Vaulting Table

Using the springboard:

1. From the board, jump on to knees, stand up, jump off.
2. With a run-up, jump on to knees, stand up, jump off.
This is accomplished in the following manner - approach the box, take off on one foot, bring the other foot up alongside so both may land at the same spot for a double foot take off in the vertical direction. The hands are placed on the box and the push off them against the box helps the body gain height. The knees are pulled up onto the box between hands. Stand up, then jump off.
3. Repeat, getting onto the feet instead of knees, stand up jump off.
4. Repeat 2 and tuck jump off.
5. Repeat 2 and star jump off followed by forward roll from standing
6. Squat Vault - After a fairly good run-up and take-off, extend the body below the horizontal plane; then bend the hips, and tuck the knees to the chest. Simultaneously push off with the hands while lifting the head, shoulders and chest upward. The push-off must be completed as the shoulders pass the vertical position over the hands. As the feet pass over the horse, extend the body in the air and land with the knees slightly bent.

Steps in Learning:

- a. After a correct take-off land on the knees on the horse. The weight is caught by the hands which are placed on either side of the knees. Stand on the horse and jump down.
- b. Squat on the horse (feet between hands). Stand, jump up to full extension in air, and land.

Straddle Vault

Equipment - A Horse

From a fairly good run, dive forward, place hands on the neck of the horse, straddle the legs and pass over the horse to a rear stand. Only the hands contact the horse.

Hints:

- a. Keep the eyes on the take-off spot. Just before the feet hit the take-off spot, shift the eyes to the neck of the horse.
 - b. Reach for the far end of the horse. The legs trail behind.
 - c. The palms of the hands should land beside each other with the fingertips just over the edge of the horse.
 - d. The shoulders should be slightly ahead of the hands.
 - e. The legs should be together and above the horse in a horizontal position until the hands touch. Straddle the legs when pushing off from the hands.
 - f. Keep the head and chest up.
- d. Around objects (Centre of gravity AROUND base of support)

2) Movements on objects

CAPSTAN

Three players place their right or left hands on a medicine ball and in side support position walk round. (16 : 95)

2. Object to be avoided

- a. Over objects

2) Locomotor movements, losing contact

FREE SPACING

Each child works with a skipping rope. Free practice of various methods of skipping

3. Objects or outside forces against which to offer resistance

ARM AND SHOULDER PUSH

Partners stand facing with hands on each others shoulders. They try to push each other backwards.

BACK TO BACK PUSHING

Partners stand back to back with elbows locked and try to push each other.

DEAD MAN

This is played in three's. Two players stand facing each other. The centre man remains absolutely stiff and is pushed or rocked from one outside player to the other.

5. Combinations of activities 1 - 3

RHYTHMIC LESSON WITH ROPES

The following exercises and rythmic movements are done to music.

Individual Activities

1. Ropes placed on the floor in any pattern. Children jump back and forth across the rope. Repeat, then jump backwards.
2. Walk on the rope, hands out at sides, toes pointed.
3. Rope picked up, quartered, and held on the side while child skips freely around the ground.
4. Kneeling, short rope held behind neck. Slowly arms stretch upwards while pulling outwards as hard as possible, rope then lowered in front of body. Return back to original position. Repeat.
5. Children walk rotating short rope along right side of body 8 times, then left for 8, then overhead for 8. Repeat.

TYRES

One tyre per child:

Can you skip around your tyre? Go the other way but now use another movement. Can you put both feet in the middle of the tyre as you jump across? Can you bounce on the tyre? Jump on and off your tyre.

D) HANDLING OF OBJECTS

1. MOVE objects, especially those on the ground
- b. With implements

PROGRESSION BALL

Equipment - A ball and hoop between two. 8 markings on the ground 60cm. apart, on either side of the hoop, about 1 metre long.

Alternate aiming at the hoop for 10 shots. If target (hoop) is hit, move one place backwards. If missed move one place forward. The winner is the one who is furthest away after a set number of shots. (10 - 20)

2. MOVE object which is in the air
- a. Without implements

BALL BOUNCE RACE

The children are in a line at the end of the playground, each with a ball. On a signal, all run across to the other end, bouncing and catching the ball. (16 : 94)

SIMPLE PASSING

Equipment - One small ball to two children.

One small ball between two, standing a few metres apart. Use different ways of sending the ball to a partner, eg. two hands, one hand, underarm, overarm, bouncing, rolling. (15 : 12-13, 22-23. 30)

BOUNCE AND CATCH

Equipment - 1 ball per player

Each child has a rubber ball. He bounces it and catches it, using both hands, repeating the sequence several times. Then he tries to bounce his ball to a partner and catch the partners return bounce. (14 : 219)

PAT BOUNCING

Equipment - A ball per individual

Continuous bouncing using one hand or alternate hands to various heights.

Variation: Free skipping, pat bouncing. (15 : 165)

BEAN BAGS

Equipment - One bean bag per child.

Can you throw the bean bag up and catch it with one hand? ... the other hand? ... both hands together? Can you run as you catch the bean bags? ... in different ways? Can you place the bean bag between your feet and hop around? (17 : 115-116)

HULA HOOPS

Equipment - One hoop per child

Can you roll the hoop along the floor? Can you make the hoop spin while it is on one arm? ... any other part of the body? With one edge of the hoop on the ground can you step in and out, around, over the hoop? (3 : 114)

BOUNCING BALL

Equipment - A large ball

Toss a lively utility ball into the air and let the children watch how it bounces lower and lower until it finally comes to rest on the floor. From a bent-knee position, with the upper body erect, each child imitates a ball by beginning with a 'high' bounce and gradually lowering the height of the jump to simulate a ball coming to rest.

Children should absorb part of the body weight with their hands as well as push off the floor with the hands to gain additional height.

RHYTHMIC LESSON WITH ROPESPartner activities

Equipment - One skipping rope between two children

1. Partners stand close together and hold an end of a rope each. They slowly move backwards pulling the rope taut and bending backwards as far as they can while still holding the rope. Repeat using 2 ropes.
2. Rowing in pairs: Partners facing in straddle long sitting, feet to feet, grasping ends of short rope in each hand, they row forwards and backwards to the music.

THROWING OVERHAND

Equipment - One softball to two children

The first movements involve securing a firm grip on the ball, raising the throwing arm to shoulder height, bringing the elbow back. The hand with the ball is then taken back, so that the hand is well behind the shoulder at about that height. The left side of the body is turned in the direction of the throw, and the left arm is raised and in front of the body. The weight is on the back (right) foot with the left foot advanced, with the toe

touching the ground. The arm comes forward with the elbow leading, and the ball is thrown with a downward snap of the wrist. The weight of the body is brought forward into the throw, with the weight shifting to the front foot. There should be a good follow-through ending so the palm of the throwing hand is facing the ground. (5 : 506)

PITCHING

The underhand throw is used for pitching the ball. The pitcher must stand with both feet on the pitcher's plate as he holds the ball in front of him. In right-handed pitching the right arm swings downward and backward for the wind-up and as the right hand brings the ball forward, the weight of the body is carried forward and the left foot steps forward as the ball is released. The right foot must remain on the pitcher's plate until the ball has left his hand. In following through, the hand points toward the spot to which the ball is thrown. (23 : 574)

b. With Implements

BATTING

The bat should be held with the left hand near the end of the handle and with the right hand just above the left. When the batter is ready to bat, he should stand in a comfortable stance with his feet slightly apart and with his left shoulder toward the pitcher. The bat should be held out in front of the body in a position of readiness to meet the pitched ball. The bat is swung in a horizontal plane, so that the ball will be met squarely. It is important that the batter keep his eyes on the ball from the time it leaves the pitcher's hand until it is hit. (5 : 509)

3. STOP/FIELD objects especially those which are on the ground

a. Without implements

FIELDING GROUNDERS

When fielding a ground ball, a player should get directly in line with the ball with both feet fairly close together, knees bent, the body low and bent forward at the hips, fingers extended down with little fingers together and with eyes on the ball. A player should move forward to meet a ground ball, and be ready to throw the instant it is fielded. (23 : 579)

4. STOP/FIELD objects which are in the air
 - a. Without implements

CATCHING FLY BALLS

There are two methods of catching a fly ball.

1. For a low ball, the fielder keeps his or her little fingers together and forms a basket with his or her hands.
2. For a higher ball, the thumbs are together, and the ball is caught just in front of the chin.

The eye is on the ball continuously until it hits the glove or hands. The knees are flexed slightly in receiving and aid in the give when the ball is caught. (5 :506)

11. EMOTIONAL AND SOCIAL DEVELOPMENT (AFFECTIVE DEVELOPMENT)

A) SMALL GAMES

CATCHING TAILS

Equipment - A coloured band per child

Every pupil tucks a coloured band through his belt at the back. On the signal, attempt to collect as many tails as possible before the signal to stop.

CATCH YOUR PARTNERS TAIL

Equipment - One coloured band between two children

The class is arranged in pairs, one of whom has a coloured band tucked through his belt at the back. On the signal, he dodges and runs away, preventing his partner from catching his tail. (16 : 95)

KEEP THE BASKETS FULL

Equipment - A basket with tennis balls or bean bags

The basket with tennis balls or bean bags is placed in the centre of an area, with the children freely spaced about. The teacher then empties the basket as fast as possible by tossing the balls or bean bags in all directions. The class must collect the scattered balls, one at a time, and return them to the basket as quickly as possible in an attempt to keep the basket full, while the teacher continues to empty it.

CIRCLE CATCH BALL

Equipment - Volleyball for each group

IT stands inside the circle of players standing 90cm. apart. Players throw the ball around or across the circle to each other while IT tries to catch the ball. If he succeeds, he trades places with the person who last threw the ball (24 : 522)

CROWS AND CRANES

Equipment - None

Children are divided into 2 groups, the crows and the cranes. The groups face each other at the centre of the area about 150cm. apart. The leader calls out either "CROWS" or "CRANES" using the cr-r-r-r sound at the start of each word to mask the result. If Crows is called, the crows chase the cranes to the goal. If Cranes is called, then the cranes chase. Any child caught goes over to the other side. The team that has the most players when the game ends is the winner. (5 : 393)

CHAIN TAG

Equipment - None

Two parallel lines 15 metres apart. Centre occupied by 3 players who form a chain with joined hands. The free hands on either side of the chain do the tagging.

The players in the centre call "COME" and the other children cross from one line to another. The chain tries to tag any of the runners. Anyone caught joins the chain. (5 : 408)

HILL DILL

Equipment - None

One player is chosen to be IT and stands in the centre. The other children stand on one of the parallel lines. The centre player calls "Hill Dill", Come over the hill". The children run across the open space to the other line, while the one in the centre tries to tag them. Anyone caught helps IT in the centre. The last child caught is in the centre for the next game. (20 : 56)

KNEELING TAG

Equipment - None

Two or more children are IT. They attempt to tag the other children, who can be safe by kneeling on one knee. The child tagged changes places with IT. The children tagged join the taggers. Play until about half the children are tagged and then reorganise. (5 : 382)

MIDNIGHT

Equipment - None

A safety line is established about 12 metres from a den in which one player is standing as the fox. The others are behind a safety line and move forward slowly asking "Whats the time Mr. Fox"? The fox answers in various fashions, e.g. "2-0-Clock", 4-0-Clock, etc. When he says Midnight, he chases the others across the safety line. Any player caught joins the fox in the den and helps catch others. (5 : 385)

SQUIRREL IN THE TREES

Equipment - None

A tree is formed by two players facing each other with hands held or on each others shoulders. A squirrel is in the centre of each tree, and one or two extra squirrels are outside. A signal to change is given. All squirrels move to another tree and the extra squirrels try to find trees. Only 1 squirrel allowed per tree. (1 : 199-200)

HOT POTATOES

Equipment - Six balls, Six beanbags

Children are seated in a small circle close enough together so objects can be handed from one to another around the circle. Balls or beanbags are passed around the circle, a few being introduced at a time. The object of the game is to pass the equipment rapidly so no one gets stuck with more than one object at a time. If he or she does, the game is stopped, and he or she moves back and waits. After 3 are out the game starts again. (51 : 389)

STOP AND START

Equipment - None

The children are in the centre of the playground, scattered enough so each has room to move. The teacher stands to the side and gives the instructions. She points in a direction and says "Gallop". Any other locomotor movement can be used. Suddenly she calls "Stop". All children stop immediately, without further movement. Anyone moving can be sent to the back of the group. (5 : 391)

GALLOPING LIZZIE

Equipment - Beanbag

One player is IT and has a beanbag. The other players are scattered around the ground. The player with the beanbag runs after the others and tries to hit one below the shoulder with the beanbag. The person hit becomes IT, and the game continues. (5 : 395)

DUCK, DUCK, DUCK, GOOSE

Equipment - None

All the players form a circle. IT runs around the outside of the circle, taps each person on the shoulder saying "Duck, duck, duck" and then suddenly says "goose". IT then runs around the circle and is chased by the goose. If IT gets to the vacant spot in the circle, he is safe. If IT is caught, he goes to the centre of the circle. Goose becomes the next IT. (1 : 198)

WHAT IS MISSING?

Equipment - A tray with 4 or 5 objects.

Place objects on the tray. All the children look at it and name the objects out loud. One player is IT. He goes across the room and faces away from the objects. One object is removed. IT returns. He tries to name what is missing. The group tells him if he is right or wrong. (1 : 210)

TWO BASE TRAVELS

One, two or more bases may be placed from 3-4½ metres apart. As the children pass between them or run figure eights around them, they can be asked to indicate when their left or right side, or hand, is nearest the nearest base. Modifications can be made in the method of travel and children can hop, jump or skip between the bases.

THREE BASE TRAVEL

Using 3 bases placed in a triangle, children can run or move in other way between the bases, gaining the concept of triangularity, counting the bases and generally locating the bases.

WHERE DID I VISIT

Equipment - Chalk

Different geometric figures are drawn on the floor. A child visits each configuration in a specific order. He then repeats it. Another child observing the first child's order of visits tries to repeat the visits in the same order. A third child, the evaluator, may judge the efforts of the first and second child. (4 : 203)

BALL TOSS

Equipment - 1 large ball to each group

Players in circle, 8-12 to a circle. Ball is thrown around the circle. Player in the centre throws to each player in the circle who returns the ball to the thrower. Concentrate on throwing and catching. As the skill improves, increase speed. (24 : 278)

BOUNCE PASSING GAME

Equipment - 2 ropes and one ball to each group of 5.

A and B attempt to pass to C and D by bouncing the ball in E's area. E attempts to intercept the pass. Change E so all have a turn. (10 : 12)

STRIDE BALL

Equipment - large ball

One player stands with his feet apart. Another player tries to roll a large ball between the legs of the first player. They take turns.

When the players have learned to roll accurately, the first player tries to roll the ball between the legs of the second player. The second player tries to stop the ball with his hands. They take turns.

CIRCLE STRIDE BALL

Equipment - A large ball

One player has the ball. The others stand in a circle around him. They stand in astride position with feet touching. The player in the centre looks around to make sure that all feet are touching. He then tries to roll the ball outside the circle between the legs of a player. The player tries to stop the ball with his hands. He must keep his feet astride. If the ball goes out he fetches it and gives it back to the centre player. (1 : 204-205)

CIRCLE DODGE BALL

Equipment - A rubber ball per group

Children stand outside a circle with one child on the inside. Outside players try to hit child in the centre of the circle with the ball. A fair hit is one that lands below the waist and is thrown from outside the circle. When the centre player is hit fairly, he exchanges places with the thrower who hit him and the game continues. (14 : 231)

CALL BALL

Equipment - Softball

Throwers score runs by throwing softball out into playing field, running to first base and back to home plate. If a fielder catches a fly ball or returns the ball to the catcher before the thrower returns home, thrower is out. Team scoring most runs wins. (24 : 295)

RUNNING CIRCLE BOUNCE BALL

Equipment - 1 large ball

Players in circle formation. Ball is bounce passed into and across the circle while the players keep moving. Aim for the greatest number of consecutive passes. (10 : 23)

SPUD

Equipment - Large ball per group

Children stand inside a circle, with one child in the centre, holding the ball. Child with the ball tosses it high into the air, calling another child's name. The child called runs to catch the ball while the other children scatter into the playing field. When the child catches the ball he calls "STOP". All other children must stop and freeze in their positions, and may not move thereafter. Child with the ball tries to hit one of the others with the ball, below the waist. If he succeeds, he returns to the circle with the others and he calls a name and tosses the ball. If he misses the player at whom he aimed, that person tosses the ball from the centre and calls a name. If a player is hit fairly he has a spud on him. After a player gets two spuds, he must pay a forfeit, which is predetermined at the beginning of the game. (14 : 229)

POISON CIRCLE

Equipment - Volleyball

Players join hands firmly in a circle. Inside a little circle is drawn in which the ball is placed. On a signal, the circle pulls and pushes, trying to force a child into the inner circle. When this happens all call "Poison" and the children scatter. The one in the circle picks up the ball and tries to hit one of the other children below the waist, from within the circle. If a child is hit it is a "Dud" against the child. If missed, it is a "Dud" against the thrower. Anyone with 3 duds pays a forfeit. (5 : 395)

HAND TOUCH

Equipment - None

Put one hand where the other cannot touch it. Secret - put right hand to left elbow. (24 : 528)

MAGIC MUSIC

Equipment: None

One child leaves the room while the others hide a small object. The player returns and tries to find the object by getting his clue through music. As he goes nearer, the music grows louder, or it gets softer as he moves away. (24 : 532)

I'M TALL, I'M SMALL

Equipment: None

One child stands in the centre of the circle with his eyes closed. Circle players walk slowly around, singing:

"I'm tall, I'm very small
I'm small I'm very tall
Sometimes I'm small
Guess what I am now."

As the children walk and sing 'tall', 'small' etc. they stretch or stoop. At the end they assume a stretching or stooping position. The centre player then tries to guess which position they have taken. Change centre players. (12 : 569)

HENS AND CHICKENS

Equipment: None

The children are seated. One child is chosen to be the hen and leaves the room. The teacher walks around the room and taps several children who become the 'chickens'. All the children then place their heads on the desks hiding their faces. The hen comes in and says 'chick, chick', while moving around. With heads still down the chicks answer 'peep, peep'. The hen taps who it believes to be the chicken. If the hen is correct the children may sit up straight, if incorrect the chicks continue to hide their faces. Change hen at the end of the game. (12 : 572)

FIND THE LEADER

Equipment: None

Players stand in a circle. One player is IT and leaves the room. A circle player is chosen as leader and he starts a motion, eg. swinging arms. The others follow. IT returns, watches and tries to identify the leader; the movements are changed continuously. Players try to keep IT from knowing who the leader is by looking at each other as they follow changes. If IT finds the leader in three guesses he chooses a player to take his place. If he does not find him he is IT again. (24 : 524)

UNDER THE BRIDGE

Equipment: A record

All children except two remain in their seats. These two stand on either side of a seat and form a bridge with clasped hands. When the music starts the bridge moves around the room, passing over each child. When the music stops, bridge stops moving and is lowered over the child under it. If between children, it moves on. The child captured chooses a partner and both bridges move around. Game continues until all have been bridges. (14 : 319)

CAT AND MICE

Equipment: None

One player the 'cat' sits at the teachers desk and puts his head down on the desk. The remainder of the children are the mice. One mouse from each row comes to the front slowly and scratches on the desk. When ready the cat gets up and chases the mice. Any mouse caught joins the cat. (5 : 427)

INDIAN RUNNING

Equipment: None

Six children leave the room. They arrange themselves in any order, run into the room and run out. When they return the other children try to name their running order. The first child who is successful, chooses 5 others to leave with him and the game continues. (24 : 523)

OBJECT EXCHANGE

Equipment: Beanbag, book, pencil, ball, eraser.

Children in a circle formation. 'It' is in the centre of the circle. Articles are passed around the circle and no player in the circle is allowed to hold more than one article at a time. As the articles are being passed from one player to the next, 'It' may call out 2 items at any time he chooses, and the players in possession of these items exchange places. 'It' tries to secure one of the places. If he succeeds the one who is left without a place becomes 'It'. (8 : 67)

I SPY

From the Record - The Best of BBC TV and Radio. What Can I Do?

THROW IT AND RUN SOFTBALL

Equipment - A box with 12 tennis balls; 2 hoops for bases

One child is given a box of 12 tennis balls. He throws the balls out one at a time into the softball field from the batter's box. The other children are the fielders. They collect the balls and return them to the box. The thrower throws all balls out, then runs around the first base and tries to get back to home base before all balls are returned to the box. (5 : 513)

HOME RUN

Equipment: 1 Tennisette bat, 1 tennis ball; 2 hoops

The game can be played with as few as four children. The needed players are a batter, a catcher, a pitcher, and one fielder. The other players are fielders. The batter hits a regular pitch and runs around the hoop and back home before the ball can be returned to the catcher.

The batter is out when:

1. A fly ball, is caught
2. He or she strikes out i.e. he or she has 3 attempts at the ball but misses. If the ball is hit the batter must run.
3. The ball beats him or her back to home plate.

To keep skillful players from staying in too long at bat, a rule can be made that, after a certain number of home runs, the batter automatically must take a place in the field. (5 : 516)

BATTER BALL

Equipment: A box of 12 tennis balls

Batter ball involves batting and fielding but no base running. Each batter is given 12 pitches. He hits the balls out into the softball field. The fielders field the balls and return them to the box. (5 : 515-516)

SCRUB

Equipment: Tennis ball; tennisette; 2 hoops

The predominant feature of Scrub is the rotation of the players. The game is played with regular softball rules, with each individual more or less playing for himself or herself. There are at least two batters, generally three. A catcher, pitcher, and first baseman are essential. The remainder of the players assume the other positions. Whenever the batter is out he or she goes to a position in right field. All other players move up one place. (5 : 518)

B) DANCES AND COMBINATIONS OF EXPRESSIVE MOVEMENT

1. SINGING GAMES

IF YOU'RE HAPPY

This song is used as a sit-down song using actions to the instructions given in the song.

Verse : If you're happy and you know it,
 clap your hands
 If you're happy and you know it,
 clap your hands
 If you're happy and you know it,
 Then you surely ought to show it,
 If you're happy and you know it,
 clap your hands.

As soon as the words ' clap your hands ' are heard on the tape the children clap their hands.

Other verses that are heard are:

Stamp your feet

Snap your fingers

Slap your thighs

Say ' We are '. (1 :167)

TEN GREEN BOTTLES

From the Record - The Best of BBC TV and Radio.
 What Can I Do?

SINGING GAMESLONDON BRIDGE

This activity performed to music. Two children form an arch. Other players form a line, march under the arch, around one player, and through the arch again, following the words of the song which are as follows:

London Bridge is falling down,
Falling down, falling down,
My fair lady.

When the words 'My fair Lady' are heard the players forming the arch drop their arms around the person who happens to be in the centre of the arch. Game is repeated with 2 other children forming the arch. (1 : 187)

SHOO FLY

Partners in single circle, facing in, all hands joined.
Girls are to the right of their partners.

Verse: Shoo, fly, don't bother me,
 Shoo, fly, don't bother me,
 Shoo, fly, don't bother me,
 For I belong to somebody.
 I do, I do, and I'm not going to tell you who,
 For I belong to somebody, yes, indeed I do.

Directions:

- Line 1. All take 4 walking steps to the centre of the circle. Arms are swung forward and up.
- Line 2. Four steps back to place, ending in circle with arms outstretched.
- Line 3-4. Repeat lines 1 and 2
- Line 5. Boys swing their partners with a right elbow swing.
- Line 6. Boys place their partners on their left and turn and nod to their new partners on their right.

The dance is repeated with new partners. (12 : 531)

FARMER IN THE DELLVerses

1. The farmer in the dell
The farmer in the dell
Heigh-0! the dairy-0
The farmer in the dell.
2. The farmer takes a wife, etc.
3. The wife takes a child, etc.
4. The child takes a nurse, etc.
5. The nurse takes a dog, etc.
6. The dog takes a cat, etc.
7. The cat takes a rat, etc.
8. The rat takes the cheese, etc.
9. The cheese stands alone, etc.

Formation

Children are in a single circle, facing the centre with hands joined. One child, the farmer, stands inside the circle.

Action

1. The circle players walk to the left, with hands joined, while the farmer is deciding on a child to be selected for his wife".
2. The farmer chooses another child who is led to the centre and becomes his wife. The child selected joins hands with him, and they walk around the inside of the circle in the opposite direction from which the circle players are moving
- 3-8. Each child selected in turn joins with the centre group.
9. All children in the centre, with the exception of the child who is the "cheese" return to the circle. The circle stops and the children face the centre clapping hands over the head of the child who is the cheese. The cheese becomes the new farmer when the game is repeated.

Teaching Suggestion

The first time the singing game is played it may be necessary for the teacher to be in the center of the circle to assist the children.
(6 : 80)

HERE WE GO ROUND THE MULBERRY BUSHChorus

Repeated after each verse. Action song begins with chorus.
 Here we go round the mulberry bush,
 The mulberry bush, the mulberry bush,
 Here we go round the mulberry bush
 So early in the morning.

Verses

1. This is the way we wash our clothes,
 Wash our clothes, wash our clothes,
 This is the way we wash our clothes
 So early Monday morning.
2. This is the way we iron our clothes, etc.
 so early Tuesday morning.
3. This is the way we mend our clothes etc.
 So early Wednesday morning.
4. This is the way we sweep our floor, etc.
 So early Thursday morning.
5. This is the way we scrub our floor, etc.
 So early Friday morning.
6. This is the way we make a cake, etc.
 So early Saturday morning.
7. This is the way we go to church, etc.
 So early Sunday morning.

Formation

Single circle, facing center, hands joined.

Action

As each chorus is sung, the children, with joined hands, walk or skip around the circle to the right. The arms can swing in and out during this action. On the words "so early in the morning" each child drops hands and makes a complete turn in place. During the verses, the children pantomime the actions suggested by the words. They should be encouraged to use large, vigorous movements. (1 : 189)

I'M A LITTLE TEAPOTVerse

I'm a little teapot short and stout.
 Here is my handle, here is my spout.
 I can change my handle and my spout
 Tip me over and pour me out.

Formation

Semicircle, facing teacher or leader.

Action

1. Stand straight and tall, hands at sides.
2. Place left hand on left hip to form handle, right arm forms spout by flexing elbow and wrist.
3. Place right hand on right hip to form handle, left arm forms spout by flexing elbow and wrist.
4. Bend sideways to the left, as if pouring the tea. (17 : 154)

HEADS AND SHOULDERS, KNEES AND TOESVerse

Heads and shoulders, knees and toes.
 Heads and knees, shoulders and toes.
 Heads and toes, knees and shoulders.
 Heads and shoulders, knees and toes.

Formation

Single circle, all facing in. Or, semicircle, facing teacher or leader.

Action

As each part of the body is named, the child touches that part of his body with both hands. This action song is performed to the tune of "Here We Go Round the Mulberry Bush". (17 : 155)

2. FOLK DANCESCSEBOGAR (HUNGARIAN)Formation: Single circle of couples.Basic Step: Slide, skip, Hungarian turn.Time: 2/4Part IMeasure

- | | |
|---------|--|
| 1 - 4 | Six slide steps to the left and a jump. |
| 5 - 8 | Six slide steps to the right and a jump. |
| 9 - 10 | Four skips toward center of circle. |
| 11 - 12 | Four skips back to original position. |
| 13 - 16 | Right-elbow turn with partner-end by facing partner with both hands joined (man facing counterclockwise) |

Measure

- | | |
|---------|--|
| 1 - 4 | Four draw steps toward center of circle. |
| 5 - 8 | Four draw steps to original position. |
| 9 - 10 | Two draw steps toward center of circle. |
| 11 - 12 | Two draw steps to original position. |
| 13 - 16 | Right elbow swing with partner, end up ready to begin dance from the beginning. (17 : 212) |

DANCE OF GREETING (DANISH)

Formation: Single circle of couples, facing centre.
The boy stands to the left of his partner.

Part IMeasures

- | | |
|-------|---|
| 1 | Clap hands twice and then bow or curtsy to partner. |
| 2 | Clap hands twice and then bow or curtsy to neighbour, turning back to partner. |
| 3 | Facing centre of circle, stamp feet twice in place, right-left. |
| 4 | With three light running steps, turn away from partner, once around in place and pause. |
| 5 - 8 | Measures 1 - 4 are repeated. |

Part II

- | | |
|-------|---|
| 1 - 4 | All join hands, facing left and starting with the left foot, dance lightly around the circle, making four running steps to each measure. Sixteen running steps. |
| 5 - 8 | Repeat action of measures 1 - 4 running to the right. (17 : 194) |

C) COMPETITIONS

1. INDIVIDUAL COMPETITIONS

FIREMAN

Equipment - None

A fire chief is appointed. He or she runs around the outside of a circle of children and taps a number of them on the back, saying 'Fireman' each time. After making the round of the circle the chief goes to the centre. When he says 'Fire', the Firemen run counter-clockwise around the circle and back to place. The one who returns first and is able to stand in place motionless is declared the winner and the new chief. (5 : 381)

THROWERS AND DODGERS

Equipment - A rubber ball per group

A circle is drawn on the floor. Half the children stand outside the circle as the "throwers" and half stand inside as the "dodgers". Throwers try to hit the dodgers with the ball, below the waist. When a dodger is hit, he becomes a "thrower". Winner is the dodger who can stay in the circle the longest. Repeat with dodgers becoming throwers and vice versa. (14 : 233)

TARGET BALL

Equipment - As for progression ball plus 1 additional small ball. Place small ball in centre of hoop. Players stand opposite and throw a small ball at the target ball - one point each time the ball is knocked out of the hoop. (10 : 20)

MUSICAL HOOPS

Equipment - One hoop per child plus one

Place hoops in a large circle on the floor. As the music plays the children walk counter-clockwise around the outside of the circle. When the music stops everyone must find a hoop.

Variation: The element of elimination can be added by using one less hoop than children and removing one hoop each time a child is eliminated, until one child is left in the game. (3 : 114-115)

MUSICAL CHAIRS

Equipment - Chairs

Chairs arranged in a circle around the room. There should be one less chair than children. Children walk around the chairs to musical accompaniment. When the music stops, all try to sit on a chair. The player who remains standing must take a chair and sit away from the rest. The last player remaining is the winner. (12 : 579)

BICYCLE RACE

Equipment - Desks

Children stand in the aisle between the rows of desks. They place their hands on the desks on either side. On the signal each child imitates riding a bicycle with his legs while supported by the hands. The child who rides the longest without touching the floor is the winner. (5 : 426)

SIMON SAYS

Equipment: Music

The children listen to a recording and follow the instructions given by the narrator. If he prefaces the instructions with 'Simon says' they follow it, but if it is not so prefaced they do not respond. Any player who commits an error is dropped from the game. (12 : 571)

POISON SEAT

Equipment: Books

Children with the exception of one, sit at their desks. Unoccupied desks have books placed on them; they are the poisoned seats and may not be occupied. At a signal children exchange seats, and the extra child tries to secure a seat. The player who fails to secure a seat goes to the end of the room and is no longer in the game. A book is placed on an additional desk and the game is repeated till all but 2 children are eliminated. They are the winners. (23 : 485-486)

POISON BALL

Equipment: 2 balls to each group

Players in circle formation. They pass the 2 balls around the circle. When the whistle blows players in possession of the balls must leave the group. When the group is reduced to about 4 only one ball should be used. The last player in the game is the winner. (24 : 525)

WALK - RUN RACE

Equipment - None

Children line up side by side on the starting line. On the signal "Go". they walk rapidly to the opposite line, then turn and run back to the starting line. Winner is the first child to return to the starting line.

Variation: Skip - run race

Backward forward race - walking backward to the opposite line and running forward on return trip.
(14 : 115)

2. PARTNER COMPETITIONS

THREE-LEGGED RACE

Equipment - Skipping Ropes

Two children run together as a single unit in the following fashion. The children stand side by side, facing the same direction. Adjacent ankles are tied together with the skipping rope. Arms around the body and/or waist help provide balance. With ankles tied together, the two children must cooperate in their leg rhythm. The race can be organised as a lane relay or a shuttle relay. Let the children practice before running the race.

3. GROUP COMPETITIONS

STEALING STICKS

Equipment - 12 sticks about 30cm. long. Six sticks are placed in each goal.

Players in two equal teams, stand in their own territory scattered along the centre line and facing their opponents' goal. Runners and guards appointed in each team. Guards may not stand closer than 12 feet to their goal. Members of a team run to their opponents goal and secure the sticks. They are allowed to take 1 stick per trip. Players may be caught as soon as they enter the enemy's territory. To escape being tagged they may return to their own side of the centre line as often as they desire. If caught, they are taken to their captor's prison and stay there until rescued by their own team players. If the runners reach prisoners without being tagged, prisoners and their rescuers return to their own side in safety. Only one prisoner may be rescued per trip.

The game is won by the team which first carries away all of its opponents sticks. (23 : 487-488)

NEWCOMB

Equipment - volleyball, net

Players divide into two teams, each team on its own volleyball court. Each court is about 7,5m. by 7,5m. - top of net is 150cm. from the ground. Players spread out in own courts. A player from one team throws the ball over the net into the opponents court. Opponents try to catch it before it strikes the ground and throw it back over the net. If ball hits the ground 1 point scored for the other team. Ball is started again on the side where it hit the ground. Team with most points after a 5 minute period is the winner. (14 : 241)

TRADES

Equipment - None

Two equal teams, each with a goal line. Team B, the chasers, remain behind the goal line. Team A approaches from its goal line, marching to the following dialogue -

Team A - "Here we come"
 " B - "Where from"
 " A - "New Orleans"
 " B - "Whats your trade"
 " A - "Lemonade"
 " B - "Show us some"

Team A moves up close to Team B's goal line and proceeds to act out the motions of an activity, occupation or specific task which they have chosen previously. Team B guesses what the pantomime represents. Team A gives the initials of the activity to help. A correct guess means that Team A must run back to its goal line chased by Team B. Any member caught must join Team B. The game is repeated with the roles reversed. The team ending with the greater number of players is the winner. (5 : 403)

THROW IT AND RUN

Equipment - Softball

Throwers score runs by throwing softball out into playing field, running to first base and back to home plate. If a fielder catches a fly ball or returns the ball to the catcher before the thrower returns home, thrower is out. Team scoring most runs wins. (24 : 295)

BOUNDARY BALL

Equipment - 2 volleyballs

Draw 2 parallel lines. Lines 18 metres long and 18 metres apart. Draw a centre line. Players evenly divided and placed at opposite ends of field facing centre. The line at the back of each team is that teams goal line. Give each team a ball. At a given signal each tries to throw the ball so as to cross the other teams goal. The ball must bounce or roll across the goal. Players move freely in their own end of the field trying to prevent opponents ball from crossing the goal. Team that gets the ball across the goal first wins. (24 : 278)

OBJECTS PASS

Equipment: 3 objects per team.

Children in teams, each in a circle. In a central place in the room a box with 3 objects is placed for each team. On the signal leaders run to the boxes, take out one object and carry it back to their teams and pass it around the circle. As soon as the object is being passed, he fetches the second object and passes that on, and then gets the third. The last players to receive each object put them back into the boxes. Team to put all objects back first wins. (14 : 325)

BEAN BAG TOSS RELAY

Equipment - 3 bean bags per team

The players stand in line formation, with an equal number on each team. A large circle is drawn on the floor, 3 metres in front of each line.

The first player of each team has 3 bean bags. At the starting signal the two players try to toss the bean bags, one after the other, into the circle or on the line. After the last bag is thrown, the player picks up the bean bags and gives them to the second player in line. He then goes to the end of the line. After all players have had a turn at throwing the bean bags, the winning team is declared by the highest score. Additional points could be given to the teams that finish first. (17 : 107)

BEAN BAG RELAY

Equipment - Large ball for each team

Teams line up in single file behind leaders. Each leader is given a large ball. Players assume an astride position. At a signal, the leader of each line passes the ball between his legs. Each player in turn receives the ball and passes it down the line. The last player picks it up, runs to the head of the line, and repeats the performance. First team to get back to its starting position wins.

Variation - Pass the ball overhead (1 : 213)

UP AND DOWN RELAY

Equipment - An old inflated inner tube, or a circle drawn on ground.
3 empty cans for each team

Teams line up in single file behind leaders. In front of each team, at other end of ground, place tube, inside which cans are placed. At a signal, the first runner of each team runs to the inner tube in front of his team, knocks over the cans, runs to the teacher, shakes his hand, returns to the inner tube, sets the cans upright, and returns to his team. He taps the hand of the next player who repeats the performance. First team to complete routine wins. (1 : 214)

CIRCLE RELAY

Equipment - A bean bag for each team

Players in circle formation.

Give starting player a bean bag. On signal, player runs around the circle and passes the bean bag to person in front of him. First circle to finish wins.

Variation - Zig-zig in and out between members of team (24 : 265)

OBJECT PASSING RELAY

Equipment - A bean bag for each team

Players stand side by side in line-formation. The leader holds the bean bag. On the signal, the bean bag is passed along the line as rapidly as possible to the foot of the line. The last player touches the bean bag to the floor and starts it back toward the top of the line. The team wins whose captain first receives the returned bean bag. (23 : 431)

DIZZY LIZZY RELAY

Equipment - A broom stick for each team

Teams line up in file formation behind a line. Leader holds the stick. On the signal, captains run forward. When beyond the second line, each captain places his bat in a upright position on the ground, places his forehead on the end and in that position runs around the bat 3 times. He then runs back to his team and hands the bat to the second runner. Play continues until all in the team have run. Team that completes first wins. (23 : 494)

SACK RACE

Equipment - Sacks

The sack race has long been a popular picnic event and holds strong attraction for the children. Each team has a sack and the runners must progress while their feet are inside the sack. Either lane or shuttle formations can be used. In lane formation, the sacked runner goes around a marker, returns to his or her team, and gives the sack to the next participant. Another way of running the race is to have the runner move while in the sack to a marker, get out of the sack, and run back to the head of his or her line. In the shuttle formation, the first runner moves in the sack across the area and gives the sack to the next runner.

RESCUE RELAY

Equipment - None

Players divide into even teams. Each team has a leader who stands on the "leaders line", facing other teammates, who are lined up in file formation on the "players line". On the signal, leader runs to the first player on his team, takes his hand and runs with him back to the leaders line. The leader remains on this line, and the rescued player runs back to the team and brings the next player to the leaders line with him. This continues until all are rescued. Team which first gets all players behind the leaders line is the winner. (14 : 137)

AROUND THE WORLD

Equipment - None

Children divide into even teams. Each team stands in a circle facing the centre. Each team member is given a number in consecutive order, beginning with number 1. The teacher calls a number and the players with this number run around outside of their respective circles and back to place. The player who arrives first is winner and scores 1 point for his team. The team that gets the most points at the end of the round wins. (14 : 145)

BASE-CIRCLING CONTESTS

Equipment: 4 Hoops for bases

Each class is divided into 4 equal groups. Each group is assigned to one of the bases of a diamond, with runners of each squad running as individuals in turn. The squad leader arranges his or her players in a definite numerical sequence without respect to the order of other squads. Once arranged the order may not be changed. The number one runner from each of the squads takes his or her place on the base paths. Runners may start in any manner they wish but must be in contact with the base. They run around bases when the signal is given and stop when asked to. Those who have advanced the furthest in the given time get the most points. The scoring is as follows:

First place - 4 points
 Second place - 3 points
 Third place - 2 points
 Fourth place - 1 point

(5 : 519-520)

HOOP ROLLING

Equipment - A hoop for each team

Roll hoop to turning line, pick-up, roll back. Second in line repeats. First team to complete wins. (24 : 266)

2. THE SPECIAL PHYSICAL EDUCATION PROGRAMME FOR EDUCABLE MENTALLY
RETARDED CHILDREN - PROGRAMME SCHEDULE

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
Jan 21-23	1 + 2	PRE-TESTING: Bruininks-Oseretsky Test of Motor Proficiency
Jan 26-30	3 + 4	Continuation and Completion of pre-tests.
Feb 2-3	5	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS - OBJECTIVE APPROACH (O.A.)</u> i. Circling Arms ii. Arm Stretch iii. Leg Stretch iv. Circle Running D. <u>HANDLING OF OBJECTS</u> i. Bouncing Ball ii. Bounce Ball Race iii. Pat Bouncing iv. Simple Passing v. Bounce and Catch
	6	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u> i. Monkey Running ii. Duck Waddling iii. Chopping Wood iv. Fresh Flowers and Faded Flowers v. Scrubbing the Floor II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A <u>SMALL GAMES</u> i. Squirrel in the Trees ii. Bounce Passing Game iii. Circle Stride Ball C. <u>COMPETITIONS</u> i. Stealing Sticks

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
Feb 9-13	7	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> C. <u>MOVEMENT WITH THE USE OF OBJECTS (O.A.)</u></p> <p>i. Arm and Shoulder Push ii. Capstan iii. Ropes</p> <p>II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A <u>SMALL GAMES</u></p> <p>i. Catching Tails ii. Crows and Cranes iii. Hot Potato iv. Call Ball</p> <p>C <u>COMPETITIONS</u></p> <p>i. Throw it and Run ii Trades</p>
	8	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Frog Jumping ii. Galloping Horses iii. Wet Dog iv. Dog Digging a Hole v. Crab Running</p> <p>II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u></p> <p>i. Hill Dill ii. Two Base Travel iii. Midnight iv. Stop and Start v. What is Missing?</p>
Feb 16-20	9	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Knee Bends ii Side Bending iii. Back Exercise iv. Leg Swinging v. Running on the Spot</p> <p>II <u>SOCIAL AND EMOTIONAL DEVELOPMENT</u> A. <u>SMALL GAMES</u></p> <p>i. Galloping Lizzie ii. Circle Catch Ball</p> <p>C. <u>COMPETITIONS</u></p> <p>i. Newcomb</p>

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
	10	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Chain Tag ii. Chinese Get-up iii. Corkscrew Jump iv. Chinese Boxing</p> <p>II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u></p> <p>i. Catch your Partners Tail ii. Circle Dodge Ball iii. Where Did I Visit</p> <p>C. <u>COMPETITIONS</u></p> <p>i. Boundary Ball ii. Target Ball</p>
Feb 23-27	11	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Chase Him ii. Shadows iii. Arm Stretch iv. Leg Swinging</p> <p>II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A <u>SMALL GAMES</u></p> <p>i. Spud ii. Chain Tag iii. Kneeling Tag</p> <p>C. <u>COMPETITIONS</u></p> <p>i. Fireman</p>
	12	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Sparrow Hopping ii. Catterpillar Walking iii. Angry Cats iv. Trees Swinging in the Breeze v. Wriggling Like an Earthworm</p>

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
		II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u> i. Duck Duck Duck Goose ii. Stride Ball iii. Poison Ball C. <u>COMPETITIONS</u> i. Musical Hoops
March 2-6	13	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> B. <u>MOVEMENT WITHOUT THE USE OF OBJECTS - SUBJECTIVE APPROACH (S.A.)</u> i. Walking ii. Running iii. Hopping iv. Sliding
	14	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> B. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (S.A.)</u> i. Revise activities of lesson 13 ii. Skipping iii. Jumping
March 9-13	15	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> B. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (S.A.)</u> i. Freeze ii. Balance iii. Hula Hoops iv. Stretched and Curled
	16	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> B. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (S.A.)</u> i. Combination Movement ii. Shapes iii. Occupation

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
March 16-20	17	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u> i. I'm Tall I'm Small ii. Hens and Chickens iii. Find the Leader iv. Cat and Mice v. Hand Touch
	18	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> B. <u>DANCES AND COMBINATIONS OF EXPRESSIVE MOVEMENT</u> i. If You're Happy ii. Ten Green Bottles C. <u>COMPETITIONS</u> i. Simon Says
March 23-27	19	II. <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u> i. Indian Running ii. Objects Exchange iii. I Spy C. <u>COMPETITIONS</u> i. Objects Pass ii. Poison Ball
	20	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u> i. Magic Music ii. Under the Bridge C <u>COMPETITIONS</u> i. Musical Chairs ii. Poison Seat iii. Bicycle Race

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
March 30 - April 3	21	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Rolling Log ii. Lamé Puppy Walk iii. Crab Walk iv. Forward Roll v. Back Rocker vi. Backward Curl</p>
	22	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Rabbit Jump ii. Leap Frog iii. Wheelbarrow iv. Forward Rolls v. Forward Roll to Standing vi. Forward Roll From Standing vii. Backward Roll</p>
April 7-10	23	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Toe Toucher ii. Coffee Grinder iii. Partner Pull-up iv. Activities iv-vii of Lesson 22 v. Forward Roll - Straddle vi. Combination of Forward Rolls and Backward Rolls</p>
	24	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. The Bridge ii. Elbow Wrestle iii. Leg Wrestle iv. iv-vi of Lesson 23 v. Head Stand</p>
April 21.24	25	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. V-Sit ii. Line Walking iii. Seesaw</p> <p>C <u>MOVEMENT WITH THE USE OF OBJECTS</u></p> <p>i. Bench Activities 1-10</p>

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
	26	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Wring the Dishrag ii. Chinese Get-up iii. Jump and Run</p> <p>C. <u>MOVEMENT WITH THE USE OF OBJECTS</u></p> <p>i. Section C of Lesson 25 ii. Bench Activities 11-14</p>
April 27 - May 1	27	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> A. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (O.A.)</u></p> <p>i. Pogo Stick ii. Top iii. Seat Circle</p> <p>C. <u>MOVEMENT WITH THE USE OF OBJECTS</u></p> <p>i. Stunts from the Springboard</p>
	28	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> C. <u>MOVEMENT WITH THE USE OF OBJECTS</u></p> <p>i. Ci of Lesson 27 ii Stunts over the Vaulting Table 1-4</p>
May 4-8	29	<p>I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> C. <u>MOVEMENT WITH THE USE OF OBJECTS</u></p> <p>i. Part ii of Lesson 28 ii. Stunts over the Vaulting Table 5-7</p>
	30	<p>II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> C. <u>COMPETITIONS</u></p> <p>i. Bean Bag Toss Relay ii. Bean Bag Relay iii. Pass the Ball Relay iv. Circle Relay</p>
May 11-15	31	<p>II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> C. <u>COMPETITIONS</u></p> <p>i. Up and Down Relay ii. Hoop Rolling iii. Walk-run Relay iv. Rescue Relay</p>

<u>DATE</u>	<u>LESSON</u>	<u>OBJECTIVES AND MEANS</u>
	32	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> C. <u>COMPETITIONS</u> i. Around the World ii. Object Passing Relay iii. Dizzy Lizzy Relay iv. Sack Race v. Three-legged Race
May 18-22	33	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> B. <u>MOVEMENT WITHOUT THE USE OF OBJECTS (S.A.)</u> i. Simple Rhythmic Lesson
	34	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> C. <u>MOVEMENT WITH THE USE OF OBJECTS</u> i. Rhythmic Lesson with Ropes ii. Tyres
May 25-29	35	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> B. <u>DANCES AND COMBINATIONS OF EXPRESSIVE MOVEMENT</u> i. London Bridge ii. Shoo Fly iii. Heads and Shoulders Knees and Toes
	36	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> B. <u>DANCES AND COMBINATIONS OF EXPRESSIVE MOVEMENT</u> i. Farmer in the Dell ii. I'm A Little Teapot iii. Revise Lesson 35
June 2-3	37	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> B. <u>DANCES AND COMBINATIONS OF EXPRESSIVE MOVEMENT</u> i. Csebogar
	38	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> B. <u>DANCES AND COMBINATIONS OF EXPRESSIVE MOVEMENT</u> i. Dance of Greeting ii. Revise Lesson 37

June 8-12	39	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> D. <u>HANDLING OF OBJECTS</u>
		i. Throwing Overhand ii. Pitching iii. Catching Fly Balls iv. Fielding Grounders
	40	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> D. <u>HANDLING OF OBJECTS</u>
		i. Revise Lesson 39 ii. Batting
		II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u>
		i. Throw It and Run Softball
June 15-19	41	I <u>MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENT</u> D. <u>HANDLING OF OBJECTS</u>
		i. Parts D i and ii of Lesson 40 ii. Pat Bouncing
		II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u>
		i. Batter Ball
	42	II <u>EMOTIONAL AND SOCIAL DEVELOPMENT</u> A. <u>SMALL GAMES</u>
		i. Base Circling Contest ii. Batter Ball iii. Scrub
June 22-26	43	POST-TESTING: Bruininks-Oseretsky Test of Motor Proficiency
	44	POST-TESTING: Continuation and Completion

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APPENDIX B

DESCRIPTION OF SUPPLEMENTARY ACTIVITIES USED FOR THE
PHYSICAL EDUCATION PROGRAMME

The activities used in this programme have been arranged according to the specific objectives of the General Programme of the Syllabus for Physical Education.

GENERAL PROGRAMME

1. MOVEMENT DEVELOPMENT AND PHYSICAL DEVELOPMENTA) MOVEMENTS WITHOUT THE USE OF OBJECTS (OBJECTIVE APPROACH)5. Positioning (whole body)STATIC BALANCE

- a. Assume 3 point position (left knee off floor and the right knee off floor).
- b. Assume 2 point position on left hand and right knee and then on right hand and left knee.
- c. Kneel on right or left knee with arms crossed, then on right knee with arms crossed.
- d. Squat with arms crossed.
- e. Stand with feet together, on tip toes with hands on waist.
- f. Stand, heel to toe, left foot in front and then right foot in front, with hands on waist.
- g. Stand on left foot and then right foot, with arms crossed.
- h. Stand on left foot and then right foot, with arms crossed, blinded-fold. (1 : 111-112)

6. Combination of activities 1-5Balancing Activities: Progressions

The child:

1. Jumps up and down, alternating feet.
2. Jumps sideways to left and right.
3. Jumps backward to the ground.
4. Jumps and turns to the right $\frac{1}{4}$ turn, $\frac{1}{2}$ turn, $\frac{3}{4}$ turn, and full turn.
5. Jumps and claps hands before landing.
6. Jumps and catches an object in the air.
7. Jumps over an obstacle.
8. Jumps and throws an object. (1 : 111 - 112)

C) MOVEMENTS WITH THE USE OF OBJECTS

1. Objects(moving or stationary) for support and on which to hang
 - a. On objects(centre of gravity ABOVE base of support)
- 2) Movements over and on to objects
 - a. With continuous contact

ACTIVITIES WITH FOAM GEOMETRIC SHAPES -

BALANCINGi. Stepping Stones

Construct a 'Stepping-stone' course by arranging shapes of two colours (red and yellow, for example) so that children can step from one to the other. Cut pieces of red and yellow construction paper for each child. Tape a red piece on one foot and a yellow piece on the other. Instruct children to follow the course stepping on the shapes whose colours correspond to the colours taped on their feet. You may need to help some children maintain their balance by holding their hands. (Doing the course barefoot is an interesting tactile experience.) (4 : 6-11)

a+b With continuous contact and temporary contact

COLOURED SHAPES AND CIRCLES

Children use various means of locomotion, such as hopping, skipping, walking and running around a circle.

They stop when told on a designated object such as a triangle, square, circle or half circle - as in musical chairs.

They step through a large hoop or several held vertically or horizontally at various heights.

They walk up and down on a inclined bench or plank, or along seesaw benches, or on an inclined ladder.

They run to music stopping suddenly when music stops and standing on toes and on one foot.

They play stepping stones using bricks, tins, hoops or chalk circles.

Tug-of-war with elbows linked.

Hopscotch-Numerical grid The children jump into numbered squares called by the teacher, or jump consecutively as in regular hopscotch. (1 : 111-112)

c. Along objects (Centre of gravity ALONG the base of support)

2. Movements on and over objects

a. With continuous contact

FITNESS ROUTINE WITH ROPES

Four children are in column formation, holding the rope on one side of the body with the hand on that side. There are three signals for changes in the manoeuvre. On the first signal, the four children run in column formation (as in follow the leader holding the rope on one side (right or left). The leader takes them in various directions. On the second signal, the rope is shifted overhead quickly to the other side and the running continues. The third signal causes the four to stop and form a jumping group. The two on the outside (front and rear) become the turners, and the two in the center perform as jumpers. On the next signal, the routine is repeated, except the jumpers then take the front and rear positions with the rope, so they become turners on the next jumping. (2 : 282)

2. Object to be avoided
- a. OVER OBJECTS
- 2) Locomotor movements, losing contact

ACTIVITIES WITH SKIPPING ROPES

INTRODUCTORY SKILLS

1. Hold the rope 15cm. from the ground. Children jump over, back and forth. Raise the rope a little each time. Be sure to hold the rope loosely in the hands. This is called Building a House.
2. The Ocean Wave - turners make waves in the rope by moving the arms up and down. The children try to time it so as to jump over a low part of the wave.
3. Snake in the Grass: The holders stoop down and wiggle the rope back and forth on the floor. Children try to jump over the rope and not touch it as it moves.
4. Swing the rope in a pendulum fashion. Children jump the rope as it passes under them. This establishes basic jumping patterns and should have good development.
5. Have the child stand in the centre between the turners. Carefully turn the rope in a complete arc over the jumper's head. As the rope completes the turn, the jumper jumps over it. He or she immediately exits in the same direction as the rope is turned.
6. Run through the turning rope without jumping, following the rope through.
7. While the rope is being turned, the jumper runs in and jumps once. She then runs out immediately.
8. When they have difficulty with the rhythm, the children can practice to one side without actually jumping to the rope. A drumbeat can be used to reinforce the rhythm with alternate heavy (jump) and light (rebound) beats. (2 : 280)

INTERMEDIATE SKILLS, ROUTINES, AND CHANTS

1. Run in, jump a specified number of times, and run out.
2. Add chants that dictate the number or jumps, which are to be followed by an exit.

Tick tock, tick tock,
 What's the time by the clock?
 It's one, two, et cetera (up to midnight).

I like coffee, I like tea,
 How many boys (girls) are wild about me?
 One, two, three, et cetera (up to a certain no.)

3. Try different kinds of steps. Vary the two-footed jump with right and left hops and heel-and-toe steps.
4. Vary the jumping patterns with turns. Make 4 quarter turns until the jumpers again face the original direction.
5. Add stunts as directed by selected chants.

Teddy Bear, Teddy Bear, come in
 Teddy Bear, Teddy Bear, turn around
 Teddy Bear, Teddy Bear, touch the ground
 Teddy Bear, Teddy Bear, show your shoe
 Teddy Bear, Teddy Bear, run away.

6. Hot Pepper: Turners turn the rope faster and faster, with the performer trying to keep up with the increased speed. The following chants are good for Hot Pepper.

Mabel, Mabel, set the table,
 Bring the plates if you are able,
 Don't forget the salt and
 Red Hot pepper!
 (On the words "Red hot pepper," the rope is turned as fast as possible until the jumper misses).

Pease porridge hot, pease porridge cold,
 Pease porridge in a pot nine days old.
 Some like it hot, hot, hot.

7. Calling in: The first player enters the rope and calls in a second player by name. Both jump three times holding hands, and then the first runs out. The second player then calls in a third player by name. Both jump three times holding hands, and the second player exits. Players should be in an informal line, waiting to be called in, since the fun comes from the uncertainty of when one is to enter.
8. Take a ball with you. Bounce the ball while jumping.
9. Have a partner ready with a ball. Toss the ball back and forth to your partner as you jump.
10. Begging: A jumper runs in and works his or her way up the rope toward one of the turners. As he or she jumps, he or she says, "Father, father, give me a dollar." The turner replies, "Go see your mother." The jumper works his or her way toward the other turner and says, "Mother, mother, give me a dollar." The turner replies, "Go to your father." This continues until a miss or one of the turners says in reply, "Get out" or "get lost" at which the jumper exits.
11. One or both holders can go inside and jump, turning with their outside hands. First attempts can begin with a pendulum swing and then proceed to a full turn.

12. Making up chants: The children can be encouraged to make up chants. They can begin from scratch or can fill in blank spaces in a rough format. The material to be inserted is in parentheses.

(Suzy, Suzy) dressed in (yellow)
 Went upstairs to (kiss a fellow).
 How many (kisses) did she (get)?
 One, two, et cetera.

(Joe, Joe) dressed in (white)
 Went upstairs to (say "good night")
 How many steps did he (take)?
 One two et cetera. (2 : 280-282)

INDIVIDUAL ROPE JUMPING

The following steps can be used - Two-foot basic step, alternate foot step, swing step forward, swing-step sideward, heel-toe, crossing arms, double turn of the rope, sideways skipping.

INDIVIDUAL ROPE JUMPING WITH PARTNERS

One child turns the rope and one or more children jump with him or her.

1. The first child turns the rope and the other stands in front ready to run in.
 - a. Run in, face partner, and both jump. Try with hands on the waist, hands on the shoulder.
 - b. Run in, turn back to partner, and both jump.
 - c. Decide on which steps are to be done. Run in, match steps.
 - d. Repeat with the rope turning backwards.
 - e. Run in with a ball, and bounce it during the jumping.

2. Partners stand side by side, clasp inside hands, and turn the rope with outside hands.
 - a. Face the same direction, and turn the rope.
 - b. Face opposite directions, clasp left hands, and turn the rope.
 - c. Face opposite directions, clasp right hands, and turn the rope.
 - d. Repeat routines with inside knees raised.
 - e. Repeat all with elbows locked. Try other arm positions. (2 : 287)

ACTIVITIES WITH FOAM GEOMETRIC SHAPES -ROPE GAME

Tie a large shape to the end of a rope. Children stand in a circle and twirl the rope around in such a way that the shape swings along the floor or ground in front of the children's feet. The children jump over the shape each time it comes around to them.

c. AROUND objectsACTIVITIES WITH FOAM GEOMETRIC SHAPES -LOCOMOTOR SKILLS

1. Arrange a series of shapes on the floor. Children move around the shapes in any or all of the following ways:
 - i. Change mode of locomotion
 - ii. Change direction of locomotion
 - iii. Move from a shape with a curved surface to a shape with a flat surface.
2. Have each child place a shape between his or her knees and jump in a circle.

f. INTO objectsROPE FORMING A CIRCLE

1. Hop in and out of the circle, moving around. Jump. Jump backward.
 2. Begin in the circle. Jump forward, backward, and sideward, each time returning to the centre of the circle.
 3. Place feet in the circle and walk the hands the full circumference outside the circle. Place hands inside and feet outside. Face the floor, the ceiling, and to the side.
 4. Jump in with a bunny jump. Jump out. (2 :289)
5. Combinations of activities 1-3

ACTIVITIES WITH FOAM GEOMETRIC SHAPES1. ROLLING - MISCELLANEOUS

- i. Have children find as many ways as possible to hold a shape while doing a forward roll, backward roll, or dive roll.
- ii. Ask children to find as many ways as possible to move with, over, and around a ball as it rolls.
- iii. Have children roll the shape using as many parts of the body as they can.

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2. PHYSICAL ACTIVITIES

a. Physical Identification

Emphasis should be placed on identification of Shapes, colour sizes, straight and curved lines, body parts, and bilateral development. Directions to children:

1. Find a shape that is like the one you have, that is different, that has a curved side, that has the same colour, that is smaller or bigger, and so on.
2. Step from Shape to Shape.
3. Balance your body on one part; then balance on a designated shape.
4. Balance a designated shape on one part of your body.
5. Jump over, to the left, and to the right of designated Shapes.
6. Crawl over or under particular shapes.
7. Try to make your body take the form of one of the shapes.
8. Make a bridge over a shape with two parts of your body.
9. Use feet and legs to place several of the shapes in the form of letters or numerals.
10. With your eyes closed, identify a shape by feeling it with your hands.
11. Using your body and the shapes, make some letters, such as H,A,T.

3. RELAY RACES

1. Walk forward, backward, or on tiptoes while balancing shape on head.
2. Hold shape under chin and walk, hop, slide, skip, or run.
3. Hop, holding shape between legs.
4. Crab walk, while balancing shape on stomach-chest area.
5. Scoot across floor on buttocks with shape between knees.
6. Partners race back-to-back, holding shape between them.
7. Hop, skip, or run with shape resting between wrist and hip.
8. Hop in the pattern of shape on the floor (each child does this in turn.)

9. Obstacle course constructed with the shapes are interesting alternatives to the more traditional relay forms. The foam shapes can serve as objects to manoeuvre around or over. For example, roll a ball through the course, using different body parts. Or, dribble a ball through the course with feet or with hockey sticks. (4 : 6-11)

VISUAL MOTOR ACTIVITIES

1. a. Place large numbers, letters, or geometric forms on the play surface. Ask the child to walk heel-to-toe on the lines which form the figures.
- b. Have the child stand at varying distances from a wall and roll, throw, or bounce a brightly coloured ball at the wall. The ball should be retrieved by the child. Emphasize visual concentration on the ball.
- c. Hold a broomstick at various heights, depending upon the capabilities and characteristics of the child, and ask the child to duck under, step over, or slip around but not touch the stick.
- d. Secure a length of rope approximately 3 metres in length. Tie the ends of the rope together so that the rope may form a circle. Place the rope circle on the ground. Make believe that the circle is a mud puddle, and ask the children to leap or jump across (but not into) the puddle.
- e. Two tightly stretched, parallel ropes held at approximately elbow height and slightly more than shoulder width apart are held by standards or assistants. Ask the child to walk forward (backward, sideways) between the ropes but not touch either rope.
- f. Have the child push a small ball while creeping across and around the playing surface.

MOVEMENTS GUIDED BY ROPE PATTERNS

Rope forming a straight line

1. Hop back and forth, moving down the line. Return using the other foot.
2. Jump lightly back and forth down the line. Return.
3. Hop slowly under control down the line. Hop rapidly back.
4. Jump so the rope is between the feet each time, crossing and uncrossing the feet alternately.
5. Do crouch jumps back and forth across the rope. Vary with three points and then two points of contact.
6. Jump as high as you can down the line and as low as possible back.
7. Lie across the rope, holding one end. Roll down the line, causing the rope to roll around the body. Unroll the rope back to position. (2 : 289)

D) HANDLING OF OBJECTS

1. MOVE objects, especially those on the ground
 - a. Without implements

ACTIVITIES WITH FOAM GEOMETRIC SHAPES - FEET OFF THE FLOOR

Have the children lie on their backs, legs extended, holding a shape between their feet. Ask children to raise and lower their legs slowly; to bring their feet back over their heads and touch their shapes to the floor behind them. (4 : 6-11)

SKIPPING ROPE FORMING VARIOUS FIGURES

Have the rope form different figures, such as geometric figures, letters, and numbers. Many of the challenges previously described apply here too.

1. With the rope and yourself, form a triangle, a square, a rectangle, a diamond shape, and a figure eight.
2. With the rope and yourself form a two-letter word. Form other words. (2 : 290)

- b. With implements

VISUAL MOTOR ACTIVITIES - A LARGE BALL AND HOOP BETWEEN TWO

How many different ways can you use the hoop as a target in which to throw or kick the ball?

2. MOVE object which is in the air

VISUAL-MOTOR ACTIVITIES - PAIRS PRACTICE WITH A SMALL BALL

1. Catching with both hands, children stand a short distance apart.
2. Standing a little further apart - different ways of sending the ball accurately to a partner, eg. one-handed, rolling, bouncing, kicking, and other ways which come to mind.
3. Moving freely bouncing the ball to a partner (encourage the use of space and sensible bounces).

ACTIVITIES WITH FOAM GEOMETRIC SHAPES - FLOOR EXERCISES1. STRETCHING EXERCISES

Children hold a shape with both hands as they listen and respond to the following types of directions:

"Pretend that your shape is pulling you high into the air."

"Hold your shape high above your head. Pretend that your shape is a flower, and that you are the stem. Let the wind blow your flower very far to one side, and then to the other."

"Stand with your legs spread apart. Touch your shape to the floor. Reach backwards through your legs, sliding the shape slowly along the floor until it is behind you."

2. THROWING AND CATCHING

In large-group settings, many of the following activities can go on simultaneously, as the children can work independently with the shapes, individually or in pairs. Some of the activities involving the use of foam balls can be made more challenging and interesting if other shapes are substituted.

Activities For Individuals

Children can:

1. Throw a ball into the air or against a wall, and see how many times they can clap, turn around, or jump, before catching it.
2. Throw a ball into the air or against a wall with their right hand and catch it with their left hand. Alternate hands.
3. Hit ball against a wall with hand and catch it.
4. Place ball on one foot, flip it into the air, and catch it.
5. Throw a ball into the air, form a 'basketball hoop' with their arms, and let the ball drop through the hoop.
6. Put string through shape and hang from ceiling. 'Punch' it back and forth, or bat it lightly.
7. Throw a ball to partner and count how many times he or she can clap, turn around, or jump up and down, before catching it.
(4 : 6-11)

BEAN BAG ACTIVITIES1. WITH ONE BEAN BAG

(simple activities)

Throw (toss) upward and catch (use two hands, one hand).

Throw very high and catch high (then low near floor).

Throw very long, run pick up, and return to start.

Hold in hand and make big (little) arm circles (squares, triangles); increase (decrease) speed like windmills.

Toss across body with rhythmical swing from hand-to-hand keeping palms down (up); perform with eyes open (closed).

2. WITH A PARTNER

Throw (toss) underhand (overhand) and catch.

Throw high (low) and catch high (low).

Throw to unexpected positions and catch.

Throw and catch two bean bags.

Throw two bean bags from same hand.

3. WITH ONE BEAN BAG

(more difficult actions)

Toss overhead from hand.

Toss overhead out of reach, run sideways, and catch.

Throw forward, run to catch.

Start to throw forward but make a quick turn and throw to partner.

Place on instep and walk.

Swing leg forward and backward with bean bag on instep.

Circle leg with bean bag on foot.

Swing leg to toss bean bag off foot and away from body.

Swing leg to toss bean bag off foot as far as possible across the room.

Swing bean bag up from foot and catch.

Place bean bag between feet and spring forward.

Place bean bag between feet, jump upward, release bean bag, and catch.

Toss bean bag into big hoop (tyre, waste basket, box).

Kick bean bag from foot to partner.

4. WITH BARE FEET

Lift bean bag with toes.

Lift bag with toes and place on line (in circle).

Lift bean bag with toes and place in waste basket (box).

Hold bean bag in hand with arms extended waist (shoulder, head) high and swing leg up to touch bean bag.

Place bean bag between feet, toss it up behind body, and catch.

Hold bean bag at head height, drop it, and catch with same hand before it touches ground; keep palms up (down).

Throw high, bend to crouch position and catch.

5. FOR THE IMAGINATIVE

Sit (kneel), push bean bag on floor around body.

Stand, drop bean bag over head to one side; keep feet still, pick it up (repeat to other side).

Swing arm around back of body, toss bean bag up, and catch it in front.

Toss bean bag through legs to partner (gradually increasing distance).

Stand about 360cm away from partner; toss bean bag high to partner who catches it and slides it along floor back to partner; continue in this manner.

Place bean bag on back and bunny jump trying to dislodge it.

Place bean bag between feet and bunny jump kicking bean bag backwards to partner.

Stand, throw bean bag high into air; lie down quickly and catch bean bag.

Lie down, throw bean bag high in air; stand quickly and catch bean bag.

Lie on stomach; push bean bag in circle around body.

Lie on stomach; lift bean bag with arms straight in front.

Lie on stomach; lift bean bag high and look under it.

Lie on stomach; throw and catch with partner.

Lie on stomach; throw bean bag as far as possible.

Lie on stomach one behind the other; toss bean bag back over head (long throw) to partner.

6. WITH BEAN BAG ON HEAD

Walk (change, speeds, vary kind of walk).

Run (change directions).

Toss bean bag into hands.

Toss bean bag forward into hands.

Spring and toss bean bag forward.

Toss bean bag backward (sideways).

Lie down keeping bean bag on head; stand up. (3 : 1)

5) Combination of activities 1-4

ACTIVITIES WITH HULA HOOPS -

1. Hoop Spin
 - a. Spin the hoop on the following body parts:
one arm, neck, ankle, wrist, elbow, waist.
 - b. How close to the floor can you spin the hoop?
 - c. Spin the hoop while moving around the room.
2. Roll the hoop on the floor.
3. How many different ways can you bend while holding the hoop?
4. What can you do with a foot and 2 hands holding the hoop?
5. With one edge of the hoop on the ground, step in, out, around, over the hoop.
6. Sit in the hoop without touching it.
7. Jump with the hoop.
8. With a partner holding the hoop on edge or parallel to the ground, can you move in, around, over, and through it?
9. With a partner holding 2 hoops how can you go through them?

10. Place hoops on the floor in various patterns. The children progress through them using various locomotor patterns (walk, run, jump, etc.)
11. Hoops can be used with bean bags. Children toss the bean bags into the hoops that are flat on the ground or parallel to the ground. (2 : 277)

E) COMBINATIONS OF BODY MOVEMENTS AND HANDLING OF OBJECTS

Moving, stopping and positioning objects:

1. With locomotion on objects

ACTIVITIES WITH FOAM GEOMETRIC SHAPES - BALANCE BEAM

Children can balance or hold shapes as they move across a balance beam (walking forward, backward, sideways, or on tip-toes). Suggest that they try holding the shapes under the chin, under one or both arms, tucked between the head and shoulder, behind the back and on the head. (4 : 6-11)

BALL AND TYRE ACTIVITIES

ACTIVITIES DONE ALONE

1. Can you stand inside the tyre while you keep the ball bouncing inside the tyre?
2. Can you stand inside the tyre and bounce the ball outside the tyre? Can you do this while moving around? Which way is more difficult?
3. Can you stand outside the tyre and bounce the ball inside the tyre?
4. Can you roll your ball around inside the tyre? How about outside the tyre?
5. Have the children bounce the ball at various levels. Waist, knee, chest, etc.
6. For the following activities have the children place the tyre about 150cm. from the wall.
 - a. Can you throw your ball against the wall and catch it while standing in your tyre? Can you back your tyre up and still catch the ball?
 - b. Stand behind your tyre. Can you throw your ball against the wall so that it will bounce back directly into your tyre?
 - c. Can you bounce your ball into the tyre so that it will bounce to the wall? Can you do the same thing and then catch the ball as it bounces off the wall?

Activities With A Partner

1. Can you and your partner bounce the ball back and forth through the tyre?
 2. While one partner is bouncing the ball inside the tyre can you take the ball away? (The partner trying to take the ball away should not be allowed to step on the tyre.).
While bouncing the ball, where should your body be in relation to the defensive player? Between him and the ball? (2 : 311-312)
2. Avoiding a Stationary Object

VISUAL-MOTOR ACTIVITIES - ROPES

Ropes at various heights scattered about the playground, eg. ropes tied across pairs of chairs, clothes lines tied to any available points, skipping ropes stretched out on the ground. In pairs working under or over appropriate height on the following activities:

- a. Throwing quoits to each other. Try to throw 5 times over the rope without dropping the quoit.
 - b. Large or small ball. Throwing the ball over the rope to be caught by your partner after one bounce (target 5 times as above).
 - c. Playbats and shuttlecocks. Keeping the shuttle going and remembering the best score.
 - d. Playbat and small ball - over the rope as many times as possible (allow one or two bounces).
3. With a moving Object Being Taken into Account

VISUAL-MOTOR ACTIVITIES - TWO PIECES OF APPARATUS

Originate activities using two different pieces of a apparatus.

- eg. Throw or kick a ball at a skittle.
 Throw a ball through a moving hoop.
 Stand in a hoop - bounce small ball around outside.
 Throw large ball up - head into hoop.
 Bounce a large ball from side to side along the length of a skipping rope on the ground.
 Throw at a skittle.
 Keep a ball bouncing with the aid of a bat.

II EMOTIONAL AND SOCIAL DEVELOPMENT

A) SMALL GAMES

GAME ACTIVITIES WITH FOAM GEOMETRIC SHAPES

i Foam Shape Turnover

Provide each child with a Shape as identification. Divide the class into groups of seven, and have each group stand in a circle. One child in each group stands in the center of the circle and calls out the names of two shapes. The children holding these Shapes must change positions. The caller (or 'It') tries to get to one of the positions left open during the turn-over. The child left without a place becomes the caller. If the caller says, 'Shapes swap', all must change positions.

ii Variations Of Red Rover

Have each child choose a shape and stand on a line at one end of a gymnasium or playing field. One child, the 'Red Rover' stands in the center of the playing area.

The game begins as the 'Red Rover' calls out the name or colour of a shape. Children with the shape described must run to a line on the opposite side of the playing area, without being tagged by the 'Red Rover'. Those tagged become 'Red Rover', join in center of area, and continue to call out shape descriptions in unison. The game ends when all but one child have been tagged. This child then becomes the new 'Red Rover'.

iii Obstacle Course

Using the foam shapes, set up an obstacle course. Mark each point in the course with a particular shape. Provide a large box of foam shapes at each point in the course. The child must find in the box a shape corresponding to the shape which marks that particular point.

iv. Rolling and Retrieving

What Rolls Easiest?

Children each choose a shape, sit in a circle, and listen and respond to the following type of instructions:

"If you have a ball, roll it to someone who has a cube".

"If you have a cube, roll it to someone who has a cylinder".

After each child has had a chance to roll each type of shape, discuss which shapes rolled easiest, and why.

v. Group Games - Quiet

Who's Got The Shape?

Children sit in a circle. One child leaves the circle or shuts his or her eyes. Give a shape to one of the seated children who hides it somewhere by sitting or lying on it or by placing it behind him or her. "It" tries to guess who has the shape.

Quiet Directions

Each child sitting in a circle has a shape. Have children listen and respond to the following type of instructions; "Throw your ball to someone who has a red cube."
"Roll your curved shape to someone who has a triangle."

Feeling Shapes

Use a large laundry bag or pillowcase and let children see which shapes are in the bag. Have one child at a time put his or her hand in the bag, find a shape, and without looking, tell the group which shape he is feeling. The child then shows the shape to the group.

Shape Memory

Have children sit in a semicircle. Line up a series of four or five different shapes. Give the children ample time to study the display and then have them close their eyes. Replace one shape with a new one of a different size, colour, or form. Have children tell which shape in the series has been changed. Later, try changing two of the shapes. (4 : 6-11)

BALL AND TYRE GAME

Can you and your partner create a new game using a ball and a tyre? Give students about 10 minutes for this activity, then switch partners. They can explain their games to one another. You may want to have the partner exchange several times. The students really enjoy this part of the lesson and I feel it is the most rewarding. This is where the social, emotional, and intellectual skills can be greatly developed. To develop these skills should be a goal of all physical education teachers and it is our responsibility to have activities which enhance their development. (2 : 311-312)

BOUNCE PASSING GAME

One large ball and 2 ropes to each group of five. 'A' and 'B' attempt to pass to 'C' and 'D' by bouncing the ball in 'E's' area. 'E' attempts to intercept the pass. Can you make 3 successful passes? Change 'E' so that all have a turn.

FIND THE MOON ROCK

The children decide on an object to be hidden. It should be small, eg. a pebble to represent the moon rock. The teacher chooses one player to be the astronaut and sends him/her out of the class while the rest of the children hide the moon rock in the class room. When the astronaut enters the room and approaches or moves away from the moon rock the class may hum or clap loudly or softly depending on the position of the child in relation to the moon rock. When he finds the moon rock he chooses another child to be the astronaut. (1 : 226)

NUMBERS CHANGE

The children sit in a circle, with the child who is 'IT' in the centre. The children are numbered consecutively. 'IT' calls out two numbers such as 3 , 9 . The children whose numbers are called out must quickly jump up and exchange seats, during which time 'IT' tries to take one of the seats. The player left out will then become 'IT' , and will have to call out numbers. (1 : 227)

WHAT'S THE TIME MR WOLF?

Chosen one walks slowly followed by the rest of the class. Rest call out in unison;

' What's the time?' The wolf answers '2 o' clock', '3 o' clock' , etc. 'Dinner time'... and turns around to catch the children. The children must try and reach the safety area without being caught.

DO THIS,DO THAT

Children must imitate the teacher when the teacher says: 'Do this' and they ignore instructions when the teacher says 'Do that'.

K I N G SPELLS KING

Leader stands facing in one direction. The rest stand about 50 paces behind but facing the same direction. While the leader spells 'K I N G' the others are allowed to advance. But at the end of the spelling the leader turns around to find everyone deadstill or else the offenders must return to the starting position. The first to reach the leader becomes the new leader.

DODGE BALL IN THREE'S

Two players try to hit the third player, the dodger, below the waist, by throwing the ball at him. If she is hit, she changes with one of the throwers. Each has a turn as the dodger.
(4 : 60)

FOX AND GEES

4 or 5 players are the geese. They form a line, each placing her hands on the shoulders or waist of the one in front. Another player the fox, stands facing the leading goose. At a signal the fox tries to touch the last goose by dodging down each side of the line, whilst the geese protect the last one by dodging also. (4 : 14)

NOSE AND TOES TAG

A child is chosen to be 'IT' and attempts to catch any one of the other children. One who is tagged becomes 'IT'. As a child is tagged, he holds up his hand for a moment to show others that he is 'IT'. A player may escape being tagged by grasping his nose with one hand and the toes of one foot with the other hand. Each child should be allowed a maximum of three safe tags by grasping his nose and toes. (1 : 228)

TOP HAT TAG

The children are seated within a designated area. One child is chosen to be 'IT' and another to be the runner. The runner and 'IT' place a bean bag on their heads, and they do not use their hands to hold the bean bag. 'IT' chases the runner and tries to tag him. The runner may transfer his bean bag to the head of any other player, who then becomes the runner. If the runner is tagged he then becomes the new 'IT'.
(1 : 228-229)

C) COMPETITIONS1. INDIVIDUAL COMPETITIONSPOISON HOOPS

Children join hands in a circle. One or two hoops are passed around the circle by the children climbing through them. When the music stops the children with the hoops get a point against them. The child or children with the least number of points against them at the end win the game. (2 : 277)

KING OF THE RING

Players stand on one leg inside the ring and fold their arms. On a signal all players hop and try to push each other out of the ring. A player is out (a) if both feet touch the ground at the same time, or (b) if his foot touches the ground outside the ring.

He must then immediately step out of the game without being told to do so. In this way the player is his own umpire, and thus receives excellent training in sportsmanship.

The foot may be changed at any time with a hop, but players must be careful not to have both feet on the ground at once.

The arms must be kept folded, and must not be used against an opponent in any way.

Note - This is the simplest form of the game; but it is only recommended for very small classes, when the eliminated players do not have to stand out of the game for long. (5 : 17)

3. GROUP COMPETITIONS

BEAN BAG TOSS RELAY

The players stand in line formation, with an equal number on each team. A large hoop is drawn on the floor, 3 metres in front of each line. The first player of each team has 3 bean bags. At the starting signal the leaders try to toss the bean bags, one after the other, into the hoop. A point is given for each bean bag resting in the hoop or on the edge of the hoop. After the last bag is thrown, the player picks up the bean bags and gives them to the second player in line. He then goes to the end of the line. After all players have had a turn at throwing the bean bags, the winning team is declared by the highest score. (6 : 123-126)

TUG-O-WAR

The teacher draws a line; and divides the children into 2 teams. The children hold each other at the waist. The front children of each team stand on the line facing each other and holding each others palm. When the teacher shouts "Pull" the children begin to pull. The team that pulls the children across the line to their side wins.

TOUCH RUGBY

Pupils must form two teams. Ball is passed by hand, on the floor among players the aim being to get the ball through the goal area (marked by placing a mat at opposing teams' end of the pitch). When the ball is placed on the mat (goal area) the defending team takes possession of the ball. As soon as a player (in possession of ball) is touched by an opposing player, he is obliged to pass the ball or drop it. No tackling is allowed. (5 : 107)

BULL IN THE RING.

This game played as an inter - team contest on the "Knock-out" principle will be found to be very interesting, strenuous, and exciting.

Formation - Each team forms a circle with hands tightly clasped. A player (the Bull) from each team is selected to go into an opposing ring. He should be selected by his own side for his pluck, determination, quickness, and strength.

Procedure - 1st Round: If there are four teams, and A and B and C and D are drawn to meet each other, then team A will have its Bull in the ring formed by B, while the B bull will go inside the ring formed by team A. Teams C and D will arrange similarly.

2nd Round: The winner of A vs B and of C vs D contest the final for 1st and 2nd places, while the losers meet for 3rd and 4th places.

On the signal to start each Bull tries to get outside the ring by breaking it, or dodging under it while the Ring resists. The bull should spring surprises on the Ring by attacking it at unexpected points.

The team wins whose representative first breaks through its opponent's ring. (5 : 11)

CATCH YOUR TAIL

Formation - Two or more files stand, each player gripping firmly the waist of the one in front. The first player in each file belongs to a different team from all the others, eg. the leaders of A and B teams change places, and similarly for C and D. A tail (sash or rope) is loosely attached to the back of the last player in each file, eg by slipping it under his belt.

Object - The player at the "head" tries to snatch out the "tail" whilst all the other players aid the last man in preventing this. The first to pull out the tail wins for his team. (5 : 14)

HOOP ROLLING

Teams line up in single file behind the leaders. Each one rolls the hoop to a turning line, and back to the file. Second in line repeats. The first team to complete wins.

The hoops are arranged in a circle. The children walk around the outside of the hoops. Game starts with the same number of hoops as children. The children work to music. When the music stops they all go to a hoop. Eliminate a hoop after each round.

Variation - children perform specific skills in the hoops each time the music stops. (2 : 277)

REFERENCES

1. ARNHEIM, D.D. and PESTOLESI, R.A. : *Developing Motor Behavior in Children.* The C.V. Mosby Co., Saint Louis, 1973.
2. DAUER, U.P. and PANGRAZI, R.P. : *Dynamic Physical Education for Elementary School Children.* Burgess Publishing Co., Minnesota, 1979.
3. HARVARD-JONES, B. : *Fun and Games with Bean Bags.* Challenge, Vol. 7, 1971.
4. LARSON, L. : *Foam Geometric Shapes.* Shields Manufacturing Inc., U.S.A. 1977.
5. MACCUAIG, D. and CLARK, G.S. : *Games worth Playing. For School, Playground, and Playing Field.* Longmans, London, 1967.
6. MORAN, J.M. and Kalakian, L.H. : *Movement experiences for the Mentally Retarded or Emotionally Disturbed Child.* Burgess Publishing Co., Minnesota, 1974.

APPENDIX C

CORRESPONDENCE

1. LETTER SENT TO UNIVERSITIES AND COLLEGES IN SOUTH AFRICA THAT
OFFER COURSES IN PHYSICAL EDUCATION.

University of Durban-Westville
Department of Physical Education
21-01-1980

Dear Sir/Madam,

I am conducting a survey of colleges and universities that offer a teacher-preparation course in physical education for the mentally retarded.

Does your institution offer anything in this area of physical education? If so, would you be kind enough to send me a letter stating the exact year you first offered your course, and also is this course open to both physical education specialists and special education personnel or is it just for physical education specialists. A description of the nature of the course would also be very helpful. If such a course is not offered in your department could you please refer letter to the relevant department. I would appreciate this information.

Thank you for your kind effort.

Yours sincerely,

P.D. CHETTY (MISS)

2. LETTER SENT TO THE DEPARTMENT OF INTERNAL AFFAIRS REQUESTING
PERMISSION TO CONDUCT RESEARCH IN DEPARTMENTAL SCHOOLS

78 Tyger Avenue
Greenwood Park
Durban
17-11-1980

The Director
Department of Internal Affairs
Private Bag X54323
DURBAN
4000

Dear Sir,

I request permission to visit schools for the purpose of conducting research for a Masters Degree.

The study will deal with the development and evaluation of a motor activity programme on the motor performance of educable mentally retarded children. The research will take the following form:-

1. Administration of tests
2. Programme
3. Retest

I assure you that should the request be granted, the study will in no way inconvenience teachers, or disrupt the everyday activities of the school or Department.

Yours faithfully,

P.D. CHETTY (MISS)

3. REPLY FROM DEPARTMENT OF INTERNAL AFFAIRS

Department of Internal Affairs
Director of Indian Education
Private Bag X54323
DURBAN
4000
11-12-1980

Miss PD Chetty
78 Tyger Avenue
Greenwood Park
DURBAN
4051

Madam

PERMISSION TO CONDUCT RESEARCH IN DEPARTMENT SCHOOLS

Your letter dated 1980-11-17 has reference

1. Permission is hereby granted to you to conduct your research at the Colleevale, N.P.S., S.M. Jhavary, Springfield Gardens and St. Aidans Primary Schools, subject to the following conditions:
 - 1.1 Prior arrangements are made with the Principals of the schools concerned.
 - 1.2 The permission of the parents of the pupils selected for this investigation is obtained.
 - 1.3 The motor ability programme is commenced with only after it has been submitted to this Department for its scrutiny and approval.
 - 1.4 The programme is administered during the Physical Education periods only.
 - 1.5 The information obtained from the pupils is treated confidentially and used solely for academic purposes.
2. Please produce this letter to principals, when visiting the schools.
3. The Department wishes you every success in your research project and it looks forward to receiving a copy of the findings after the completion of the project.

Yours faithfully,

DIRECTOR OF INDIAN EDUCATION

5. LETTER SENT TO DEPARTMENT OF INTERNAL AFFAIRS WITH MOTOR
ABILITY PROGRAMME

Department of Physical Education
University of Durban-Westville
Private Bag X54001
DURBAN
16-02-1981

The Director
Department of Internal Affairs
Private Bag X54323
DURBAN

Dear Sir,

In your letter dated 1980-12-11, you requested that I submit a copy of my motor activity programme to your office for approval. I have completed the pre-testing and am now in a position to supply you with the required information. Attached please find a copy of the programme to be used. I would appreciate it if you could inform me of your acceptance of the programme, as soon as possible.

Thank you,

Yours sincerely,

P.D. CHETTY (MISS)

6. REPLY FROM DEPARTMENT OF INTERNAL AFFAIRS

Department of Physical Education
University of Durban-Westville
Private Bag X54001
DURBAN
23-02-1981

Miss PD Chetty
Department of Physical Education
University of Durban-Westville
Private Bag X54001
DURBAN

Madam

M.A. DEGREE IN PHYSICAL EDUCATION : MOTOR ABILITY PROGRAMME

Your letter received in this office on 1981-02-16 has reference

1. Permission is hereby granted to you to use the motor ability programme for the purpose of your research.

Yours faithfully,

DIRECTOR OF INDIAN EDUCATION

APPENDIX D

A. Individual Record Form

BRUININKS-OSERETSKY TEST OF MOTOR PROFICIENCY / Robert H. Bruininks, Ph.D.

INDIVIDUAL RECORD FORM

COMPLETE BATTERY AND SHORT FORM

NAME _____ SEX: Boy Girl GRADE _____
 SCHOOL/AGENCY _____ CITY _____ STATE _____
 EXAMINER _____ REFERRED BY _____
 PURPOSE OF TESTING _____

<p>Arm Preference: (circle one)</p> <p style="text-align: center;">RIGHT LEFT MIXED</p> <p>Leg Preference: (circle one)</p> <p style="text-align: center;">RIGHT LEFT MIXED</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Year</td> <td style="text-align: center;">Month</td> <td style="text-align: center;">Day</td> </tr> <tr> <td>Date Tested</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Date of Birth</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Chronological Age</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> </table>		Year	Month	Day	Date Tested	_____	_____	_____	Date of Birth	_____	_____	_____	Chronological Age	_____	_____	_____
	Year	Month	Day														
Date Tested	_____	_____	_____														
Date of Birth	_____	_____	_____														
Chronological Age	_____	_____	_____														

SUBTEST	POINT SCORE Maximum Subject's	STANDARD SCORE Test (Table 23)	STANDARD SCORE Composite (Table 24)	PERCENTILE RANK (Table 25)	STANINE (Table 25)	OTHER
Complete Battery:						
GROSS MOTOR SUBTESTS:						
1. Running Speed and Agility ...	15	_____	_____	_____	_____	_____
2. Balance	32	_____	_____	_____	_____	_____
3. Bilateral Coordination	20	_____	_____	_____	_____	_____
4. Strength	42	_____	_____	_____	_____	_____
GROSS MOTOR COMPOSITE		* <input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>
		SUM				
5. Upper-Limb Coordination ...	21	_____	* <input style="width: 30px; height: 20px;" type="text"/>			
FINE MOTOR SUBTESTS:						
6. Response Speed	17	_____	_____	_____	_____	_____
7. Visual-Motor Control	24	_____	_____	_____	_____	_____
8. Upper-Limb Speed and Dexterity	72	_____	_____	_____	_____	_____
FINE MOTOR COMPOSITE		* <input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>
		SUM				
BATTERY COMPOSITE		* <input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>	<input style="width: 30px; height: 20px;" type="text"/>
		SUM				
*To obtain Battery Composite: Add Gross Motor Composite, Subtest 5 Standard Score, and Fine Motor Composite. Check result by adding Standard Scores on Subtests 1-8.						
Short Form:						
	POINT SCORE Maximum Subject's	STANDARD SCORE (Table 27)	PERCENTILE RANK (Table 27)	STANINE (Table 27)		
SHORT FORM	98	_____	_____	_____		

DIRECTIONS

- Complete Battery:**
1. During test administration, record subject's response for each trial.
 2. After test administration, convert performance on each item (item raw score) to a point score, using scale provided. For an item with more than one trial, choose best performance. Record item point score in circle to right of scale.
 3. For each subtest, add item point scores; record

total in circle provided at end of each subtest and in Test Score Summary section. Consult *Examiner's Manual* for norms tables.

- Short Form:**
1. Follow Steps 1 and 2 for Complete Battery, except record each point score in box to right of scale.
 2. Add point scores for all 14 Short Form items and record total in Test Score Summary section. Consult *Examiner's Manual* for norms tables.

SUBTEST 1: Running Speed and Agility

1. Running Speed and Agility^{SF*}

TRIAL 1: _____ seconds TRIAL 2: _____ seconds

Raw Score	Above 11.0	10.9-11.0	10.5-10.8	9.9-10.4	9.5-9.8	8.9-9.4	8.5-8.8	7.9-8.4	7.5-7.8	6.9-7.4	6.7-6.8	6.3-6.6	6.1-6.2	5.7-6.0	5.5-5.6	Below 5.5
Point Score	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

RECORD POINT SCORES FOR COMPLETE BATTERY

RECORD POINT SCORES FOR SHORT FORM

POINT SCORE SUBTEST 1 (Max: 16)

SUBTEST 2: Balance

1. Standing on Preferred Leg on Floor (10 seconds maximum per trial)

TRIAL 1: _____ seconds TRIAL 2: _____ seconds

Raw Score	0	1-3	4-5	6-8	9-10
Point Score	0	1	2	3	4

2. Standing on Preferred Leg on Balance Beam^{SF} (10 seconds maximum per trial)

TRIAL 1: _____ seconds TRIAL 2: _____ seconds

Raw Score	0	1-2	3-4	5-6	7-8	9	10
Point Score	0	1	2	3	4	5	6

3. Standing on Preferred Leg on Balance Beam—Eyes Closed (10 seconds maximum per trial)

TRIAL 1: _____ seconds TRIAL 2: _____ seconds

Raw Score	0	1-3	4-5	6	7	8	9	10
Point Score	0	1	2	3	4	5	6	7

4. Walking Forward on Walking Line (6 steps maximum per trial)

TRIAL 1: _____ steps TRIAL 2: _____ steps

Raw Score	0	1-3	4-5	6
Point Score	0	1	2	3

5. Walking Forward on Balance Beam (6 steps maximum per trial)

TRIAL 1: _____ steps TRIAL 2: _____ steps

Raw Score	0	1-3	4	5	6
Point Score	0	1	2	3	4

6. Walking Forward Heel-to-Toe on Walking Line (6 steps maximum per trial)

TRIAL 1: = _____ steps TRIAL 2: = _____ steps

Raw Score	0	1-3	4-5	6
Point Score	0	1	2	3

7. Walking Forward Heel-to-Toe on Balance Beam^{SF} (6 steps maximum per trial)

TRIAL 1: = _____ steps TRIAL 2: = _____ steps

Raw Score	0	1-3	4	5	6
Point Score	0	1	2	3	4

8. Stepping Over Response Speed Stick on Balance Beam

TRIAL 1: Fail Pass TRIAL 2: Fail Pass

Raw Score	Fail	Pass
Point Score	0	1

POINT SCORE SUBTEST 2 (Max: 32)

*SF and the box in left-hand margin indicate Short Form items

SUBTEST 3: Bilateral Coordination

1. Tapping Feet Alternately While Making Circles with Fingers^{SF} (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

2. Tapping—Foot and Finger on Same Side Synchronized (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

3. Tapping—Foot and Finger on Opposite Side Synchronized (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

4. Jumping in Place—Leg and Arm on Same Side Synchronized (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

5. Jumping in Place—Leg and Arm on Opposite Side Synchronized (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

6. Jumping Up and Clapping Hands^{SF}

TRIAL 1: _____ claps TRIAL 2: _____ claps

Raw Score	0	1	2	3	4	Above 4
Point Score	0	1	2	3	4	5

7. Jumping Up and Touching Heels with Hands

TRIAL 1: Fail Pass TRIAL 2: Fail Pass

Raw Score	Fail	Pass
Point Score	0	1

8. Drawing Lines and Crosses Simultaneously (15 seconds)

NUMBER OF PAIRS CORRECT _____

Raw Score	0	1	2-3	4-5	6-7	8-9	10-11	12-14	15-17	Above 17
Point Score	0	1	2	3	4	5	6	7	8	9

SUBTEST 4: Strength

1. Standing Broad Jump^{SF} (record number from tape measure)

TRIAL 1: _____ TRIAL 2: _____ TRIAL 3: _____

Raw Score	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Point Score	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

2. Sit-ups (20 seconds)

NUMBER _____

Raw Score	0	1-2	3-4	5-6	7-8	9-10	11-12	13-15	16-18	19-20	Above 20
Point Score	0	1	2	3	4	5	6	7	8	9	10

3a. Knee Push-ups (For Boys Under Age 8 and All Girls) (20 seconds)

NUMBER _____

Raw Score	0	1-2	3-5	6-7	8-9	-	-	10-12	-	-	13-15	-	16-18	-	-	19-20	Above 20
Point Score	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

3b. Full Push-ups (For Boys Age 8 and Older) (20 seconds)

NUMBER _____

Raw Score	0	-	-	-	1-5	6-9	-	10-11	12-13	-	14-15	-	16-17	18-20	-	Above 20	
Point Score	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

*For Subtest 3, circle pass or fail in Items 1-5

RECORD POINT SCORES FOR COMPLETE BATTERY

RECORD POINT SCORES FOR SHORT FORM

○ □

○ □

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POINT SCORE SUBTEST 3 (Max: 20)

○ □

○ □

○ □

○ □

○ □

POINT SCORE SUBTEST 4 (Max: 42)

SUBTEST 5: Upper-Limb Coordination

1. Bouncing a Ball and Catching It with Both Hands (5 trials)

NUMBER OF CATCHES: _____

Raw Score	0	1-2	3-4	5
Point Score	0	1	2	3

2. Bouncing a Ball and Catching It with Preferred Hand (5 trials)

NUMBER OF CATCHES: _____

Raw Score	0	1-2	3-4	5
Point Score	0	1	2	3

3. Catching a Tossed Ball with Both Hands^{SP} (5 trials)

NUMBER OF CATCHES: _____

Raw Score	0	1-2	3-4	5
Point Score	0	1	2	3

4. Catching a Tossed Ball with Preferred Hand (5 trials)

NUMBER OF CATCHES: _____

Raw Score	0	1-2	3-4	5
Point Score	0	1	2	3

5. Throwing a Ball at a Target with Preferred Hand^{SP} (5 trials)

= HITS

Raw Score	0	1-2	3-4	5
Point Score	0	1	2	3

6. Touching a Swinging Ball with Preferred Hand (5 trials)

NUMBER OF HITS: _____

Raw Score	0	1-2	3-4	5
Point Score	0	1	2	3

7. Touching Nose with Index Fingers—Eyes Closed (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

8. Touching Thumb to Fingertips—Eyes Closed (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

9. Pivoting Thumb and Index Finger (90 seconds maximum)

* Raw Score	Fail	Pass
Point Score	0	1

SUBTEST 6: Response Speed

1. Response Speed*

TRIAL	SECONDS TO WAIT	SCORE ¹	RANKED TRIAL SCORES ²
Practice 1	1	XXXX	
Practice 2	3	XXXX	
1	2	_____	HIGHEST
2	3	_____	
3	1	_____	
4	3	_____	MEDIAN
5	2	_____	
6	1	_____	
7	1	_____	LOWEST

¹Record number from response speed stick in this column.

²Rank all seven trial scores, highest to lowest, in boxes provided. The point score for Subtest 6 is the median (middle) or fourth score from the top.

RECORD POINT SCORES FOR COMPLETE BATTERY

RECORD POINT SCORES FOR SHORT FORM

*For Subtest 5, circle press or fail in items 7-9

SUBTEST 7: Manual Motor Control

RECORD
POINT
SCORES
FOR
COMPLETE
BATTERY

RECORD
POINT
SCORES
FOR
SHORT
FORM

1. Cutting Out a Circle with Preferred Hand

NUMBER OF ERRORS: _____

Raw Score	Above 10	10	8-9	3-7	0-2
Point Score	0	1	2	3	4

2. Drawing a Line Through a Crooked Path with Preferred Hand

NUMBER OF ERRORS: _____

Raw Score	Above 6	6	2-5	1	0
Point Score	0	1	2	3	4

3. Drawing a Line Through a Straight Path with Preferred Hand^{SF}

NUMBER OF ERRORS: _____

Raw Score	Above 6	6	2-5	1	0
Point Score	0	1	2	3	4

4. Drawing a Line Through a Curved Path with Preferred Hand

NUMBER OF ERRORS: _____

Raw Score	Above 6	6	2-5	1	0
Point Score	0	1	2	3	4

5. Copying a Circle with Preferred Hand^{SF}

SCORE: _____

* Raw Score	0	1	2
Point Score	0	1	2

6. Copying a Triangle with Preferred Hand

SCORE: _____

* Raw Score	0	1	2
Point Score	0	1	2

7. Copying a Horizontal Diamond with Preferred Hand

SCORE: _____

* Raw Score	0	1	2
Point Score	0	1	2

8. Copying Overlapping Pencils with Preferred Hand^{SF}

SCORE: _____

* Raw Score	0	1	2
Point Score	0	1	2



POINT
SCORE
SUBTEST 7
(Max: 24)

* See scoring criteria for Items 5-8 in Appendix A of *Examiner's Manual*.

SUBTEST 8: Upper-Limb Speed and Dexterity

RECORD
POINT
SCORES
FOR
COMPLETE
BATTERY

RECORD
POINT
SCORES
FOR
SHORT
FORM

1. Placing Pennies in a Box with Preferred Hand (15 seconds)

NUMBER OF PENNIES: _____

Raw Score	0-5	6-10	11-13	14-15	16-17	18-19	20-21	22-23	24
Point Score	0	1	2	3	4	5	6	7	8

2. Placing Pennies in Two Boxes with Both Hands (50 seconds maximum for seven correct pairs)

PAIRS CORRECT: TIME IN SECONDS: _____

Raw Score	Above 49	41-49	31-40	26-30	21-25	18-20	16-17	14-15	12-13	10-11	Below 10
Point Score	0	1	2	3	4	5	6	7	8	9	10

3. Sorting Shape Cards with Preferred Hand^{SF} (15 seconds)

NUMBER OF CARDS: _____

Raw Score	0	1-8	9-12	13-16	17-20	21-25	26-29	30-33	34-37	38-41	Above 41
Point Score	0	1	2	3	4	5	6	7	8	9	10

4. Stringing Beads with Preferred Hand (15 seconds)

NUMBER OF BEADS: _____

Raw Score	0-1	2-4	5	6	7	8	9	Above 9
Point Score	0	1	2	3	4	5	6	7

5. Displacing Pegs with Preferred Hand (15 seconds)

NUMBER OF PEGS: _____

Raw Score	0	1-5	6-7	8-9	10-11	12-13	14-15	16-18	19-20
Point Score	0	1	2	3	4	5	6	7	8

6. Drawing Vertical Lines with Preferred Hand (15 seconds)

NUMBER OF LINES: _____

Raw Score	0	1-3	4-6	7-9	10-12	13-16	17-20	21-24	25-35	Above 35
Point Score	0	1	2	3	4	5	6	7	8	9

7. Making Dots in Circles with Preferred Hand^{SF} (15 seconds)

NUMBER OF CIRCLES WITH DOTS: _____

Raw Score	0	1-10	11-15	16-20	21-25	26-30	31-35	36-40	41-50	51-60	Above 60
Point Score	0	1	2	3	4	5	6	7	8	9	10

8. Making Dots with Preferred Hand (15 seconds)

NUMBER OF DOTS: _____

Raw Score	Below 10	10-25	26-35	36-45	46-55	56-65	66-75	76-85	86-95	96-105	Above 105
Point Score	0	1	2	3	4	5	6	7	8	9	10

NOTES/OBSERVATIONS

POINT
SCORE
SUBTEST 8
(Max: 72)

STUDENT BOOKLET

NAME _____

EXAMINER _____ DATE _____

AGS American Guidance Service
Circle Pines, Minnesota 55014

SUBTEST 3: Bilateral Coordination

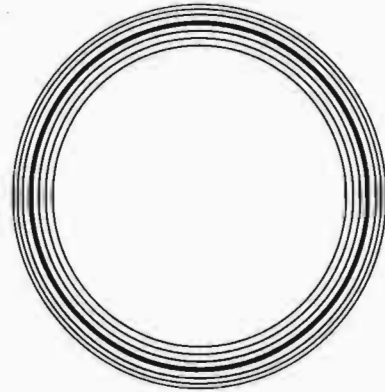
Item 8 / Drawing Lines and Crosses Simultaneously

PRACTICE

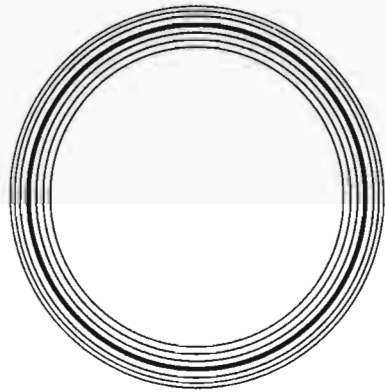
TEST

SUBTEST 7: Visual-Motor Control

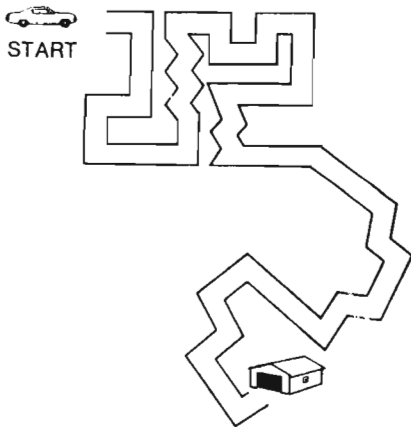
Item 1 / Cutting Out a Circle with Preferred Hand



Number of Errors



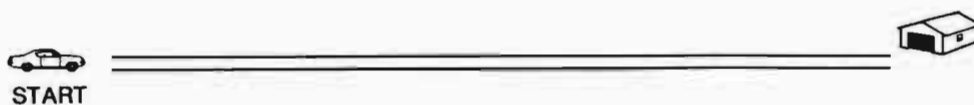
Item 2 / Drawing a Line Through a Crooked Path with Preferred Hand



Number of Errors

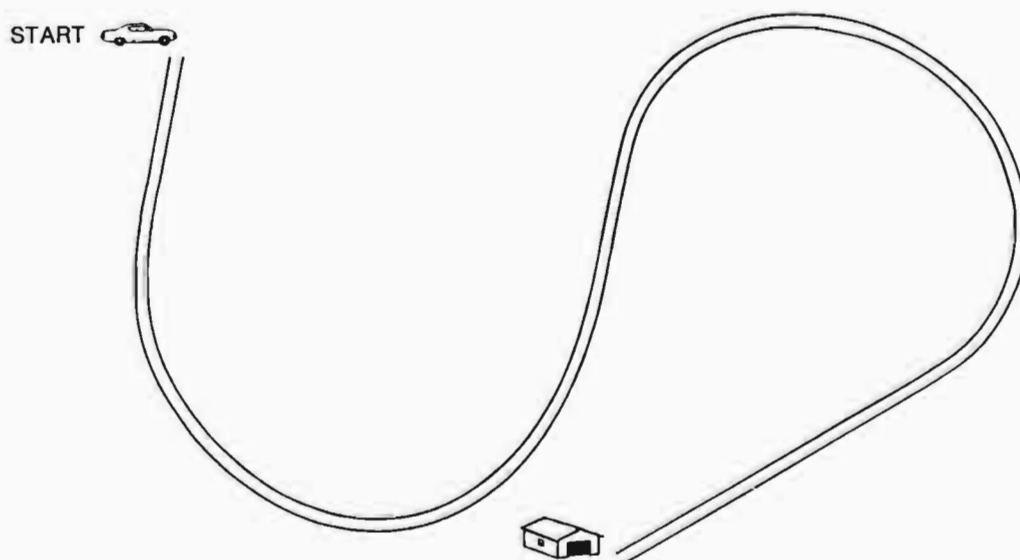
SUBTEST 7: Visual-Motor Control

Item 3^{SF} / Drawing a Line Through a Straight Path with Preferred Hand



Number of Errors

Item 4 / Drawing a Line Through a Curved Path with Preferred Hand

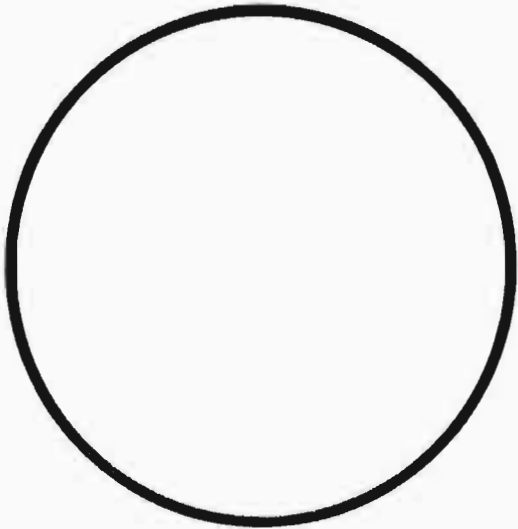
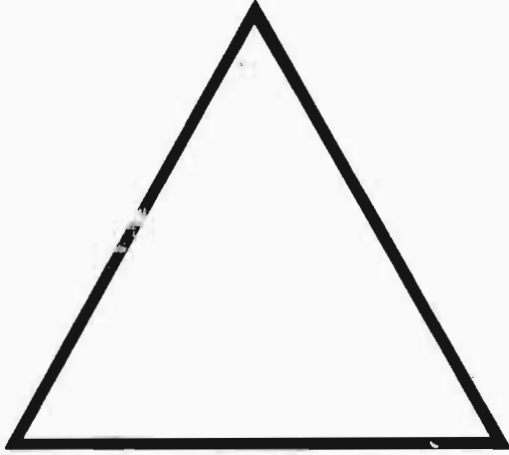


Number of Errors

SUBTEST 7: Visual-Motor Control

Item 5^{SF} / Copying a Circle
with Preferred Hand

Item 6 / Copying a Triangle
with Preferred Hand

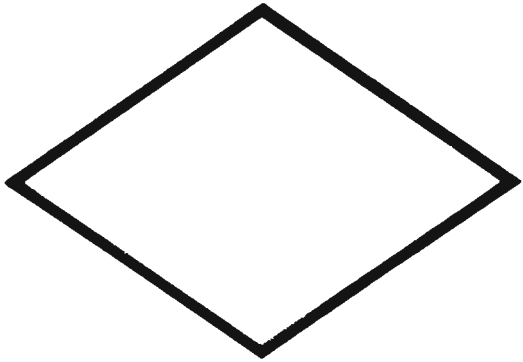
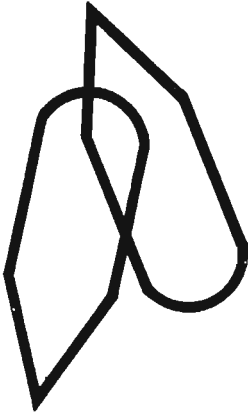
Score

Score

SUBTEST 7: Visual-Motor Control

Item 7 / Copying a Horizontal Diamond
with Preferred Hand

Item 8^{SF} / Copying Overlapping Pencils
with Preferred Hand

Score

Score

SUBJECT 3: Upper-Limb Speed and Dexterity

Item 6 / Drawing Vertical Lines with Preferred Hand



PRACTICE



TEST



Number
Correct

SUBTEST 8: Upper-Limb Speed and Dexterity

Item 7^{SF} / Making Dots in Circles with Preferred Hand

Practice: ○ ○ ○ ○ ○

○	○	○	○	○	○	○	○	○	○
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○	○	○	○	○	○	○	○	○	○

Number Correct

SUBTEST 8: Upper-Limb Speed and Dexterity

Item 8 / Making Dots with Preferred Hand

PRACTICE

Number
Correct