OPERATIONAL GUIDELINES FOR THE DEVELOPMENT AND IMPLEMENTATION OF ADAPTED PHYSICAL EDUCATION PROGRAMS FOR THE MENTALLY RETARDED IN PUBLIC SCHOOLS

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Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
December, 1982

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PREFACE

This study is concerned with the analysis of physical education and its relationship to special education in public schools. The primary objective is to identify operational guidelines for the development and implementation of adapted physical education programs for the mentally retarded in public schools. A literature substantiated descriptive and analytical investigation from special education and physical education references is used to identify the operational guidelines.

The author wishes to express his utmost appreciation to his major adviser, Dr. Betty Abercrombie, for her professional expertise, guidance, and personal concern throughout this study and the author's doctoral program. Appreciation is also greatly expressed to the other committee members: Dr. Betty Edgley, for her personal concern and viewpoints regarding physical education; Dr. Vicki Baker, for her expertise in adapted physical education and efforts to make such a reality; Dr. Thomas Karman, for his understanding, efforts, and critiques to make this study defensible; and Dr. Barbara Wilkinson, for her fresh and challenging perspectives in special education. The committee's assistance was invaluable in not only the preparation of the final manuscript, but also in providing careful scrutiny and a solid interdisciplinary approach to the problem.

Finally, my grateful appreciation is dedicated and lovingly expressed to my wife, Mary Ann, for her constant vigil of reading, typing, commenting, and suggesting elements of preparation. Her love, sacrifices, encouragement, and badgering made this endeavor all worthwhile.

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CHAPTER I

INTRODUCTION

Many recent developments have affected the status of Adapted Physical Education (APE) Programs for students who are Mentally Retarded (MR) in American public schools. The Education for all Handicapped Children Act of 1975, P.L. 94-142 (Federal Register, 1977) mandated direct services of physical education for all MR children ages 3 to 21, as well as inservice training to all available physical education personnel engaged in any educational aspect for handicapped children. Wessel (1977, p. 7) stated that "a very significant impact of P.L. 94-142 will occur, not only with special educators providing for handicapped students but also with physical education teachers and support personnel." In addition, Sherrill (1981) contended that if APE programs are to be successful they must be of current, comprehensive, and multidisciplinary educational effort and direction.

Physical education for the MR has frequently encountered a question of applicable worth. Powers (1982) suggested that personal values, program biases, and specific and individual concerns are often impeding elements for the successful development and implementation of programs. The nature of physical education for the MR exists in various extremes ranging from full service to no service whatsoever. Miller and Sullivan (1982) stated that as the idea of integrating the

MR into the public school system spreads, outmoded definitions of physical education will give way to new concepts. Physical education may mean a process whereby MR individuals are helped to develop new behaviors to cope more effectively with the environment.

Wiseman (1982) stated that the MR are more likely to realize their first successes in physical and motor fitness skills justifying the provision of physical educational activities to facilitate appropriate development. Despite the clear intention of integrating the MR into physical education programs there are at least two problems in providing such normalization opportunities. Crowe, Auxter, and Pyfer (1981) identified these as: first, the instructional technology available has not been incorporated into physical education; and second, the physical education teacher may not have had appropriate training to utilize new instructional processes and techniques.

Hence, this study is based on conclusions supported by the literature that physical education experiences for the MR are educationally significant. While currently there exists a very limited amount of literature describing such a comprehensive delivery system, it is assumed that: (1) direct appropriate physical education services for the MR are insignificantly operant in public schools, (2) there are sufficient resources in special education and physical education to identify operational guidelines for Adapted Physical Education programs for the MR, and (3) the identified operational guidelines would be capable of being implemented by public schools to meet the unique physical education needs of the MR as well as be compliant with the mandates of P.L. 94-142.

Purpose of the Study

The purpose of this study was to identify operational guidelines for the development and implemented of Adapted Physical Education programs for the mentally retarded in public schools. Specifically, the objectives of this study were to: (1) define the educational function of physical education within special education programs and (2) identify and construct operational processes necessary to educate the mentally retarded in specially designed physical education programs in public schools.

Rationale for the Study

Enactment of P.L. 94-142 rules and regulations in 1977 has created a new set of conditions under which physical education teachers must function. As a result, Howe (1981) stated that reactions to P.L. 94-142 vary from cautious enthusiasm to feelings of resentment at being dictated to and regulated by agencies outside of the school system. Crowe et al. (1981) contended that

> . . . no one type of adapted physical education program is suitable for all school levels or for all school districts. Possibly, this is why there is a very limited amount of material written about the organization and administration of physical education for the handicapped. Good organization and administration are essential if handicapped children are to be included in increasing numbers in schools and if they are to grow and flourish at a time when educational costs are rising and when pressures exist to examine carefully the total curricular offerings at all school levels (p. 423).

In the case of MR, the categorical label itself does not provide adequate information for the physical educator. Seaman and DePauw (1981) suggested that the characteristics of the category of MR be

used in understanding, evaluating, and programming as guiding provisions only. The emphasis should be placed upon the child's needs and capabilities with attention paid to possible limitations. The categorical classifications of MR can and have sometimes been used to place undue limitations upon an individual's performance. Hobbs (1975) inferred that the characteristics of MR manifested by such students within physical education programs must be employed in a manner that best serves the individual exceptionality supported by discrete operational guidelines.

Howe (1981) found that most local school districts in the United States clearly are not of sufficient size to provide comprehensive instructional services to all of the handicapped pupils. Shanker (1980) stated that 4.25 million handicapped children, age 0-21, were either receiving inappropriate or no special education services. This necessitates that new or expanded programs be provided by the public schools. This is especially significant for the handicapping condition of MR. The U.S. Office of Education (1980) released figures indicating MR children reported under P.L. 94-142 and P.L. 89-313 constituted 23.2 percent or 916,073 of all handicapped pupils served by schools and state agencies.

A recent survey of state directors of special education showed that procedures for providing physical education, a required service for MR students, are not covered in the handicapped student referral and placement process in 62 percent of the states, as reported in Education for the Handicapped (1980). Also, physical education needs of MR students are not being assessed through testing in 71 percent of the states.

The question of responsibility for managing physical education programs for the MR has plagued physical and special education administrators in various forms. Typically, adapted physical education is characterized by a dual system of administration. Reynolds (1978) characterized the practice as the "two-box" arrangement whereby children (MR) are placed in either special or regular classes. This arrangement has come under increasing criticism since the passage of P.L. 94-142, which mandated physical education placement of the MR in the least restrictive environment based on individual potential, not merely availability of services.

Definition of Terms

Adapted Physical Education - A comprehensive service delivery system designed to identify and ameliorate problems within the psychomotor domain. Services include assessment, individualized educational programming, developmental and/or prescriptive teaching, counseling, and coordination of related resources/services so as to provide optimal physical education experiences for all children and youth (Sherrill, 1981).

Individualized Education Program - Refers to written statements regarding the child's present level of performance, annual goals, and short-term objectives; specific educational and support services to be provided, including the projected date services will start and how long they will last; the amount of time the child will spend in regular classrooms, and annual criteria to determine whether the proposed objectives are being accomplished. Further, the IEP must be reviewed and modified, if necessary, at least annually (Howe, 1981).

Least Restrictive Environment - Refers to the principle that handicapped children should be educated with nonhandicapped peers in regular education settings whenever possible. Allowances are made for placement in special classes or other settings when they are the least restrictive based on the needs of the individual involved (Meyen, 1978).

Mainstreaming - Maximum integration in the regular class combined with minimal concrete assistance from the regular education teacher. The role of the adapted physical education specialist is to include consulting and assisting regular physical educators who have students with special needs integrated into their classes (Seaman and DePauw, 1982).

Mental Retardation - Refers to significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period (Grossman, 1973).

Physical Education - Refers to the development of: (a) physical and motor fitness, (b) fundamental motor skills and patterns, (c) skills in aquatics, dance, and individual and group games and sports including intramural and lifetime sports. The term includes special physical education, adapted physical education, movement education, and motor development (Federal Register, 1977).

Special Education - Means specially designed instruction at no cost to the parent, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and other institutions (Federal Register, 1977).

Limitations of the Study

1. The operational guidelines identified and constructed for adapted physical education in this study do not constitute the only organizational and administrative design for the physical education of mentally retarded students in public schools.

2. The operational guidelines do not represent a curricular model of physical education for the mentally retarded.

3. The study identifies the organizational and administrative design of adapted physical education for the mentally retarded in a generic, not categorical, analysis of the disability in the construct of program design.

Methods and Procedures

A literature substantiated descriptive and analytical investigation was used to identify and construct operational guidelines for the development and implementation of adapted physical education programs for the mentally retarded in public schools. The study used a significant amount of referenced documentation of appropriate literature from physical education, special education, and related service professions in identifying and constructing the operational guidelines. Specifically, the study employs the following procedures:

1. The investigator conducted a review of related literature to expand upon the context and background of physical education activities for the mentally retarded and to provide subsequent development of a rationale for adapted physical education.

2. In order to gain greater generalizability of adapted physical education, operational processes of special education were examined by the investigator for underlying conceptual similarities and differences.

3. An abstraction of the operational processes in special education were derived by the investigator to establish an understanding of the interrelationship between physical education and special education.

4. The investigator utilized classification at the abstract level to interrelate processes within physical education and special education to identify and construct organizational, administrative, and service delivery operations of adapted physical education necessary for the mentally retarded in public schools.

CHAPTER II

REVIEW OF THE LITERATURE

Characteristics of Mental Retardation and Psychomotor Ability

Stein (1975) stated that research on physical education and psychomotor function of MR persons has developed through a series of planned steps with investigation reported in the five year period between 1968 and 1971 as the peak for this subject area. The rapid increase in research activity during this period resulted from diverse sources and a variety of forms in the sponsorship of such research. While many of the findings are little different from reviews and analyses reported as much as 20 years ago, previous and current evidence make statements about physical education for the MR more positive and definitive.

Wessel (1975) found that systematically designed physical education and psychomotor materials capable of replication were of crucial importance to improving motor performance capacity of MR persons. With full recognition of various limitations of research in general, and that included in this study in particular, review and analyses of studies revealed that physical fitness, motor ability, and physical proficiency levels of MR can be improved. While current research is not as definitive in this respect, recent trends from related studies, empirical evidence, and subjective interpretation suggest higher

motor and physical potential than has been reported or expected. Stein (1975) noted that

> . . . bases for research studies, project support, program efforts, and statements about physical fitness, motor ability and physical proficiency of MR populations continue to be dominated by statistics and studies at least six or seven years old. Little use or application of findings from recent studies have been noted (p. 5).

Asmussen and Nielson (1956) found that physical performance of the MR (ages 7 to 16) differed from the normal population. However, few differences were found in the performance of the MR in different age groups. Alley and Carr (1968) studied the effects of an extended, systematic training program of sensory motor activities, visual perception, and concept formation on 56 MR boys and girls ages 5 to 10. Results indicated that intelligence as expressed by IQ was not statistically significant in terms of performance for youngsters with IQ's above 95. However, youngsters with lower IQ's (average 83) performed less skillfully than youngsters of normal intelligence. Cratty (1980) found that the MR reacted more slowly to stimuli than do non-MR and that reaction time tended to increase when the psychomotor task to be performed, and/or stimuli to be reacted to, is more complex. Thus, it has been found that the MR evidence greater variability in psychomotor response than is found in the normal population. However, recent work (McGowen et al., 1973; Dobbins and Rarick, 1977), indicated that this tendency to act in a variable manner in such tasks, as well as in laboratory tests, did not necessarily depress the mean scores in such tasks, as was formerly believed to be the case.

Recent factor analytic work on physical abilities, using moderately retarded by Rarick (1977), revealed a factor structure similar to that found in educables. There were also few differences in the factors isolated within the moderately retarded group when the scores of those in various groups (ages 6 to 12 years) were compared. A survey of 435 trainables revealed seven factors that accounted for the majority of psychomotor variance, including: (1) body fat or dead weight, (2) fine visual-motor coordination, (3) balance, (4) upper limb-eye coordination, (5) arm strength, (6) spinal flexibility, and (7) leg-power coordination.

Research supports the contention that the MR, when considered as a group, are less proficient in motor skills and physical fitness performance than normal children (Stein, 1963; Malpass, 1963). A study by Cratty (1966) indicated that educable and trainable MR youth demonstrate motor deficiencies. Coleman, Ayoud, and Friedrich (1976), using the bicycle ergometer to assess cardiovascular fitness of acult educable and trainable MR males, found that their physical fitness was 20 to 30 percent below that of normal peers. Francis and Rarick (1959) indicated that the motor performance of MR children is two to four years behind that of normal children of the same chronological age. Although the MR child follows the same developmental pattern as the normal child, this pattern is at a lower level when compared to normal children of the same chronological age. The performance of the MR remained relatively fixed with age. MR children, therefore, fall further behind normal children as they grow older. Thus, as Chasey (1971) found, overlearning is an important variable in the retention of psychomotor skills by MR children.

Bruininks (1974) noted that despite lower achievement in motor skills and possible restrictive opportunities to develop such skills, retarded persons have shown improvement in psychomotor proficiency following structured, short-term training. Bruininks and Warfield (1978) stated that

> With the obvious need for motor proficiency in occupations and tasks performed by retarded persons, one wonders why so little attention has been given to this area of development in school and other agency training programs (p. 185).

Thus, although the MR are often deficient in motor skills when compared to normal peers, such differences may largely result from a limited opportunity to participate in appropriately commensurate physical education programs.

Physical Education Efforts for the Mentally Retarded

In a national survey of special education programs, Widdop (1967) found that 75 percent of mildly retarded pupils spent less than 30 minutes per week in structured physical education programs. Furthermore, their peer group activities outside school programs were probably limited, since retarded children as a group are given lower status scores on peer relationship measures. Bruininks and Warfield (1978) noted that as a group the MR are less accepted than normal peers in regular education settings. Gottlieb (1975) suggested that the modest efforts to improve the normal peer relationships of MR children has been met with mixed success. Adams (1970) found that the only significant loss of peer acceptance was noted among MR girls participating in the regular physical education program. However, the MR made

significantly greater motor proficiency gains than normal peers even though teachers' judgments on social adjustment significantly favored normal subjects on initial and final ratings.

Oliver (1958), Gearheart (1964), Corder (1966 and 1969), and Soloman and Prangle (1967) conducted research which gave clear evidence that physical fitness and motor skills could be improved through participation in physical education programs. All of these studies, however, used a relatively small number of subjects, covered only a short period of time, and used a rather traditional activity program. Rarick and Broadhead (1967) investigated the role of physical education activity programs on the modification of the motor, intellectual, social, and emotional behavior of 275 educable MR children and 205 minimally brain-injured children. The investigation involved participation in a structured 35 minute daily physical education program over a 20-week period of time. Significant positive changes in motor behavior occurred in the children exposed to the individualized physical education program.

Broadhead's (1968) study with educable MR children and minimally brain-injured children included a 35 minute daily program of planned physical education. The physical education teachers used were specially trained. Because of participation in this structured physical education program, desirable results were obtained by the MR in motor, intellectual, and emotional behavior.

Crowe et al. (1981) stated that

> Although the available research reports a discrepancy in scores between retardates and normal individuals on motor tasks, significant improvement has been reported in multiple trial motor learning tasks. This leads to the speculation that physical education programs for the MR,

> if conscientiously constructed and implemented, may be of consequence to the amelioration of sensorimotor deficiencies (pp. 373-74).

Kephart (1961) illustrated the serious consequences of preschool children who demonstrate a lag on established motor development scales. It has been suggested that in the early years, motor, social emotional, and psychological development are closely related. Early diagnosis and prognosis are essential for the MR because of the developmental lag in the motor area. Barnard (1975) indicated that early stimulation of Down's syndrome children, in the form of linguistic interactions from the parent and of passive exercises, exerted positive influences on both verbal and motor abilities, as reflected in measures obtained on the Bayley Scale and the Gesell Infant Scale. Such efforts clearly demonstrated the need for early intervention by physical education programs if the MR are to maximize individual motor development.

Chasey and Wyrick (1971), in an effort to determine effects of a concentrated physical developmental program on motor proficiency of 60 institutionalized MR children worked in a variety of physical education activities including gymnastics, tumbling, conditioning exercises, distance running, ball skills, playground and individual games. As measured by the Oseretsky Motor Development Scale, the subjects made significant improvement in general static coordination, dynamic coordination of hands, simultaneous voluntary movement, and total Oseretsky score. Monkhouse (1963) observed results indicating positive effects and growth in strength, endurance, and flexibility of MR children (ages 7 to 10) in a physical education program consisting of sequential games, rhythms, stunts, and creative activities. Nunley

(1965) found that after 15 months of participation in a daily physical education program for 30 to 45 minutes per day, trainable MR children (ages 9 to 14) showed gains in strength, endurance, adjustment, and socialization, and the majority of subjects improved motor ability test scores by at least one grade.

Phillips (1966) concluded that educable MR children could profit from group as well as individual physical education instruction and that trainable MR children can profit from individual instruction. Rarick and Broadhead (1968) summarized from their study that MR children who participated in specially planned physical education programs exhibited significantly greater positive changes in motor, intellectual, and emotional behavior than children denied these opportunities. Also, the individually oriented physical education program was more successful in eliciting these changes than the group oriented program. Sharpe (1968) revealed that physical education programs specifically designed for the improvement of psychomotor skills affected significant positive differences in performance in MR children and that such motor gains can be effectively efficient through various programs, provided they are specially designed. These studies appear to confirm the importance of the individualized education program (IEP) requirement in physical education as federally mandated by P.L. 94-142 (Federal Register, 1977).

Physical Education and the Special Education Operational Process

The Prince William Model (1976) suggested that any full service program for handicapped children should contain minimally a sequence

of five activities, including: (1) identification, (2) assessment, (3) placement, (4) individualized instruction, and (5) reevaluation. Wessel (1977) stated that the successful planning, programming, and implementation of the IEP in physical education for the handicapped requires a commitment from the school, parent, and child to assure: (a) establishment of school physical education program goals, (b) specification of each child's individual goals and appropriate resources and related services to meet these goals, and (c) awareness of responsibility by school, parent, child, and related support personnel in achieving the stated physical education objectives. In analyzing the definition of adapted physical education and its relationship to a full service education model for the MR, it is significantly apparent that instruction is only a single element of providing physical education services to such a school population.

The IEP is a written byproduct of a multidisciplinary team effort between physical education and special education evolving around confusing and controversial legal, administrative, curricular, instructional, and related support parameters. Results from early studies revealed that the dilemma of providing physical education services for the MR is not a new educational issue.

Beck (1956) found that physical education was considered important for the MR, but that regular classroom teachers taught physical education in early grades and shared assignments with physical education teachers in intermediate grades. Anooshian (1961) determined that most physical education instructors recognized the problem of harmoniously integrating the MR into regular physical education and had a high degree of concern but did not have time to work effectively

with the MR. In a national survey, Brace (1968) found that MR pupils received little or no special attention with respect to instruction in physical education, and that 35 percent received no physical education. Carter (1970) noted that educable MR scored low on tests of physical fitness due to a lack of opportunity to participate in physical education. Collins (1972) found that few physical education teachers were interested in conferences concerning special education students. Gross (1973), in a study based on Brace's 1966 study, found that in many instances no evaluation of physical education progress of the MR was maintained by physical educators, and that special education personnel predominantly taught the MR physical education even though they had little professional qualification to do so.

The Report of the House of Representatives on P.L. 94-142 (U.S. House of Representatives, 1975), was concerned that

> Although physical education services are available to and required of all children in our school systems, they are often viewed as a luxury for handicapped children. The Committee expected the Commissioner of Education to take whatever action necessary to assure that physical education services are available to all handicapped children and that such services be specially designed where necessary to be provided as an integral part of the educational program of every handicapped child (p. 9).

Although federal legislative intent of providing physical education for all handicapped children was significant because of the Education of Handicapped Children Act of 1975 and the subsequent final rules and regulations in the Federal Register of 1977, such direct services still remain the luxury originally perceived by Congress.

In 1978, reports from the Bureau of Education for the Handicapped Personnel Preparation Projects estimated that less than 20 percent of the schools were offering physical education services to handicapped

children. It was further estimated that 80 percent of the schools offering education services to handicapped children had totally inadequate physical education services. These figures are even more alarming when consideration was given to the organization and administration of APE programs and subsequent opportunities for the MR.

Megginson (1980) noted that the lack of clarity and resultant turmoil caused by P.L. 94-142's mandating physical education for handicapped children has manifested implied and forced mainstreaming of handicapped children into physical education, regardless of the nature or severity of the disability and confusion as to the conditions under which specially designed physical education programs must be developed for a handicapped child. Aufsessor (1981) stated that litigation for change in special education has affected physical education by forcing the initiation of APE programs into schools where none existed causing a multitude of legal, political, and economic school problems. Auxter (1981) suggested that to provide the entitlement of equal physical education for the handicapped, education is not necessarily equal. Rather, it must be equally effective with the IEP conducted in the most integrated setting. Powers (1980) suggested that, due to the large influx of handicapped children into the mainstream of physical education, the profession must develop consistency in respective curricula as the adapted component is only as good as the regular component. The difference between the handicapped and nonhandicapped populations rests with the rate of accommodating individual differences, not the program.

The intent of P.L. 94-142 was to provide free appropriate public education for all of the nation's handicapped children aged 3 to 21.

This mandated direct and qualified instruction in physical education, specially designed if necessary to be provided in the least restrictive environment. Cratty (1980) stated that

> The concept of least restrictive environment, while seemingly expressed in simple words, in reality implies a rather complex planning and professional operation. APE teachers should both (1) understand the flexibility and complexities implied by the concept and (2) be prepared to bring their professional expertise to bear on the implementation of the concept as reflected in programming for the exceptional child (p. 20).

The concept of least restrictive environment is implied for physical education by the IEP. Orr (1980) suggested that there are common problems confronting the physical education component of the IEP, including: (1) identification and categorization, (2) diversity of participants in meetings, (3) traditionalism and ignorant structure of physical education, (4) lack of qualified physical educators making physical education decisions, and (5) the inadequacy of physical education devices. Safer, Kaufman, Morrissey, and Lewis (1979) stated that the IEP will result in changes in the role of special physical education teachers' professional job requirements by: (1) allowing less time for the direct instruction of children, (2) sharing the responsibility for classroom activities, (3) increasing accountability to outsiders, (4) increasing demands on personal time, and (5) necessitating new requisite skills.

A recent study by Davis (1977) found that the average amount of time a teacher spends collecting data and writing and IEP for each preschool handicapped child was 10.9 hours and the median was 5.0 hours. Fenton, Yoshida, Maxwell, and Kaufman (1977) noted with a survey from the state of Connecticut, which found members of a placement

team share the perception that the special education teacher was the most appropriate person to suggest students' subject matter needs, to suggest instructional methods for students, and to set evaluation criteria of students' performances. Such information arouses significant concern over current placement practices for handicapped children in physical education. The extensive practices of schools are: (1) not including qualified physical educators in multidisplinary team placement decisions, (2) arbitrarily mainstreaming handicapped children into physical education, and/or (3) not providing appropriate, if any, physical education services for MR children. These practices appear to be almost as prevalent now as prior to the passage of P.L. 94-142. Additionally, these practices represent obvious noncompliance by school districts with the intent and mandates of federal law.

Thus, the roles of physical education within the special education placement process, although legally defined, have become a myriad of administrative and organization complexities. Safer (1980) suggested that implementation of IEP's relies to a great extent on the goodwill and dedication of special education teachers, not on the provisions of adequate resources. This appears to suggest that there are no significant reasons for the exclusion of physical educators in the multidisciplinary team process.

Lortie (1975), however, stated that teachers devalue and resent noninstructional activities such as clerical duties or duties outside the classroom, as these activities detract from their potentially productive time instructing students. This may have been inferred by special education personnel to suggest that physical educators may devalue and resent the actual writing and monitoring of IEP's. However,

it did not demonstrate that physical educators do not desire to be included in the determination of educational services to be provided to MR children by local education agencies.

The I CAN Field Service Unit of Michigan State University (1980) identified a rank/priority summary of physical education personnel concerning problems, concerns, and barriers to implementing a quality physical education program for handicapped students in public schools. The priority ranking consisted of:

1. Administrative support and knowledge.
2. Large class size.
3. Teacher attitude and self-concept.
4. Individual student variability.
5. Communication gap between special education and physical education.
6. Instructional time.
7. Poor teacher preparation and class management.
8. Limited knowledge of the handicapped.
9. Lack of teacher aides.
10. Equipment and facilities.
11. Lack of usable assessment tools.
12. Legal mandates.
13. Lack of physical education knowledge by special education teachers.
14. Legal liability issues.
15. Low teacher salaries.

Problems hindering physical education for the MR have not been adequately addressed through professional preparation nor the inservice

training mandates of P.L. 94-142 and the state requirements for such. Stainback, Stainback, and Maurer (1976) suggested that training needs in special education contain elements of: (a) diagnostic evaluation, (b) curriculum, (c) methodology, (d) interdisciplinary teamwork, (e) field experience, and (f) parent training. Valletutti (1969) stated that regular classroom teachers who have no compliantly completed a specialized training program cannot be expected to teach incoming exceptional children effectively. Not only are the teachers' essential knowledge and teaching skills inadequate, but often their attitude toward the child is negative.

Smith and Arkans (1974) stated that many school systems, overwhelmed by national court cases, abandoned all of their special classes and dispursed those children into resource rooms. Special educators are presently confronted with the task of establishing educational programs for a new school population of severely and profoundly handicapped children. Schools have taken the position that these services will be more effectively and efficiently delivered through special class programs. This dilemma has also emerged within the academic area of physical education but has yet to be significantly pursued because of the extremely small number of school districts affording appropriate physical education experiences for MR children.

Gickling and Theobald (1975) surveyed 400 teachers and supervisor/administrators in Tennessee from regular and special education regarding the mainstreaming of exceptional children. It was found that 51 percent of regular education teachers were not even acquainted with most of the information on the questionnaire used in the survey. It was suggested that the poor overall communication on the part of

special education has led regular education personnel to become hesitant about mainstreaming. With the inconsistent and infrequent follow-through demonstrated in the past by special education, regular education might well conclude that inadequate follow-through by special education will continue.

For over 30 years physical educators have been concerned about the affordance of appropriate physical education opportunities for MR children. The American Association for Health, Physical Education, and Recreation, the Joint Committee on Health Problems in Education of the American Medical Association, and the National Education Association (1952) devised six guiding principles for the organization and ministration of APE programs. These included:

1. There is a need for common understanding of the nature of APE.

2. APE has much to offer the individual who faces the combined problem of seeking an education and living most effectively with a handicap.

3. The direct and related services essential for the proper conduct of APE should be available to our schools.

4. It is essential that adequate medical guidance be available for all teachers of APE.

5. Teachers of APE have a great responsibility as well as an unusual opportunity.

6. APE is necessary at all school levels.

Although these six guiding principles of APE were developed 25 years prior to the final rules and regulations of P.L. 94-142, they remain regarded as the basic tenet of APE programs. Perhaps, however, the singlemost altered principle of the six pertains to the

responsibility of the APE teacher. Such was not as much a philosophical variance as was it one responsive to the intent of P.L. 94-142. Sherrill (1981) described a taxonomy of tasks associated with personnel roles in APE direct service delivery. These responsibilities included:

1. Tasks associated with roles of assessment and counseling.

2. Tasks associated with individualized educational programming role.

3. Tasks associated with roles of developmental/prescriptive teaching and coordination of resources/services.

4. Tasks associated with the role of community leadership and citizen involvement.

The American Alliance of Health, Physical Education, Recreation, and Dance (1981) established a task force on APE to establish guidelines of competencies necessary for the APE specialist (see Appendix A). Hurley (1981) stated that such guidelines were also developed for the generalist in physical education, as they will be increasingly responsible for meeting physical and motor needs of students with disabilities in regular physical education classes. Areas of professional competence necessary for APE teachers included: (1) biological foundations, (2) sociological foundations, (3) psychological foundations, (4) historical-philosophical foundations, (5) assessment and evaluation, and (6) curricular planning, organization, and implementation.

Regarding APE, Vodola (1973) stated that

> Such oft-repeated goals as meeting individual needs, the development of sound interpersonal relationships, and the attainment of self realization can be found in most

> educational texts and would be accepted by most personnel. However, further investigation reveals inconsistencies between philosophies espoused and programs implemented (p. 4).

Thus, it was significantly apparent that if the legal and educational impasse separating the philosophical and actual practices of providing physical education experiences for all MR children were to be overcome, an interdisciplinary emphasis of operational guidelines for the development and implementation of such programs had to be identified.

CHAPTER III

OPERATIONAL GUIDELINES

Program Foundations

Physical education has an important educational role to play in helping MR children develop in stature of mind and spirit as well as body. Groves (1979) described physical education as not only education of the physical, but also as education through the physical. Ersing (1980) described the purpose of physical education as physical growth, social and psychological growth, and recreational growth. Hellison (1978) described physical education as a humanistic approach in the search for personal identity that each individual must struggle with to the extent that the culture permits and self-awareness demands. Miller and Sullivan (1982) stated that physical activity programs with a developmental approach, as required by the MR, are aimed at four major goals: general motor ability, physical fitness, psychosocial adjustment, and emotional adjustment. Melograno (1979) stated that the philosophical meaning of physical education includes the focus on the individual and dimensional needs of physical, intellectual, social, emotional, and spiritual development attributes of the "whole person."

The basis of any physical education program for the MR is centered upon its philosophy and goals. These statements give direction to the program and can be translated into readily attainable, measurable, and relevant objectives for each student. Some goals are more

easily and quickly achieved than others. In determining the direction of physical education programs for the MR, any goal or objective statement should be regarded as a guide to and framework for the program. All goals do not apply to every MR student in the program. Goals and objectives which do apply to individual students may vary in degree at different times during the program. The MR must understand the goals of physical education as best as possible as they apply to themselves and the severity of their condition. Current educational and legislative emphasis necessitates formulation of basic objectives for each MR student in behavioral terms so that the degree of their attainment can be objectively measured and determined. Representative of meaningful and functional physical education experiences for the MR must be formulated upon a sound philosophical, goal oriented, and objective based program foundation.

Philosophy

It is the philosophy of physical education to plan, develop, implement, and evaluate meaningful education programs that will allow the MR individual to discover and develop those abilities which will insure a worthy contribution to and membership in society. Permeating this philosophy is the realization that each child is an individual, that each child has a moral and legal right to physical education, and that the teacher and the school are instrumental in providing optimum conditions for the child's continued growth according to individual abilities and needs.

The adapted physical education program should strive to improve physical, motor, cognitive, social-emotional, self-help, and perceptual

abilities of the MR child. The physical education program should endeavor to develop a self-supporting, law-abiding, individual by striving toward the four basic goals of self-realization, human relationships, economic efficiency, and civic responsibility. Equality of opportunity with nonhandicapped peers is stressed along with preparation for a healthy and productive life and worthy use of leisure time.

Goals and Objectives

The aim of adapted physical education should be to assist MR students in achieving their whole person potential through a carefully planned program of regular and special physical education opportunities to develop skills and fitness commensurate with individual ability. Activities will be designed to provide maximum opportunity for the MR child's desirable development of: physical and motor fitness; fundamental motor skills and patterns; skills in aquatics, dance, individual and group games, and sports. Specifically, program objectives are:

I. To demonstrate competence in fundamental motor skills and patterns in MR children by:
   - A. Increasing positive and accurate self-concept with respect to movement patterns, body structure, physical fitness, psychomotor skill, and cognitive ability through physical activity and an appropriate understanding of such.
   - B. Providing a positive and accurate self-concept with respect to movement, structure, fitness, skill, leisure competency, and knowledge of the effect of activity.

C. Providing for normal growth and development opportunities.

D. Improvement of psychomotor skill, fitness, and ability through physical activity and motor therapy experiences.

II. To develop and maintain a functional level of physical and motor fitness in MR children by:

A. Increasing positive and accurate self-concept with respect to movement patterns, body structure, physical fitness, psychomotor skill, and cognitive ability through physical activity and an appropriate understanding of such.

B. Providing a positive and accurate self-concept with respect to movement, structure, fitness, skill, leisure competency, and knowledge of the effect of activity.

C. Improvement of the endurance and the cardiorespiratory system from appropriate exercise.

D. Provision for the development and maintenance of functional posture through assessment and prescribed therapeutic exercise.

E. Increasing physiological efficiency from daily physical activity.

F. Improvement of strength of muscle, bone, ligament, tendons, and connective tissue through vigorous exercise.

G. Providing for effective weight control through education, management, and appropriate physical activity.

III. To demonstrate knowledge of cognitive concepts in MR children by:

A. Increasing positive and accurate self-concept with respect to movement patterns, body structure, physical fitness, psychomotor skills, and cognitive ability through physical activity and an appropriate understanding of such.

B. Providing a positive and accurate self-concept with respect to movement, structure, fitness, skill, leisure competency, and knowledge of the effect of activity.

C. Promoting of body awareness and concept formation by sensorimotor activities.

D. Providing for effective weight control through nutritional and health related instruction.

E. Increasing the resistance and/or adaptability to stress by providing opportunities for relaxation and biofeedback experiences.

IV. To develop a functional level of competence in social skills in MR children by:

A. Increasing positive and accurate self-concept with respect to movement patterns, body structure, physical fitness, psychomotor skill, and cognitive ability through physical activity and an appropriate understanding of such.

B. Providing a positive and accurate self-concept with respect to movement, structure, fitness, skill, leisure competency, and knowledge of the effect of activity.

C. Providing for social development in the least restrictive environment with exposure to nonhandicapped peers as appropriate.

D. Enhancing emotional well-being through participation in a success-oriented educational environment.

V. To develop a functional level of competence in sport and lifetime activities, including appropriate usage of leisure time in MR children by:

A. Increasing positive and accurate self-concept with respect to movement patterns, body structure, physical fitness, psychomotor skill, and cognitive ability through physical activity and an appropriate understanding of such.

B. Providing a positive and accurate self-concept with respect to movement, structure, fitness, skill, leisure competency, and knowledge of the effect of activity.

C. Providing for the effective use of leisure time through opportunities to participate in intramural or commensurately appropriate activities.

D. Providing for social development in the least restrictive environment with exposure to nonhandicapped peers as appropriate.

E. Enhancing emotional well-being through participation in a success-oriented educational environment.

Educational Dimension

Adapted physical education is not an end in itself but a means by which MR students learn sensible and realistic limitations so they can participate in appropriate physical and recreational activities without further aggravating their condition. The program is a positive

force in the education, training, habilitation, rehabilitation, growth, and development of each child. The comprehensive physical education program for the MR should include:

1. Professional assistance to help the MR protect themselves from any conditions that would be aggravated through certain physical activities.

2. Opportunities to learn and to participate in a variety of appropriate physical, recreational, and leisure sports/activities in the least restrictive environment.

3. Activities of a developmental, corrective, or remedial nature designed to improve conditions amenable to exercise.

4. Experiences to help each child develop knowledge and appreciation of both physical and mental capabilities relative to appropriate biomechanical concepts and individual ability.

5. Activities adapted to each individual's interests, capacities, abilities, and limitations provided in a positive success-oriented educational environment.

6. Interpersonal opportunities allowing each student to make social adjustments and decisions to develop a sense of self worth and value.

7. Opportunities for understanding and appreciation of rules and regulations of a variety of sports as participants or spectators.

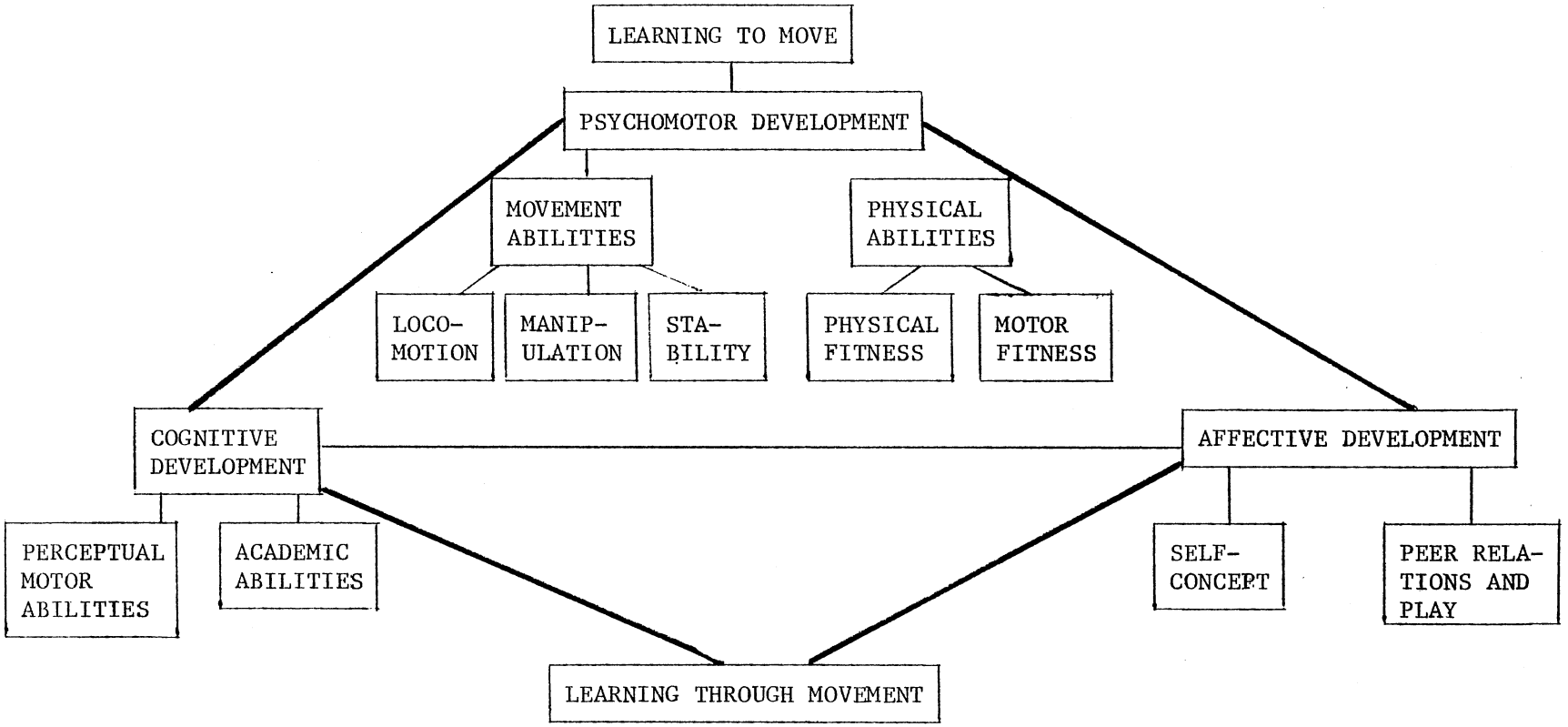
Sherrill (1981) stated that physical education contributes significantly to development in the behavioral domains of: cognitive (intellectual skills); affective (feelings, opinions, attitudes, beliefs, values, interests, desires); and psychomotor (motor and fitness

performance). Gallahue (1976) presented a broad spectrum of behaviors for which the physical educator is responsible in promoting learning experiences within an integrated framework of cognitive, affective, and psychomotor relationships (see Figure 1). Stelmach (1979) contended that physical education needs to pursue a broad flexible multidisciplinary framework with a perspective which improves the relationship between theory and application. Once problems have been diagnosed, the theoretical framework of a program foundation assists in developing prescriptive judgments toward solutions and thus provides a sound rationale for modifying the structure of the educational process and environment to maximize the learning performance of the MR.

Program Design

Long (1977) stated that in recent years it has become more evident that total physical education experiences for handicapped children will necessitate and include a wide range of educational and professional disciplines. Consequently, physical education opportunities for the MR will include a cooperative effort of both physical education and special education personnel representing a variety of interrelated areas to provide a comprehensive education experience. However, in this regard, Luckey and Anderson (1974, p. 123) have stated that "the influx of markedly retarded students will necessitate new educational resources and provisions which do not commonly exist within the typical public school."

Howe (1981) has stated that not much material has been published in the area of special education administration because the field has been so specialized and has used methods quite different from



Source: D. L. Gallahue, Motor Development and Movement Experiences (1976).

Figure 1. Spectrum of Behaviors in Physical Education

administrative practices in general school administration. This dilemma is very significantly evident in the area of physical education for the handicapped as suggested by the work of Auxter (1981), Brace (1968), Collins (1972), Cratty (1980), Crowe et al. (1981), Gross (1973), Groves (1979), Hurley (1981), Miller and Sullivan (1982), Orr (1980), Powers (1980), Seaman and DePauw (1982), Sherrill (1981), Vodola (1973), Wessel (1977), and Wiseman (1982).

Stainback et al. (1976) stated that, although for the most part public education is inexperienced in dealing with the MR who are more severely impaired, it does provide definite advantages for this population. The organizational nature of public education itself provides a considerable increase in environmental stimulation through exposure to many normal activities previously not easily attainable by the MR. Thus, although positive intentions of physical education for the MR may be manifested by school personnel, it is most often hindered by an unsystematic approach to adapted physical education program design.

Although federal and state laws were passed to insure physical education experiences for MR children, little effort has been made to develop well planned and designed adapted physical education programs consistently operative within the organization scheme of public school special education programs. Sontag, Burke, and York (1973) described this as a cluster and dispersal approach whereby handicapped students would be placed into physical education based upon the availability of space, willing personnel, equipment, or even a program itself. Consequently, the lack of experience by public schools in providing appropriate physical education programs for the MR has caused considerable concern on the part of physical education and special education

personnel as they work toward implementation of P.L. 94-142. Most school districts have not previously provided physical education services to this population, nor do they have staff members with a background in adapted physical education programming. In response to these circumstances, it is preferable that adapted physical education services be systematically designed in a manner which facilitates logical infusion into existing special education programs (Figures 2 and 3).

Meyen (1978) stated that most school districts have realized the necessity of developing specific orientations or philosophies upon which to base the organization of their special education services. Thus, it is necessary for adapted physical education programs to possess a special education perspective which: (1) determines the most appropriate curricular approach, (2) establishes an accurate diagnostic base for programming, and (3) is responsive to efficient delivery of services relative to demonstrated unique education needs of students (Figure 4). Safer (1980), in a study of special education programs found to be successfully operative, cited implementation strategies and administrative support as the two most significant factors. Therefore, if adapted physical education program models are to be an integral part of special education services, their design must be complemented by administrative support and acceptance.

In reviewing the research on implementation of new curricula and instructional methods, Fullan and Pomfret (1977) suggested four strategies that are important in the successful implementation of innovations. These are: (1) participation in decision making, (2) inservice training, (3) resource support, and (4) feedback mechanisms. Resultant and

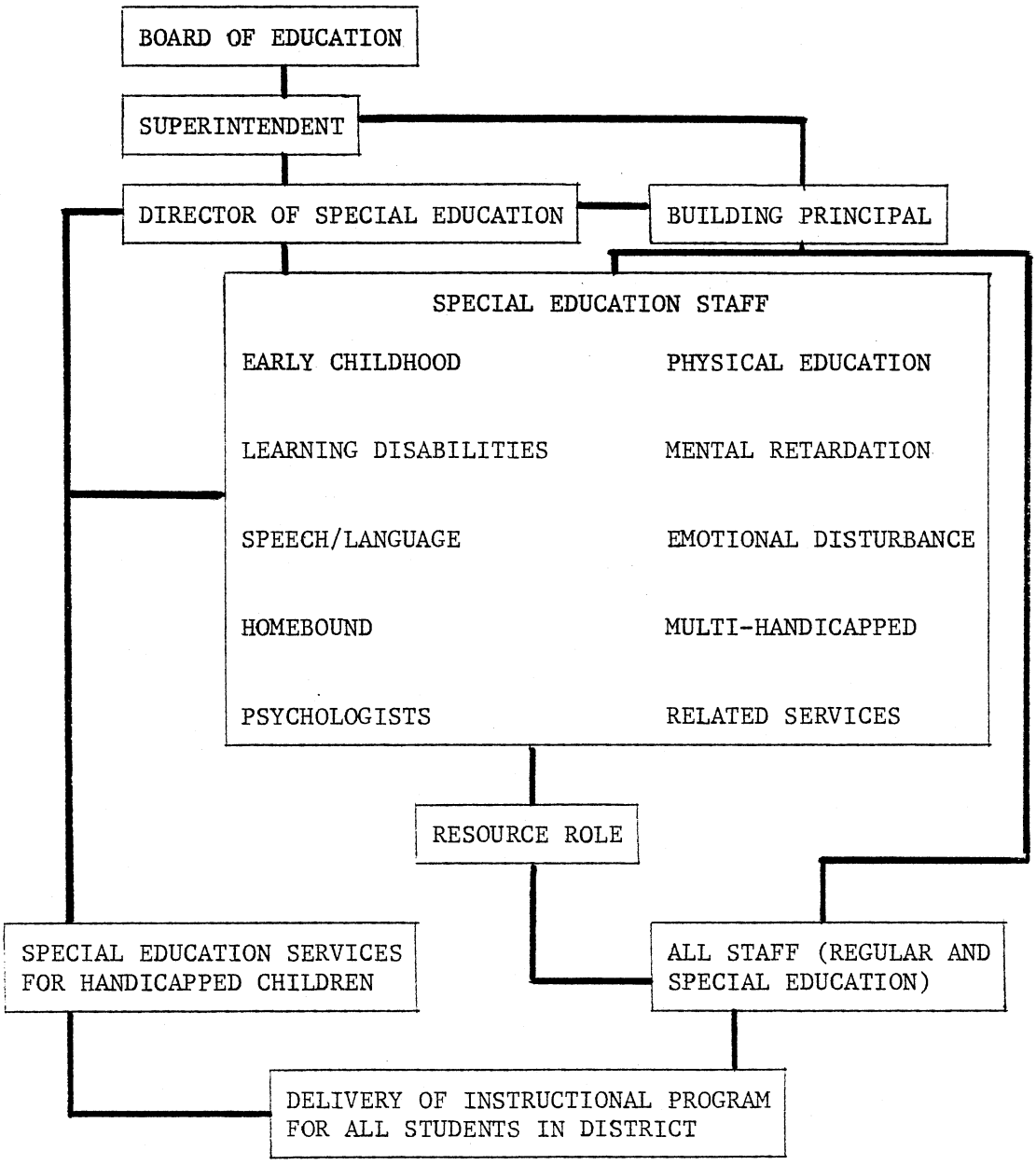


Figure 2. Organizational Flow Chart of Special Education Programs in Public Schools

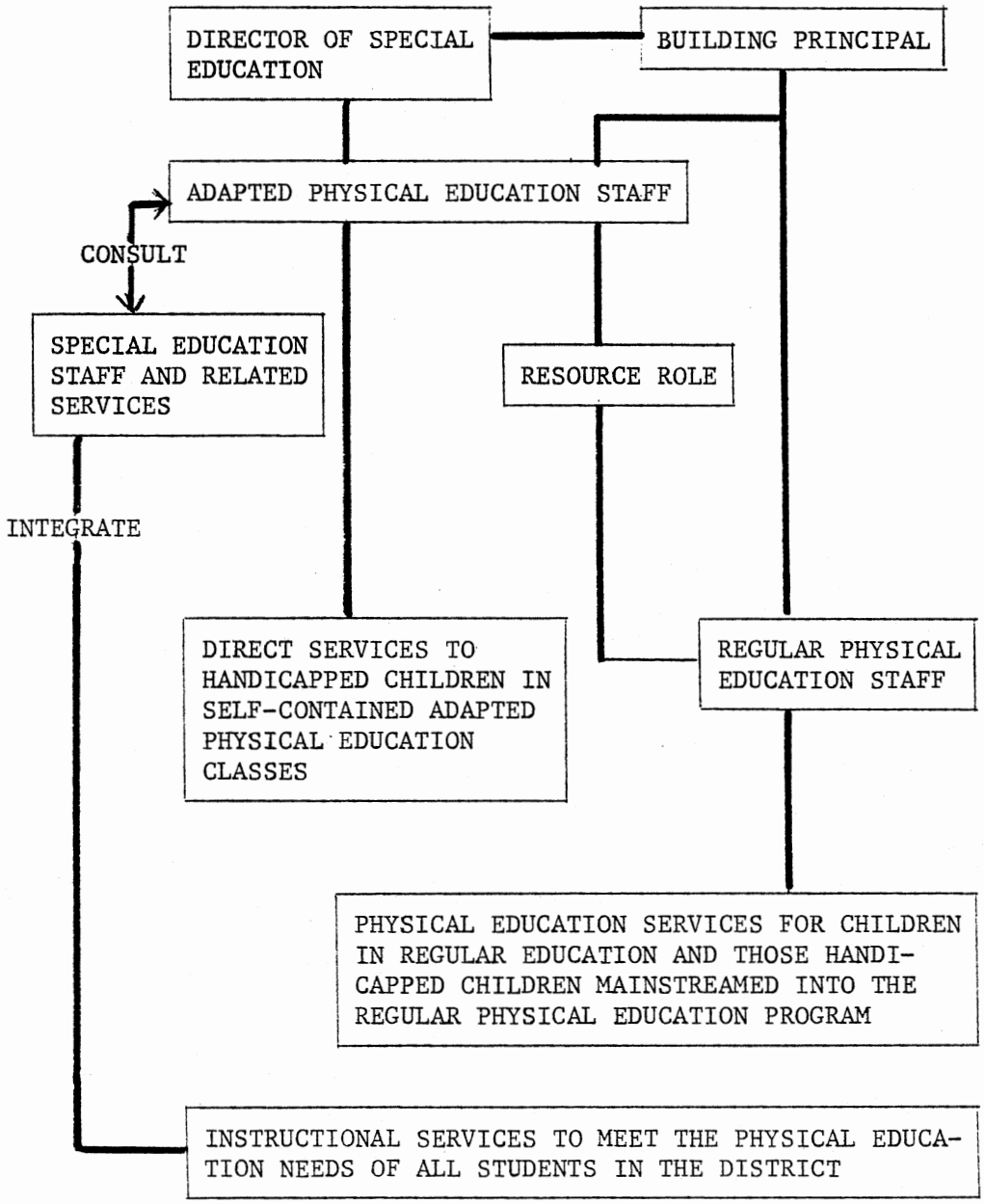


Figure 3. Organizational Flow Chart of Physical Education Within the Special Education Program

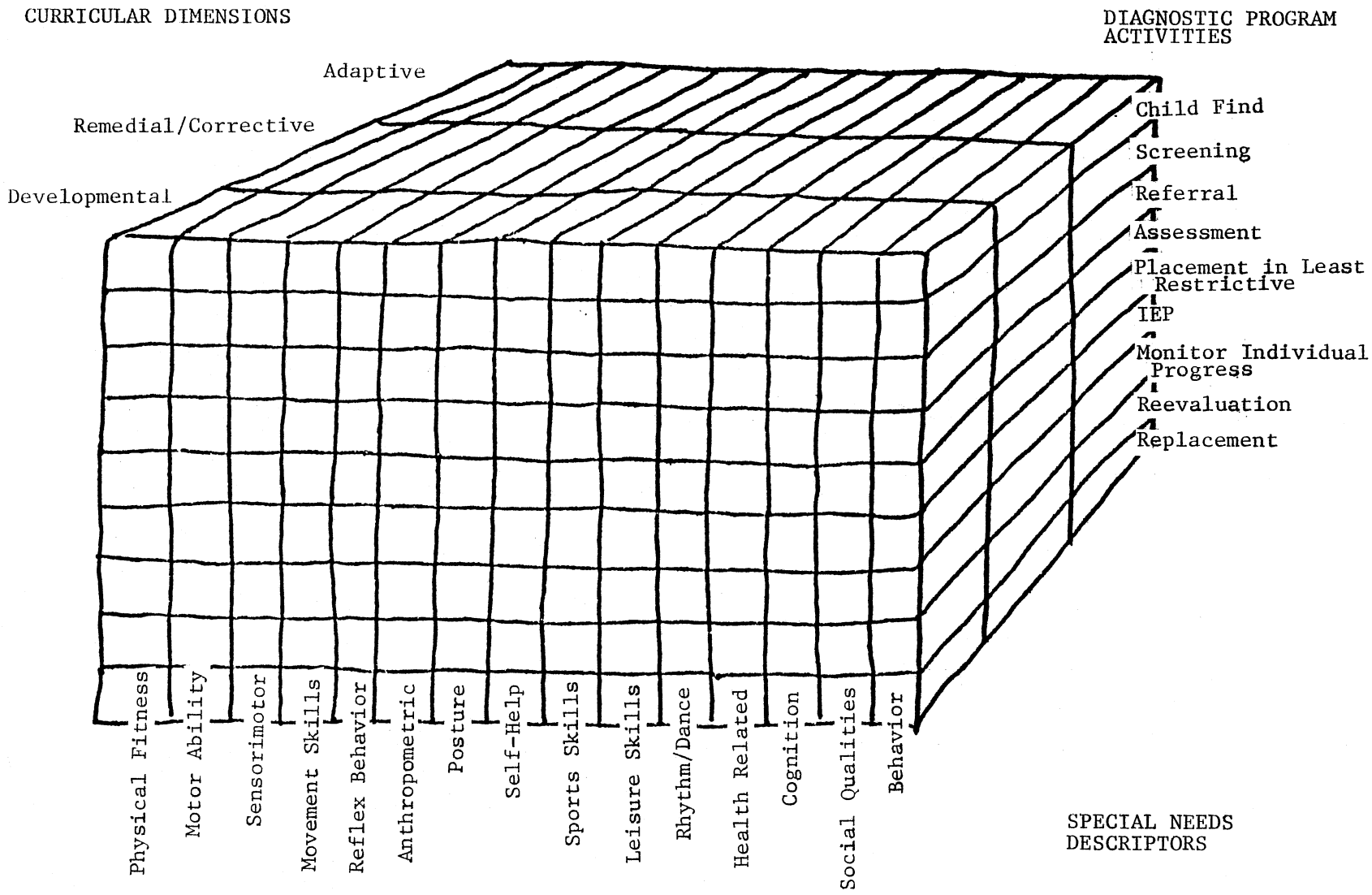


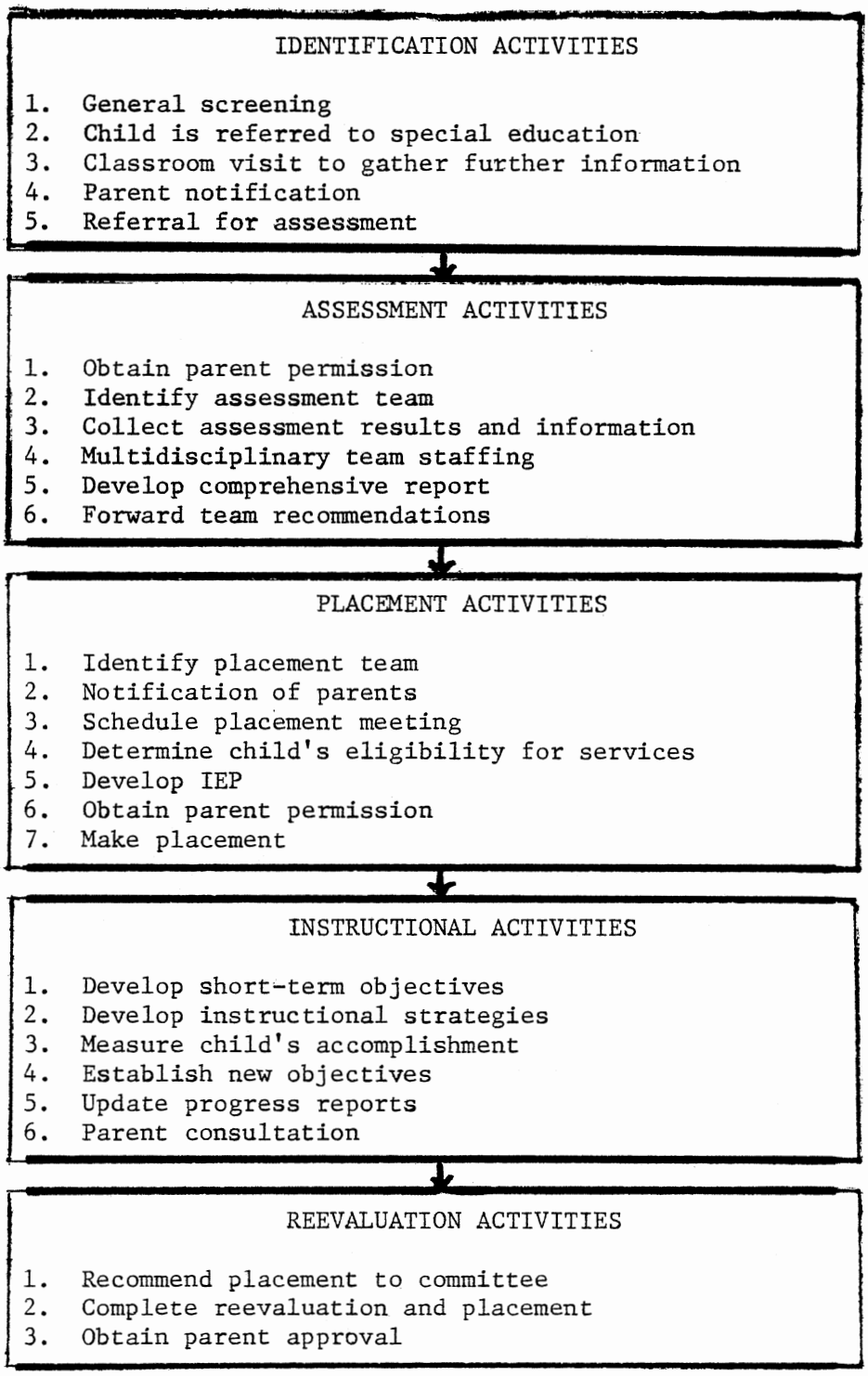
Figure 4. Adapted Physical Education Program Model

potential role changes as well as changes in job requirements for physical education teachers responsible for the MR necessitate their interactive effort in the entire activity sequence of the special education service delivery process (Figure 5). Clearly, the best and only chance for widespread implementation of appropriate physical education programs for the MR depends upon the cooperation and shared responsibility of both physical education and special education. Findings from Project IEP by Safer (1980), however, suggested that to change only teacher behavior is not enough. Even the most highly motivated teachers were not able to truly implement individualized programs unless carefully planned administrative support with open communication and involvement were available at the district level.

Participatory Decision Making

The legal basis for education of MR children in physical education has been directly impacted by federal and state legislation and the courts. This basis evolves around four concepts which include the least restrictive environment, due process procedural safeguards, protection in evaluation procedures, and the development and implementation of IEPs. In the enterprise of providing physical education experiences to MR children, the physical educator has a dual responsibility of being a physical education professional and another as a member of the special education staff when appropriate. Howe (1981) stated that

> Such a complex and frequently uncoordinated arrangement is fertile ground for conflict. Moreover, with the rapid increase in handicapped children served and with the least restrictive ideology in vogue, it becomes all the more important to resolve the role conflict of who is responsible for what (p. 73).



Source: Prince William Model, A Planning Guide for the Development and Implementation of Full Services for All Handicapped Children (1976).

Figure 5. Sequence of Special Education Service Delivery Process

However, Moran (1979) suggested that if teachers are provided with a frame of reference for the interpretation of information regarding the special education process, it will solidify an affirmative role for the classroom teacher in the multidisciplinary team process.

Yet, a secondary issue remains. The overwhelming majority of state educational agencies do not make any provision for specific teacher certification or licensing in adapted or special physical education. Consequently, regular physical education teachers are considered to be qualified to teach the handicapped even though they may have had no professional preparation to do so appropriately. Resultantly, the conflict as to whether special education or physical education is responsible for physically educating the MR is widened, both inter- and intra-disciplinarily. Therefore, it is logical to assume that the physical education teacher, whether or not professionally prepared in the area of adapted physical education, must be familiar and interactive with a professional role in the special education process. Connor (1965), Harris (1977), and Stokes (1980) found that there is a critical need to determine the nature and scope of adapted physical education services and the extent to which they are changing the behaviors of physical educators.

The participatory decision making role of physical educators depends upon examination of federal and state laws regarding handicapped children and the special education process itself. Participation in this educational process requires that multidisciplinary team duties and responsibilities be included in a job description of physical education staff describing the dual relationship between special and physical education. Hence, careful examination of the rules and regulations

for the implementation of P.L. 94-142 in the Federal Register (1977) substantiates the professional responsibilities of physical educators in providing direct special education services to MR children.

The responsibilities of the staff for the special education include:

I. The special education certified staff is comprised of persons trained in the education of children with exceptional education needs in areas such as physical education, mental retardation, learning disabilities, early childhood, multiple handicapped, and emotionally disturbed, and personnel with specific expertise utilized in the education of children with exceptional education needs such as: psychologists, speech and language therapists, physical therapists, and occupational therapists.

   A. All educational experiences will be provided in accorddance with the philosophical and legal intent of the state education agency.

   B. The policies of the local education agency shall be followed and adhered to by the members of the special education staff.

II. The duties and responsibilities of all special education staff members shall be:

   A. To serve as a multidisiplinary team coordinator when designated by the Director of Special Education.

   B. To participate in all multidisciplinary team staffings where a suspect exceptional education need occurs in one's respective area.

1. To provide diagnostic and academic evaluation employing standardized instruments.
2. To interpret the results of evaluations and make recommendations.
3. To be responsible for the completion of the portion of the multidisciplinary team report as it relates to one's respective area.
4. To participate in parent conferences relating to the multidisciplinary team process.

C. To be responsible for the appropriate input into the IEP and joint educational programming with regular classroom teachers once children are admitted to one's program.
   1. To be responsible for parent conferences relating to the development of the IEP and its annual review.
   2. To organize classroom space, equipment, and materials to accommodate individual objectives.

D. To provide continual evaluation of one's students throughout the academic year.

E. To screen children on an ongoing basis and serve as a participant in appropriate screening processes as requested by the Director of Special Education.

F. To serve as a screening agent for the local education agency, private and parochial students within the district, transfer students within the district, and incoming students from another local education agency.

G. To be responsible for informing the Director of Special Education upon receiving a referral of suspected exceptional education need.

H. To follow all local procedures regarding implementation of state and federal laws regarding handicapped children pursuant to P.L. 94-142 and Section 504.

I. To meet with the regular classroom teacher(s) concerning the student's program(s) and observe the student in the regular classroom by prior arrangement with the teacher.

J. To assist in the planning and selection of screening instruments and informal and formal diagnostic test instruments when requested by the Director of Special Education. All such instruments must be nondiscriminatory.

K. To assist in integrating the student back into the regular program when progress warrants with continued supportive contact with the student and the classroom teacher until the transition is complete.

L. To assist the parents and any siblings in the family in developing a positive relationship with the handicapped student.

M. To help plan and implement staff inservice training.

N. To serve as a liaison person with community agencies and outside resources.

O. To provide necessary information and reports as required. The following is a representative list of such reports:

   1. State enrollment reports based on attendance for handicapped children self-contained or in self-contained integrated classes in accordance with the regulations of the state education agency.

2. Individual unduplicated child counts based on an IEP(s) in place with the Director of Special Education.

3. IEP reviews and next year's IEPs for continuing students. IEPs for new students must be sent to the Director of Special Education within 30 days of placement. A copy of the IEP will be made and the original returned to the teacher.

4. Multidisciplinary team reports and IEPs must be sent to the Director of Special Education for filing and for duplication for the appropriate team member. A copy will also be made for the parent(s).

P. To assume reasonable duties, activities, committee assignments, or other services over and above regular teaching responsibilities as designated by the Director of Special Education. The Director will strive to equalize such duties within the staff.

Q. To provide information to the Director of Special Education concerning the effectiveness of the program and services in their respective area.

In addition, the responsibilities of physical education as staff for the special education program include:

I. The qualifications for the adapted physical education teacher should include licensing and certification by the state education agency in special physical education. However, dependent on individual state law, a licensed and certified regular physical education teacher may also be considered as qualified.

II. The role of the adapted physical education teacher is a responsibility for developing and implementing an appropriate physical education program for any identified handicapped child 3 to 21 years of age who exhibits handicapping conditions in physical and motor fitness, fundamental motor skills and patterns, and/or skills necessary for aquatics, dance, and individual and group games and sports, including lifetime and intramural sports leading to an exceptional education need. The adapted physical education teacher shall adhere to the state education agency's philosophical and legal intent for physical education.

III. The specific duties and responsibilities of the adapted physical education shall be:

A. To use appropriate strategies, procedures, and technique in developmental assessment involving motor, sensorimotor, physical ability, and self-help functioning.

B. To have adequate medical information and medical prescription from a licensed physician when limitations of physical activity and/or exercise is warranted by the severity or impairment manifested by a disabled child.

C. To obtain an updated medical prescription and information yearly, or more often, if there is a change in the child's physical condition (e.g., surgery, illness).

D. To be a multidisciplinary team member if the child is being evaluated for possible physical and/or occupational therapy support services.

E. To utilize the assistance of any or all of the following certificated personnel:

   1. Physical Therapist
   2. Occupational Therapist
   3. Psychologist
   4. Physician
   5. Special Education Classroom Teacher
   6. Regular Physical Education Teacher

F. To be a multidisciplinary team member and provide an IEP for handicapped children enrolled in adapted physical education or regular physical education requiring modification.

G. To provide developmental activities appropriate to the present psychomotor functioning of handicapped children.

H. To assist the physical education teacher in the understanding and educating of the handicapped child upon entry into the regular physical education program.

I. To assist the physical and/or occupational therapist regarding activities to facilitate the rehabilitative process.

J. To be responsible for joint educational programming in the special education classroom when appropriate or requested.

K. To possess familiarity with those children requiring special equipment (i.e., braces, wheelcharis, splints, and assists in the adaptation of equipment and instructional materials, etc.). Additionally, responsibility

requires a working knowledge of these children's assistive devices as well as their capabilities and limitations for physical activity.

L. To provide instruction of adapted methods (i.e., skill simplification, body protection, adapted performance, etc.) in facilitating appropriate involvement in physical education.

M. To provide appropriate inclusion for handicapped students into regular group functions and activities (i.e., athletics, intramural, etc.).

N. To endeavor to develop the skills in handicapped students which will enable them to adapt to and participate in lifetime sports and leisure activities.

O. To have complete and current records on each child with regard to instructional efforts and accomplishments in physical education.

P. To work in conjunction with the psychologist and special education classroom teacher to help the child, parent, and/or regular physical education teacher deal with emotional outbursts through behavior management techniques.

Q. To develop and utilize an appropriate and effective educational environment for handicapped children in physical education which does not aggravate physical disabilities or pursue contraindicated activities or exercises.

R. To assist nonhandicapped peers in the development of a safe and positive relationship with handicapped children

in physical education, and, when necessary, alter their expectations to more accurately reflect the child's abilities.

IV. In addition to the specific duties and responsibilities as outlined above, the teacher of adapted physical education is expected to conform to the responsibilities of the staff for the special education program as previously described.

Melagrano (1979) stated that the most critical factor in the design process of physical education programs is the determination of those elements which serve as the foundation of design. A consistent basis for organization and implementation is essential and should be one that all personnel can understand and agree upon. The organizational centers of adapted physical education program design are therefore based upon: (1) curricular patterns of subject matter, the learner's unified education, and human needs; (2) vertical and horizontal qualities determining the relationship of design within physical education and other content areas of special education; (3) logical and psychological organizational design to resolve inconsistency; and (4) specifying the structure of design and the amount of procedural detail required to implement the design. The content of the program's design has been structured in accordance with these concepts.

Evaul (1971) indicated that history and research have not substantiated the process of organizing physical education programs by the traditional approach of patterning goals and objectives on participation in organized activities (Figure 6). Rather, it is necessary, first, to identify the philosophy, goals, objectives, and dimensions of the adapted physical education program that are to be pursued, and,

second, to select which organization of activities can best contribute to the accomplishment of these goals (Figure 7). Thus, an alternative foundation for the program in meeting the individual needs of the MR is created by simply changing the directional focus of the organizing centers of program design.

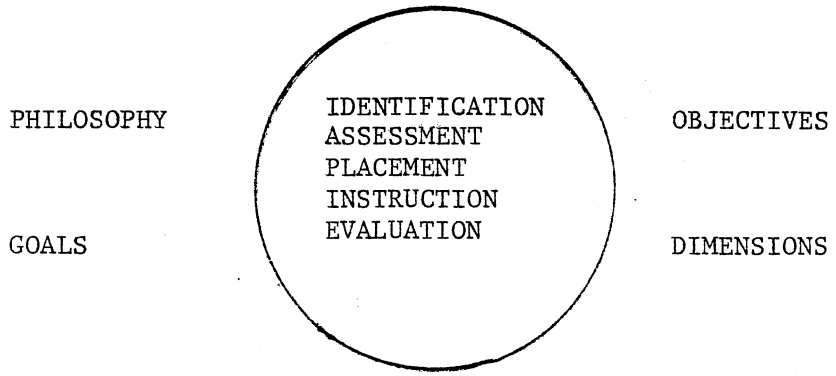


Figure 6. Adapted Physical Education Based Upon Program Activities

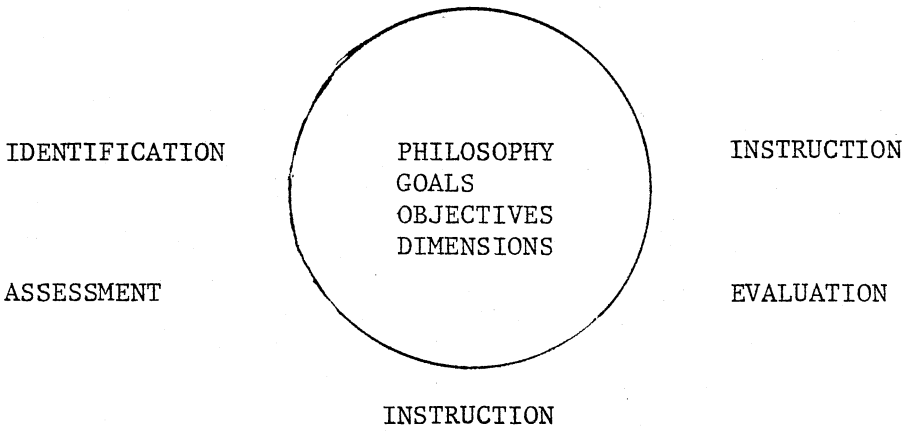


Figure 7. Adapted Physical Education Based Upon Systematic Program Design

Physical Education Assessment for the MR

Vergason (1979, p. 3) stated that "Assessment is a process employing observation, task analysis, and testing to arrive at learning characteristics for educational, vocational, and social decision about individuals." Such decisions are at the core of all instruction, but especially for MR children. The multifactor assessment and reliance on more than one test has carried over into current federal legislation, especially P.L. 94-142 and its regulations. Therefore, the goal of psychomotor and related assessment should be to enable the appropriate implementation of a physical education program for the MR child that will lead to greater academic and social success and a greater sense of personal adequacy.

Walkenshaw and Fine (1979) stated that there are three types of assessment procedures in an integrated assessment approach. These are: (1) norm-referenced classification instruments, (2) criterion-referenced diagnostic instruments, and (3) the informal diagnostic procedure of task analysis. Inherent within these three procedures are the dimensions of: (1) classification or categorization of the child and problem, (2) diagnosis of the problem area, and (3) an analysis of the structure and content of learning.

Sattler (1974) indicated that mastery of the assessment process requires experience and familiarity with the problems involved to provide the examiner with a base from which to evaluate personal testing technique and the abilities of the child. Assessment is a complex activity calling for many skills on the part of the examiner. These include: (1) selecting a test, (2) administering the test,

(3) scoring the test, (4) observing behavior, (5) writing the report, (6) consulting activities, and (7) conducting research.

Seaman and DePauw (1982) described four basic concepts of the process of assessment in adapted physical education and their relationship to each other (Figure 8). The definition of these terms as related to the assessment process within special education are:

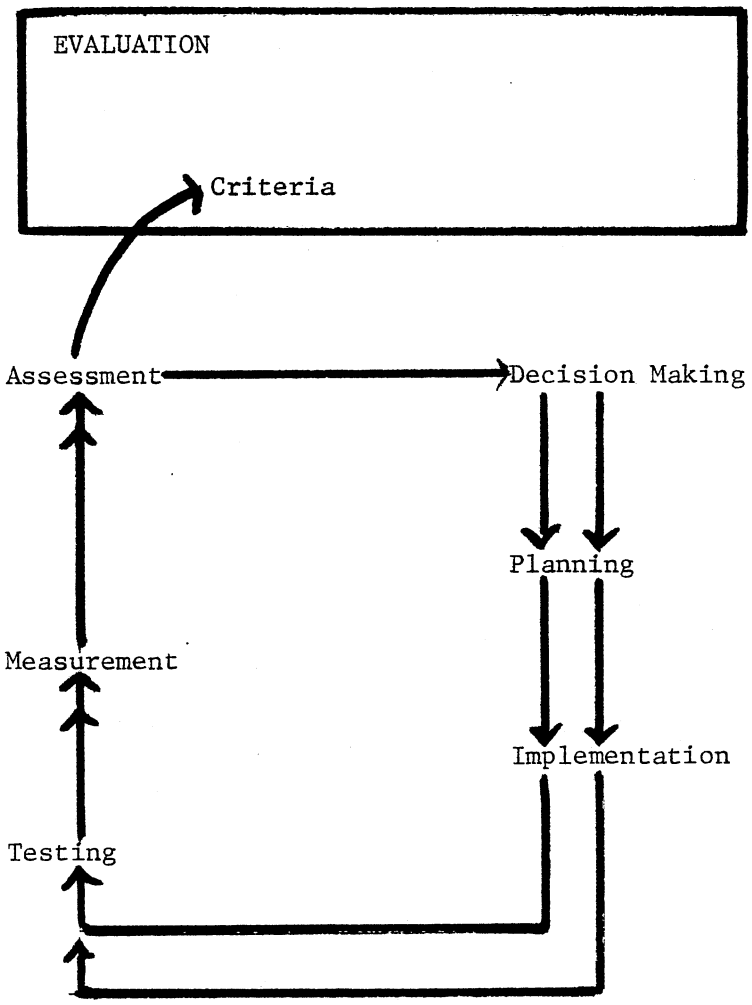
1. Testing is a data gathering technique that uses tools or specific procedures for systematizing observations. Testing may be either formal or informal, objective or subjective (Seaman and DePauw, 1982).

2. Measurement is the process which helps determine the degree to which a person possesses a defined characteristic (Baumgartner and Jackson, 1981).

3. Assessment involves interpreting the results of measurement for the purpose of making decisions about placement, program planning, and performance objectives (Seaman and DePauw, 1982).

4. Evaluation is the process that uses the results of measurement to compare with predetermined standards for the purposes of facilitating rationale decisions (Seaman and DePauw, 1982).

Some authors, however, use the terms evaluation and assessment interchangeably (Barrow and McGee, 1979; Dizney, 1971; Ebel, 1978). Most authors agreed that evaluation, like assessment, serves the purpose of providing information for decision-making (Safrit, 1980, Baumgartner and Jackson, 1981), but the decisions in these cases usually revolve around what particular skills or components of performance must be developed in order to achieve the ideal standard (Seaman and DePauw, 1982).



Source: J. A. Seaman and K. P. DePauw, The New Adapted Physical Education (1982).

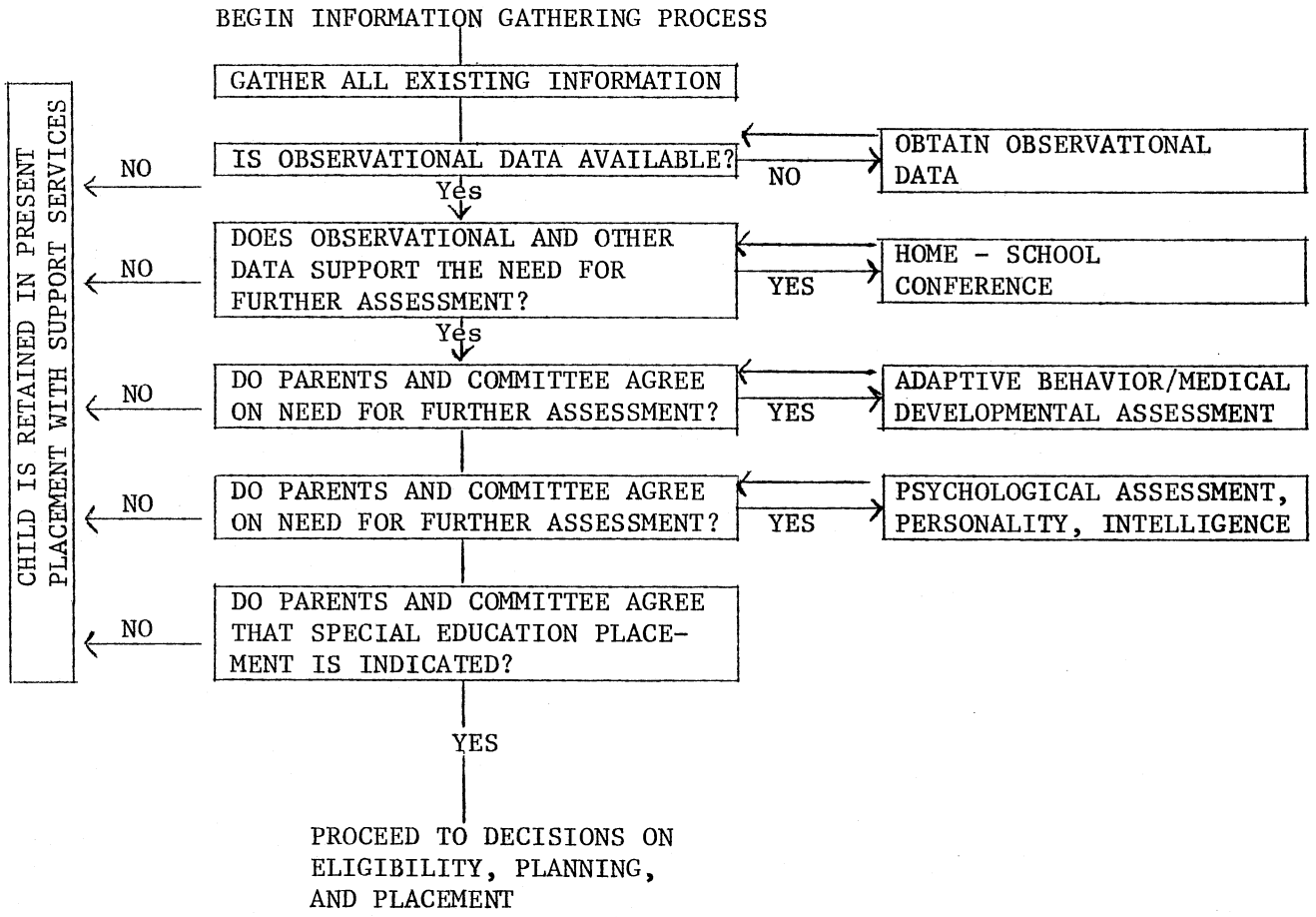
Figure 8. The Relationship Between Testing, Measurement, Assessment, and Evaluation

Thompson, Jones, and Blessing (1977) stated that assessment by the multidisciplinary team members presents information-gathering as a function that occurs prior to the determination of eligibility, planning, and placement (Figure 9). Suggested possible areas for child evaluation include: (1) educational functioning, (2) social-emotional functioning, (3) physical functioning, (4) cognitive functioning, (5) language functioning, (6) family, and (7) environment.

The selection of formal assessment instruments in physical education for use with the MR has been a frustrating endeavor for professionals in the field. No single assessment instrument exists that can adequately measure the potential of MR children in physical education or that serves all examiners' purposes. DuBose, Langley, and Stagg (1979) identified characteristics found to be most desirable in instruments used in assessing handicapped children. These include:

1. They should be easily obtained and simply scored.
2. They should possess adequate validity and reliability.
3. The items should be primarily manipulative in nature.
4. Scoring should be minimally dependent upon the child's speec of performance.
5. The items should be adaptable across handicapping conditions.
6. The instrument should yield data immediately transferable into sequentially planned developmental activities for educational programming.

Individually, there are no physical education tests which possess all these desirable characteristics, but careful selection of several instruments or parts of them may provide the examiner with a relevant



Source: B. Thompson, P. R. Jones, and K. Blessing. Individual Education Plan Development Process (1977).

Figure 9. Procedures for Initial Child Evaluation

battery for determining current functional abilities by the MR in physical education.

Testing the MR Child

Shapiro (1951) suggested that, in testing problem children, success is best revealed by a flexible adminstrative approach. Sattler (1974) stated that MR may behave during the examination in ways that are traditionally viewed as being negative. These behaviors are bothersome and may be frustrating to the examiner as well as other children. However, Hirsch (1959) found that these same behaviors may have adaptive significance by allowing the child to maintain self-esteem in the face of difficult intellectual or social demands. Braginsky and Braginsky (1971) demonstrated that MR have the interpersonal awareness and manipulative skills necessary to control, to some extent, their own fate on tests according to whatever strategy was appropriate to satisfy their personal goals.

Baumeister and Bartlett (1962) factor analyzed the scores of MR children and found that test scores of the MR were factorially more complex than those of normal children. Sattler (1974) implied that predictions and diagnostic decisions may be based on invalid test results because of the complexity involved in testing the MR. Dingman and Meyers (1966) expressed that the finding of a factor in the MR, but not in normal children, should not be interpreted as a quality only in MR children and not present in normal ones. Belmont, Birch, and Belmont (1967) found through factor analysis that perceptual and attentional factors were highly associated with the MR and indicated a significant variance in freedom from distractibility when being

tested. Cruickshank (1947) found that the MR differed in responding to an extremely difficult test by exhibiting an autocratical attitude and a need to maintain social integrity without a willingness to admit to their inability to cope with situations.

Russ and Soboloff (1958) stated that testing handicapped children poses the following types of problems: (1) communication difficulties may exist, (2) the child may become fatigued easily because of not being accustomed to working for longer periods of time, (3) attention difficulties, and (4) rapport difficulties may occur with children who have heightened dependency. While every attempt should be made to administer a standardized physical education test to MR children, there will be occasions when such testing is not possible. In these instances, the examiner should: (1) report the observations of the child's behavior and reschedule testing for a later date, or (2) select a criterion-referenced instrument and test during an appropriate activity and/or class, or (3) utilize task analysis in the form of a case study report.

Goldman (1961) stated the general principles and procedures of testing and test interpretation that are used for nonhandicapped children are also used for handicapped children. Additionally, based on research and literature, the examiner administering a physical education test to the MR might find the following suggestions valuable:

1. The administration of standardized tests to MR children requires patience, understanding, and flexibility (Sattler, 1974).

2. Time limitations may not be appropriate for certain groups of MR children (i.e., those with secondary disabilities), and examinations may take days rather than hours to administer (Sattler, 1974).

3. Caution is needed in using the first results as the sole criterion in long range planning (Mecham, Berko, and Berko, 1960).

4. Interpreting test results may be difficult because the examiner is not always certain whether performance is the result of physical problems or limited mental ability (Garrett, 1952).

5. When standardized tests are given to severely MR children, the scores may tend to underestimate the child's ability in proportion to the severity of their handicaps (Katz, 1955).

6. MR children frequently perform motor tasks in a slow and laborious manner and therefore, are at a particular disadvantage when time limits are imposed.

7. Prior to testing it is important that the examiner determine the degree to which the child is physically able to respond to the test components (Allen, 1959).

8. If perservation occurs, the examiner should try to distract the child (Mechan et al., 1960).

9. The examiner should involve the frightened child as early as possible in the testing situation rather than spending time in explaining the test procedures (Kicklighter, 1966).

10. For the distractable-hyperactive child, the examiner should try to give the tests as quickly as possible. Distractability can be reduced also by gently holding the child's hands and arms, or head, when it will not interfere with performance (Kicklighter, 1966).

11. When the child tries to reverse roles with the examiner, the examiner should help him to become at ease and agree to alternate performance with him. By showing the child that he can be accepted without ridicule, the examiner may diminish the child's need to keep control (Hirsch, 1959).

12. To prevent the child from being constantly confronted with inadequacy, the examiner can alternate difficult tasks with easy ones (Hirsch, 1959).

13. Because MR children may have serious mental or physical limitations, modifications in administering the test may be necessary. Tests requiring the least modification should be used in such cases (Bice and Cruickshank, 1966).

14. Examiners must be able to make the instructions understood without indicating proper performance. While a simple demonstration will sometimes suffice, the demonstration itself may also indicate the proper response (e.g., body part identification). Responses that are given in pantomime by the child should be given credit only when there is no doubt about the accuracy of the response (Bice and Cruickshank, 1966).

Non-Discriminatory Testing and Evaluation

The goal of testing the MR in relationship to performance in physical education is to discriminate on variables of psychomotor performance and achievement rather than to discriminate against opportunities by placement arbitrarily in a restrictive educational environment. A common assumption regarding the MR is that they are not as deficient in physical and motor development as they are in intellectual and academic achievement. While this assumption may be somewhat applicable to mildly MR children, Bruininks (1974) found there is little actual basis for this conclusion, especially as applied to: (1) running speed/agility, (2) balance, (3) bilateral coordination, (4) strength, (5) upper limb coordination, (6) response

speed, (7) visual-motor control, and (8) upper limb speed/dexterity. Additionally, the condition of MR is likely to be complicated by or associated with a number of secondary handicaps. A report of a nationwide survey by Conroy and Derr (1971) provided the figures associated with mental retardation presented in Table I.

TABLE I

PERCENTAGE OF PREVALENCE OF ASSOCIATED HANDICAPPING CONDITIONS IN MENTALLY RETARDED PERSONS

Function	No Handicap	Partial Handicap	Severe Handicap
Ambulation	57.8	32.4	9.9
Upper limbs, gross motor control	57.5	34.2	8.2
Upper limbs, fine motor control	56.1	34.9	9.0
Speech	45.1	33.4	21.5
Hearing	85.0	11.5	3.4
Vision	73.3	20.9	5.9
Seizures	82.3	15.1	2.7
Behavior, emotional disorders	58.1	35.7	6.3
Toilet training	77.5	10.2	12.3

The most explicit standards to assure nondiscriminatory testing of MR for placement in physical education are included in the regulations provided for compliance of P.L. 94-142 (Federal Register, 1977). Both the evaluation procedures and placement assessment regulations are covered. The evaluation procedures mandate state and local educational agencies shall insure, at a minimum, that:

a. Tests and other evaluation materials:

    1. are provided and administered in the child's native language or other mode of communication, unless it is not feasible to do so;

    2. have been validated for the specific purpose which they are used; and

    3. are administered by trained personnel in conformance with the instructions provided by their producer;

b. Tests and other evaluation materials include those tailored to assess specific areas of educational need and not merely those which are designed to provide a a single general intelligence quotient;

c. Tests are selected and administered so as best to insure that when a test is administered to a child with impaired sensory, manual, or speaking skills, the test results accurately reflect the child's aptitude, or achievement level or whatever other factors the test purports to measure, rather than reflecting the child's impaired sensory, manual, or speaking skills (except where those skills are the factors which the test purports to measure);

d. No single procedure is used as the sole criterion for determining an appropriate program for a child, and;

e. The evaluation is made by a multi-disciplinary team or group of persons, including at least one teacher or other specialist with a knowledge in the area of suspected disability.

f. The child is assessed in all areas related to the suspected disability, including where appropriate, health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status and motor abilities (Federal Register, 1977, 121a.532).

Alley and Foster (1979) described recommendations related to nondiscriminatory testing which included:

1. A programmatic examination of placement recommendations for decisions of biases.

2. The usage of test items that reflect the content of the curriculum. Face validity can be used to determine if the tests being used to predict the probability that individual students will be able to succeed are related to success.

3. The results of an assessment battery should yield measures of both standardized and optional performance, and should indicate both competencies and lace of competencies.

4. The examiner should realize that a test samples only a small part of the child's behavioral repertoire.

5. Certain motivational factors may affect a child's scores adversely, but inflating children's test performance through motivational factors is unlikely.

6. If errors occur in placement decisions, they should be pursued in the direction of least-restrictive environment.

7. Tests should establish explicit criteria for placement in special classes, and contain evaluation as to how appropriate these criteria are for making decisions regarding such placement.

The development of the IEP for physical education obviously places an additional responsibility on the physical educator. Legally, parents have due process rights over school personnel exposing their children to testing and measurement. Professionally, physical educators must be precise in evaluation so as to reflect the quality of their expertise. Thus, the physical educator is responsible not only for

selecting and administering appropriate instruments, but also for justifying and explaining the instruments and results to parents, advocates, and administrators, as well as those members taking part in the multidisciplinary team process.

Cratty (1980) stated that a testing program in physical education for the MR:

> . . . should be judiciously constructed. Meaningful statistical criteria should not be by passed for common sense consideration. The testing program is meant to display a picture of the client's present condition, one which parents and professionals, as well as the client, will understand. The testing program should be congruent with, not overlapping, tests given by others on the evaluation team. Finally, the test battery should be appropriate to the current and future needs of the client and provide adequate guidelines for program content (p. 35).

Measurement of Potential in Physical Education

Verducci (1980) stated that the increasing importance of measurement in multitudinous aspects of education makes it equally vital to the existence and development of physical education programs. The primary objective of physical education for the MR in school curricula is to develop and maximize the motor performance of each participating individual. The success of adapted physical education must be determined by the degree to which program goals and objectives have been accomplished. These judgments are based on measurement of the results of the adapted physical education program itself. Measuring instruments provide this relevant information to the MR participants, instructors, parents, and administrators on the success of goal achievement.

Wiseman (1982) maintained that a comprehensive evaluation program in adapted physical education takes into account the many elements comprising the achievements of the MR student and the appropriateness of methods and materials used to facilitate instruction. Measuring the potential of the MR in physical education is concerned with the identification of present status, the selection of appropriate evaluation standards, the selection and administration of appropriate instruments of measurement, the collection and analysis of scores, and the application of a grading technique that makes use of the best of professional insight.

Physical education as an educational concept is one which has a variety of meanings and interpretations. Consequently, measurement of performance, achievement, and progress must be part of every appropriate and relevant physical education program for the MR. Therefore, physical educators responsible for teaching the MR must know and understand the significance of test results as well as the analysis of physical fitness, motor ability, and developmental profile attributes measured to provide direction for the variety of approaches and techniques required by diagnostic and prescriptive instruction.

The American Alliance for Health, Physical Education, and Recreation (1975) defined the elements of physical fitness, perceptual-motor ability, and developmental progression for use with impaired, disabled, and handicapped persons so that valid and informed decisions could be made for prescriptive and diagnostic purposes. These included:

1. Physical fitness as a state in which an individual possesses qualities of strength, power, agility, flexibility, endurance, balance,

speed, and general coordination to the extent that one is able to meet everyday needs and emergency situations adequately. This implies that functioning of the cardiovascular system is to meet these same everyday needs and emergency situations.

2. The development of motor ability by: (a) neurological organization of the sequential pattern of growth promoted through integration of kinesthetic, tactile, visual, and auditory stimuli; and (b) motor generalizations which involve balance and postural orientation, locomotion, contact with external objects, and receipt and propulsion of objects.

3. A developmental profile of skills, abilities, and competencies possessed and needed by an individual to participate successfully, safely, and with personal satisfaction in a variety of educational and recreational activities characterized by gross motor ability, fine motor skill, personal-social behavior, communications skills, self-care, basic knowledge, practical skill, adaptive behavior, and visual perception.

In many instances careful observation of the MR in specific physical education and related activities provides important information about individual status, achievement, and progress. This information can be valuable in guiding physical educators to the next appropriate educational activity for a particular student. In addition to using the following instruments (see Appendix B) as formal evaluative tools, physical educators should consider incorporating specific test items into ongoing instructional activities to assess individual development:

1. Physical Fitness Diagnostic Instruments:

    a. AAHPER Fitness Test for the Mentally Retarded

b. AAHPERD Health Related Physical Fitness Test

c. Fait Physical Fitness Test Battery for Mentally Retarded Children

d. Hayden Physical Fitness Test for Mentally Retarded

e. Motor Fitness Test for the Moderately Mentally Retarded

f. Mr. Peanuts Guide to Physical Fitness

g. Project Active Physical Fitness Test

2. Motor Ability, Perceptual-Motor Development, and Psychomotor Diagnostic Instruments:

a. Assessing and Programming Gross Motor Development for Children

b. Bruininks-Oseretsky Test for Motor Proficiency

c. Frostig Move-Grow-Learn Movement Skills Survey

d. Frostig Movement Skills Test Battery

e. Gross Motor Test for Early Childhood

f. Hughes Basic Gross Motor Assessment

g. Lincoln-Oseretsky Motor Development Scale

h. Movement Pattern Checklist

i. Project Active Low Motor Ability Test

j. Purdue Perceptual Motor Survey

k. Southern California Perceptual Motor Test

l. Sullivan Perceptual Motor Survey

3. Developmental Profile Instruments:

a. Bayley Scales of Infant Development

b. Denver Developmental Screening Test

c. Peabody Developmental Motor Scales

d. Sensory Motor Training for Severely and Profoundly Retarded

3. TMR Performance Profile

Programming Physical Education Services for the MR

Dougherty and Bonanno (1979) suggested that limited physical education services for MR may rest within the goals of the field itself:

> One universally accepted aim of physical education is that of maximizing student participation. Too often, teachers fall far short of this goal because they are purists and very orthodox in their thinking. Their imaginations are often restricted by a constant desire to teach with official equipment, abundant space, precise and accurate boundaries, and official rules. Granted, it would be ideal if such conditions existed, and one should never stop striving to obtain them, but a crusade for the perfect environment should never overshadow the primary goal, which is maximum participation for everyone (p. 56).

Gagné and Briggs (1979) stated that the basic reason for designing instruction is to make possible the attainment of a set of educational goals. In order to design the delivery of physical education services for the MR, one must identify the "human capabilities" that lead to the outcomes defined as program goals and objectives.

Melograno (1979) stated that the distinction between the goals of traditional and alternative physical education are as follows:

> A conceptual approach to moving and learning is based on the premise that learner needs are general concepts upon which teachers design curriculum and learning. Improvement is identified as the foremost concept since teacher concern for learners' improvement depends on an awareness of their developmental needs and potentialities that exist. In this scheme the teacher focuses on the operational goal of improvement instead of where the learner should be theoretically. In the structure and function of traditional physical education, the focus is on activities (sports, games, exercise); related concepts are learned

> implicitly as a result of participation in activities. Alternative physical education focuses on concepts and their potentialities among individual learners. Activities are selected on the basis of their contribution toward the transmission of these concepts (p. 146).

These underlying principles are easily applied to a physical education design for the MR. The organizational content of a service delivery process should relate the meaning of physical education, particularly with reference to the MR students' psychomotoric dimensional needs. Since the organizational content is conceptual and interpretable based on individual student assessment, the potential for creating alternative and individualized physical education experiences for the MR is unlimited.

Willgoose (1974) stated that the curriculum in physical education is a body of experiences that lies between program goals and teaching methods. Caldwell (1972) indicated that the emergency of physical education in accord with the directions of conceptual or alternative design would be characterized by a thrust toward humanism and self-actualization. Moreover, to achieve this goal means

> . . . the elimination of the jock, the throw-out-the baller, the military martinet, the professional who died on the vine nine years ago, the incompetent and uncaring who masquerade as teachers while fostering student passivity, obedience, conformity, and dependence (Caldwell, 1972, p. 31).

Such ideas suggest that in view of current educational and legislation goals the traditional physical education curricular focus of instructional design is inappropriate for the MR. In any case, the conceptual or alternative instructional design serves to illustrate the extremely close relationship between adapted physical program goals and the individualized techniques necessary to teach the MR.

Conceptual Organization of the Instructional Process

Wessel (1976) stated that an individualized physical education instructional management system for the MR should give balanced emphasis to the development of skills, associated concepts, and social growth. The organizational content reflects a comprehensive, developmental, physical, and continual progression from primary through sport-leisure skills. Crowe, Auxter, and Pyfer (1981) stated that the intent of curricula designed to implement the IEP is to allow reproductibility of the results achieved by the learner. However, without programmed curricula to which assessment can be linked, there is little opportunity for the application of learning principles in a conceptual approach for the MR. Auxter (1971) found that sequential hierarchial curricula, mastered and unmastered, tended to keep instruction directed toward the positive aspects of task mastery of physical education skills. Thus, physical education needs of the MR are met through selection of specific tasks for which there is application or detailed and specific measurement to enhance the conceptual learning and developmental processes. The delivery of an instructional process that achieves this end will meet unique educational needs of the MR to such an extent that individual programming in specific domains becomes necessarily inherent.

Gagné and Briggs (1979) suggested that the primary basis for the design or sequences within the instructional process rests upon judgments of how much can be accomplished within any single element or program objectives. Presumably, one wants to insure the prerequisite

physical, psychomotor, and developmental skills that are necessary for any given conceptual curricular reference which have been previously learned by the MR. Bruner's (1960) idea of the "spiral curriculum" (p. 52) proposes that instructional content based on conceptual program goals be systematically reintroduced at periodic intervals. Thus, the physical education instructor can use a taxonomy of educational objectives to decide on the levels of behavior within each conceptual domain of program goals that are important for each of the MR students. This should assist the instructor in selecting objectives from numerous behavioral and conceptual levels rather than overemphasizing one level.

Verducci (1980) stated that some objectives may be relatively more important than others, and the importance of objectives should be identified so that the curriculum can reflect their comparative values. Criterion-referenced objectives are designed to provide conceptual information that is directly interpretable in terms of specific performance standards. Criterion-referenced standards are used when it is desirable for MR students to perform at a minimal or specific level of achievement. However, the selected level must be realistic in terms of the individual MR students' abilities.

The I CAN Field Service Unit of Michigan State University (1980) stated that a quality objective-based physical education instructional system which is goal directed toward meeting the unique educational needs of the MR has the following characteristics:

1. Individual student performance and progress toward mastery can be directly evaluated through observation.

2. Annual goals and short-term instructional objectives can be set based on individual student needs.

3. Specific teaching sequences and procedures which facilitate attainment of objectives are identified.

4. Materials are provided to assist teachers to establish implementation competencies.

Briggs (1977) suggested that after analysis has resulted in goals for a curriculum, objectives would be derived for the following levels:

1. Life-long objectives, which imply the continued future use of what is learned.

2. Terminal objectives, which state the performance expected immediately after instruction is completed.

3. Unit objectives, which define the performance expected on clusters of objectives having a common purpose in the organization of program goals.

4. Performance objectives, which are the specific outcomes expected, and which are likely to be at the appropriate level for task analysis.

5. Enabling objectives, which support the learning of performance objectives, either because they are essential prerequisite skills required to learn target objectives or because they facilitate such learning.

Based on the characteristics of an objective-based instructional system and the conceptual program goals identified previously, the physical education program's content by age and ability levels for the MR can be operationalized (Table II).

TABLE II

POTENTIAL PROGRAM CONTENT BY AGE LEVEL
FOR PROGRAM GOAL AREAS

Program Goal	Primary Level (3-8 yrs.)	Intermediate Level (8-15 yrs.)		Secondary Level (15-12 yrs.)
Develop competence in fundamental motor skills and patterns.	Run Hop Gallop Underhand roll Vertical jump Body control Static balance	Leap Skip Slide Mature run Underhand throw Overhand throw Overhand strike Dynamic balance	Kick Catch Bounce Even beat Uneven beat Underhand strike Forehand strike Sidearm strike	Backhand strike Accent Rhythms Underhand strike Overhand strike Forehand strike Sidearm strike Dynamic balance
Develop and maintain a functional level of physical and motor fitness.	Arm/shoulder/chest strength Cardiovascular endurance Trunk and leg flexibility Weight maintenance Relaxation	Arm/shoulder/chest strength Abdominal strength Cardiovascular endurance Trunk and leg flexibility Weight maintenance Relaxation		Arm/shoulder/chest strength Abdominal strength Cardiovascular endurance Trunk and leg flexibility Weight maintenance Relaxation

TABLE II (Continued)

Program Goal	Primary Level (3-8 yrs.)	Intermediate Level (8-15 yrs.)	Secondary Level (15-21 yrs.)
Develop knowledge of cognitive concepts.	Body actions Body parts Body planes Shapes and sizes Directions in space Personal space General space Standing Sitting Walking Ascending/descending Pushing Pulling	Holding, carrying objects Lifting objects Lowering objects Recognition of basic formations Knowledge of rules	Holding, carrying objects Lifting objects Lowering objects Solutions to new situations Selecting strategy Discriminate execution
Develop a functional level of competence in social skills.	Takes turns Plays with another child Cooperates in play Activities of daily living Follows directions Verbalization of experience	Participation of own choice Appreciation of performance Recognition of differences Constructive choice of activity Comparison of performance Concern for safety Expressive responses	Participation of own choice Evaluate self-performance Intrinsic motivation Comparison of performance Cooperative-competitive attitudes Expressive response

TABLE II (Continued)

Program Goal	Primary Level (3-8 yrs.)	Intermediate Level (8-15 yrs.)	Secondary Level (15-21 yrs.)
Develop functional level of competence in sport and lifetime activities, including appropriate usage of leisure time.	Aquatics Tumbling Low organized games	Aquatics Dance Gymnastics Lead ups to sports Team sports Recreational activities	Aquatics Dance Gymnastics Team sports Individual sports Recreational activities Athletics

Source: J. A. Wessel, I CAN Implementation Guide (1976).

Wood and Hurley (1979) identified five curricular strategies of instructional delivery which are complemented by an objective-based system of a conceptual oriented special education program. These included:

1. The amelioration of deficits approach which addresses children's specific problems. Objectives designed from this point of view might be described by the terms "remedial," "compensatory," "rehabilitative," "prescriptive," or "behavioral analysis." When implementing instruction from this rationale, the content areas emerge from assessment of the students' problems and are directed toward correcting specific deficits.

2. The basic skill areas approach begins with the skills children use in the process of learning. Objectives are organized around skills students use in the process of learning. Instruction is organized around skills such as language, attention, sensory motor processes, social skills, perception, auditory processes, gross and fine motor skills, self-help skills, and memory.

3. The developmental tasks approach begins with sequences of normal development. Objectives provide hierarchial sequences of tasks, skills, or content that are derived either from normative information about the ways children develop or from developmental analysis of task complexity, usually related to chronological age or sequence of skills. Content areas selected tend to be broad categories of child development that are subsequently sequenced into objectives representing hierarchial steps in maturation or in task analysis.

4. The psychological constructs approach begins with concepts from psychological theory. Objectives organized around this rationale will generally be constructed from a number of the following content areas: self-concept, focus of control, divergent thinking, convergent thinking, primary mental abilities, motivation, identity, need gratification, and cognition.

5. The educational content area approach begins with areas of academic content. This approach, perhaps the closest to the traditional use of objectives in regular education programs, defines areas of learning on the basis of academic content to be learned.

It is clearly evident that an objective-based instructional system of conceptual alternative physical education experiences for the MR can be constructed around a combination of these basic rationale types. Particularly, the first and second types can be used effectively together as a deficits in basic skills approach. The second and third types are occasionally combined as a basic skills developmentally sequenced approach. To a lesser degree, there are combinations of the fifth with the first and second types as deficits in educational content or educational content defined in terms of basic skills approach. Rarely is an instructional system of physical education for the MR developed around psychological constructs entirely. However, in combinations with other approaches, several psychological constructs may be scattered throughout a program.

The IEP and the Instructional Processes

Lillie (1975) stated that individualized instruction indicates an organized attempt by the teacher to identify the needs of a specific

child and to provide a set of conditions for learning that meet those needs. Organizing instruction into meaningful activities that are appropriate for each MR child is an important skill the physical educator must possess. Understanding developmental sequence and writing behavioral objectives are only prerequisites to this skill. The physical educator must be responsive to each MR student's learning style, identify the student's strengths and weaknesses through appropriate assessment, and modify activities to meet those special needs. Grouping children effectively allows the physical educator to meet many individual needs in an organized way.

Understanding the mechanics of the IEP is necessary but not alone sufficient to maximize learning in the MR. The rules and regulations of P.L. 94-142 (Federal Register, 1977) stated the minimal legal content of an IEP. The IEP for each MR child must include:

a. A statement of the child's present levels of educational performance;

b. A statement of annual goals including short term instructional objectives;

c. A statement of the specific special education and related services to be provided to the child, and the extent to which the child will be able to participate in regular education programs;

d. The projected dates for initiation of services and the anticipated duration of the services; and

e. Appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether the short term instructional objectives are being achieved (121a.346).

The U.S. Department of Education (1981), in interpreting as to when physical education must be described or referred to in the IEP, listed the following clarification as to inclusion:

a. Regular physical education with non-handicapped students. If the handicapped student can participate fully in the regular physical education program without any special modifications to compensate for the student's handicap, it would not be necessary to describe or refer to physical education in the IEP. On the other hand, if any modifications to the regular physical education program are necessary for the student to be able to participate in that program, those modifications must be described in the IEP.

b. Specially designed physical education. If a handicapped student needs a specially designed physical education program, that program must be addressed in all applicable areas of the IEP. Moreover, if the student needs an individually designed physical education program, that program must be addressed under all applicable parts of the IEP (p. 5471).

P.L. 94-142 does not specify the planning process to be followed, but it set forth detailed requirements as to what should be included in an IEP with regard to physical education. The intent is not to standardize instructional planning nor to promote a particular teaching methodology of physical education. The goal is to establish use of the IEP to bring about quality physical education for MR children.

Because requirements regulating IEP content and the extent of physical education services for MR are clearly described, certain practices are common across most districts; however, the format and scope of the physical education component of the IEP vary substantially. Since most districts have not had extensive experience in applying physical education to the IEP concept, validated procedures have not been designed. Very few IEP models for physical education exist. Some districts have designed their own procedures and/or adopted available models. Regardless, primary concern must be to the degree to which the IEP format accommodates the required physical education content as mandated by P.L. 94-142.

Meyen (1978, p. 130) stated that "the IEP concept is a major improvement over most instructional programs of the past, when planning centered on placement decisions. Now equal emphasis must be given to describing specific program components." Meyen also suggested six steps for developing IEPs. Adaptation to physical education include:

1. The identification of learning problems to determine whether or not a MR student's problem is brought to the attention of appropriate physical education and/or special education personnel.

2. A referral process of making additional resources available in the form of diagnostic information, consultation, or access to special materials or equipment.

3. Evaluation is broadened to include an extensive review of the available physical education service alternatives required.

4. An IEP conference where previously collected data and program needs are presented with a written plan prepared.

5. Implementation as the physical education service delivery stage whereby the plan is actually put into effect.

6. Evaluation is again repeated as the final step to determine the MR student's progress and the IEP's general effectiveness in the appropriate physical education setting.

For districts to monitor the effectiveness of development, implementation, and evaluation procedures relative to the physical education component of the IEP, there becomes a necessity to rely on specially designed forms. Well designed forms allow for efficient collection and assessment of essential information without placing undue demands upon physical education teachers. Designing forms for monitoring the IEP necessitates an understanding of the IEP concept

and the district's philosophy toward instructional planning of physical education.

Meyen (1978, pp. 134-35) stated that "if attention is given only to administrative procedures or to minimal content requirements, the consequence may be a written plan which falls short of promoting quality instruction." Following are guidelines to be considered in designing forms for use with IEPs. The emphasis is on a system of forms rather than isolated forms for individual purposes. The guidelines for IEP form design included:

1. Accommodation of full service information.
2. Content flexibility.
3. Emphasis on retrieval of program related information.
4. Effectiveness without repeated use.
5. Provision for full participation.
6. Utilization without extensive training.
7. Cummulative and program based qualities.
8. Sustaining nature.
9. Format considerations.

For purposes of illustration, a form system was developed for the physical education component of the IEP (Figures 10-18). The instructional emphasis is compatible with the intent of the IEP, but probably goes beyond the minimally necessary terms of accountability measures. Some forms were intentionally not designed (e.g., parent consent forms, parental agreement of IEP, photographic release, etc.), as they are typically district wide forms identifying standard functions of the multidisciplinary team process.

PHYSICAL EDUCATION DIAGNOSTIC INFORMATION

Name_____Sex_____Birthdate_____CA_____

Parent_____Address_____Phone_____

__ Initial Evaluation Date_____ Examiner_____

__ Reevaluation Date_____ Examiner_____

__ Reevaluation Date_____ Examiner_____

Referral Date_____ School_____ Grade_____

Referred by_____ Phone_____

Regular Physical Education Teacher_____

Reason for Referral:

Background Information:

Previous Testing:

Figure 10. Physical Education Diagnostic Information Form, Side 1

Name_____ Sex_____ Birthdate_____ CA_____

Parent_____ Address_____ Phone_____

Physical Fitness Date: Test Results: Interpretation:	Comments:
Motor Ability Date: Test Results: Interpretation:	Comments:
Developmental Profile Date: Test Results: Interpretation:	Comments:
Perceptual Motor Date: Test Results: Interpretation:	Comments:

Figure 11. Physical Education Diagnostic Information Form, Side 2

Health Related		
Date	Test	Comments:
Results:		
Interpretation:		
Posture		
Date	Test	Comments:
Results:		
Interpretation:		
Other		
Date	Test	Comments:
Results:		
Interpretation:		
Other		
Date	Test	Comments:
Results:		
Interpretation:		

Note: All completed test forms with results must be in child's cumulative file.

Additional Comments:

Figure 12. Physical Education Diagnostic Information Form, Side 3

Anthropometric/Physiological

Height_____ Weight_____ RHR_____ R Grip Strength_____

Skinfold/MM: Triceps_____ Biceps_____ L Grip Strength_____

Subscapular_____ Suprailliac_____ Vital Lung Capacity _____

Interpretation:

Informal Assessment

Date Description of Procedures and Results

Behavioral Observation

Date	Location	Description	Freq.	Dur.	Type

Additional Information

Explain:

Figure 13. Physical Education Diagnostic Information Form, Side 4

PHYSICAL EDUCATION ASSESSMENT PROFILE

Name_____ Sex_____ Birthdate_____ CA_____

Parent_____Address_____Phone_____

Areas Assessed	Weak 1	2	3	4	Strong 5	%	Level
Physical Fitness							
Motor Ability							
Developmental Profile							
Perceptual Motor							
Health Related							
Posture							
Other:							
Other:							

Appropriate Behaviors	Inappropriate Behaviors
Conclusions:	

Recommendation:

__Further referral to:_____ __Special Consideration
__Eligible for Adapted Physical Education __Reevaluation
__Not eligible for Adapted Physical Education __Other:_____

Examiner_____ Date_____

Figure 14. Physical Education Diagnostic Information Form, Side 5

INDIVIDUALIZED PHYSICAL EDUCATION PLAN
OF THE IEP FORM

Name_____ Sex____ Birthdate_____ CA____

Parent_____ Address_____ Phone_____

Placement Date_____ Building_____ Principal_____

Placement Meeting_____ Evaluation Date_____

Diagnostic Team

Examiner:	Name:	Building/Room:	Phone:
Regular PE Teacher	_____	_____	_____
Adapted PE Teacher	_____	_____	_____
Classroom Teacher	_____	_____	_____
Physical Therapist	_____	_____	_____
Occupational Therapist	_____	_____	_____
Physician	_____	_____	_____

Total Percent of Time in Regular PE____ Adapted PE____

Evaluation procedures for determining progress in primary placement.

( ) Those in use		Comment:
Teacher Made Tests	___	
Unit Tests	___	
Daily Grades	___	
Sample Activities	___	
Observation	___	
Criterion-Referenced	___	
Informal Diagnostic	___	
Regular PE Grades	___	
Progress Reports	___	
Other:	___	

Ancillary PE services to be provided.

( ) Those in Use		Comment:
Tape Recorder	___	
Oral Tests	___	
Effort Grading	___	
Modified Assignments	___	
Teacher Aide	___	
Other:	___	
_____		
_____		

Prioritize Annual Goals in Terminal Outcomes:

1.

2.

3.

4.

5.

Figure 15. Individualized Physical Education Plan of the IEP Form, Side 1

Physical Education Achievement Levels

Area	Date	Test	Level	Strengths	Weaknesses
Physical Fitness					
Motor Ability					
Developmental Profile					
Perceptual-Motor					
Health Related					
Posture					
Other:					

Goal Area	Instructional Objectives	Materials	Mastery Obtained/ Date	Person Responsible	Projected Begin/End	Recommendation Rev. Mod.

Figure 16. Individualized Physical Education Plan of the IEP Form, Side 2

Instructional Strategies	
Activities Amelioration of Deficits:	Development Tasks:
Basic Skills	Educational Content:
Restrictions: Medical: Physical:	
Comments:	

Figure 17. Individualized Physical Education Plan of the IEP Form, Side 3

PHYSICAL EDUCATION SUMMARY EVALUATION REPORT

Name _____ School _____ Prepared by _____

Evaluation Team Members:
Regular PE Teacher _____
Adapted PE Teacher _____
Classroom Teacher _____
Physical Therapist _____
Other _____

Date Prepared _____
Date of Placement _____
Date of Last Conference _____
Total Parental Contacts _____

Instructional Areas	Objectives Attempted	Completed	Carried	Performance Exceeded	Satisfied	Progress	No Progress
Physical Fitness							
Motor Ability							
Developmental Tasks							
Perceptual-Motor							
Health Related							
Posture							
Other:							
Total							

Comments:

Recommendations:
___Continue Placement
___Referral to Committee for Placement Change or Modification
___Referral to Committee for Reappraisal of Eligibility
___Other:

Figure 18. Physical Education Summary Evaluation Report Form

Three forms comprise the physical education component of the IEP. They all are completed annually, or whenever a suspected MR student might be considered to have an exceptional educational need in physical education. The monitoring of physical education for the MR in accordance with the IEP is accomplished primarily through the routine use of these forms.

Form 1. Physical Education Diagnostic Information (Figures 10-14).

This form is designed to assist the physical educator responsible for diagnostic evaluation in organizing evaluation information. It is a four-component form which contains provision for recording referral information, test data (e.g., Physical Fitness, Motor Ability, Developmental Profile, Health Related, Perceptual-Motor, Anthropometric), informal assessment, and behavioral observation. Side five (Figure 14) of the form contains a summary sheet, providing a profile for recording descriptive information and summary statements of evaluation and observations. The form is designed to be shared with IEP conference participants as well as a reference for the examiner and physical education teacher. The form may not be totally appropriate for use with the severely MR; a supplemental report would need to be added. The actual test results themselves would be placed in the student's cumulative file and shared with parents and other participants as requested.

Form 2. Individualized Physical Education Plan of the IEP (Figures 15-17).

This is the first form to be completed as part of the actual IEP. It represents physical education's general statement with regard to the IEP and is filled out during the IEP conference. The form does

not contain related information, correspondence, etc., even though such may be present in the student's file. Side 1 (Figure 15) contains provisions for recording and identifying student information, conference team members related to physical education, the placement decision, ancillary services, evaluation procedures for determining student progress, and the prioritization of annual goals for physical education. Side 2 (Figure 16) provides for a statement of present achievement levels in physical education, as well as strengths and weaknesses for respective achievement levels. The form also includes a statement of short-term instructional objectives, dates for initiation, as well as the person responsible for physical education services. Side 3 (Figure 17) is used to identify instructional strategies, physical education activities, medical and physical restrictions of activity that might be necessary for the student. The form also provides a comment section for any concerns or procedures that might not otherwise be addressed.

Form 3. Physical Education Summary Evaluation (Figure 18).

This form provides a means for periodically or annually reviewing the progress of the MR student's progress in physical education. It contains an objective and performance inventory according to individual instructional areas. This form identifies participants involved in the student's physical education program, data on the objectives of the program, a summary of those objectives, recommendations based on evaluation, and professional comments.

The form system which comprises the physical education component of the IEP was designed to place instructional emphasis on physical education decisions after the MR student has been tested, evaluated,

and placed in the least restricted environment. The system exceeds the IEP requirements for physical education, but does so in such a manner that a variety of physical education assessment devices, instructional models, and program policies can be accommodated easily. The system allows for accounting of the physical education services provided to the MR student, a review of the student's progress, and sharing of information among the participants in the student's program. Evaluation is an ongoing process with provisions for periodic or annual reviews of the student's program. The system allows for a comprehensive and detailed account of education services delivered to the MR in either a modified regular or specially designed physical education setting.

The Least Restrictive Environment and Physical Education

Although the term "mainstreaming" has been directly associated with the educational intent and passage of P.L. 94-142, the word itself is not even mentioned in the Law's Rules and Regulations. Instead, placement of the MR into appropriate physical education settings is focused on a concept of least restrictive environment. The Rules and Regulations of P.L. 94-142 (Federal Register, 1977) stated that by the least restrictive environment, each public agency shall insure:

> (1) That to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped; and
>
> (2) That special classes, separate schooling, or removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education

> in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (121a.550).

P.L. 94-142 assumes that MR students are heterogeneous in their learning needs for physical education. The regulations clearly stated that the least restrictive environment is to be individually determined. The regulations specify that the MR student's placement in physical education be in the least restrictive environment based on the IEP. After the physical education instructional program has been identified, the setting in which the individualized program will be implemented must be determined. Martin (1977) described this process:

> First, judgments about placement must be made on the basis of the individual child, considering not only the characteristics of the educational problem involved but the specific objectives of an instructional program developed to meet that particular child's needs. The procedure calls for an evaluation of the particular needs of a given child and then the careful structure of a program with stated objectives specifically designed to meet those needs. The program in turn implies the development of a strategy--perhaps involving various instructional approaches and settings--for achieving those objectives (p. 14).

Within the last few years there has been an undeniable movement to mainstream MR students into regular physical education classes. This movement is in response to societal pressure, litigation, and federal/state legislation. For example, Winnick (1979) found that, prior to passage of P.L. 94-142 in 1975, mainstreaming in physical education was evident but not prominent. In the state of New York in 1974, 60,009 handicapped children were mainstreamed in physical education. In 1976, this number, only one year after passage of P.L. 94-142, had increased to 104,164. Thus, it is clear that if mainstreaming and the intention of the least restrictive environment is to be

maximized appropriately as well as succeed in public school physical education programs, physical educators need to develop competencies related to the concept of least restrictive environment (See Appendix A).

To provide a comprehensive continuum of physical education service settings for the MR consistent with the concept of the least restrictive environment, three major issues will have to be resolved. As suggested by Meyen (1978), these included: (1) The issue of what is to be taught to the MR must be reviewed to provide a standard by which to assess the extent to which regular physical education programs appear consonant with the categories of MR; (2) The issue of the number of MR students requiring specially designed physical education services and the qualified personnel available to warrant providing comprehensive services; and (3) The issue of constructing efficient and effective provision of physical education and related services will require the development of different patterns of physical education programs consistent with local school district needs.

Further, failure to provide fundamental staffing patterns with the inclusion of physical educators responsible for the MR and structural changes in special education programs will lead to the failure of mainstreaming efforts in physical education. Hobbs (1975) stated that the following cautions should be observed as mainstreaming programs are planned and put into operation:

> Where mainstreaming has failed, little or no attention was given to the substantive nature of the curriculum; teachers were left to do what they could, and entire elements of learning were omitted because they make for problems in scheduling or staff assignments or the like. Many administrators assumed that all that needed to be done was to rearrange kids' environments and that all else will follow. It doesn't (p. 198).

Although this statement was made in the mid-1970s, the lack of statistical information regarding physical education programs for the MR and descriptions of such appear to substantiate the likelihood that this practice is still common to the majority of public school districts.

The least restrictive environment for physical education should ideally be administered according to the following adapted guidelines, as stated by Howe (1981):

1. There should be at least four levels of programming option for MR children which might include: (a) an itinerant or consulting adapted physical education specialist to help the regular teacher, (b) resource programs with integration, (c) self-contained adapted physical education classes with some integration, and (d) self-contained adapted physical education classes.

2. MR students should move up or down the continuum one level at a time unless there are compelling reasons to jump more than one level.

3. Facilities for the MR should be equivalent or equally shared by those provided for regular students in the district. This may require the sharing of a gymnasium during the same class period between regular physical education and adapted physical education classes, even though each is an entity separate of one another.

4. Evidence collected over time should show that increasing percentages of MR students in each level of physical education programming are being served in less restrictive settings.

5. The term "mainstreaming" should be dropped because of confusion about its meaning, and the term "least restrictive environment" substituted.

Whenever possible, the MR should be integrated or placed into the regular physical education program. Gunn and Peterson (1978) stated that integrated programming, when possible, not only deepens the understanding between the MR and non-MR peers, but also is usually financially expedient, relative to maximum utilization of staff and facilities. However, Boyd and Hartnett (1975) stated that the trend toward mainstreaming extends far beyond the classroom and is considered as both a process and a goal. McFarlane (1979) described goals of instructional activities that teachers needed to plan, develop, implement, and evaluate individual and group instruction designed to achieve program objectives in the least restrictive environment. Adaptation to physical education is presented in Table III.

There are numerous implications for the administration of physical education programs for the MR. It may not be necessary for the physical educator to interpret all of idiosyncracies of the legal requirements of the least restrictive environment and how the school district operationalizes it. However, Cratty (1980) stated that the physical educator has an obligation to understand the principles involved and to have an awareness of the range of alternatives that may arise. Implications of these principles were as follows:

1. Physical educators should have at their disposal a range of services available to meet the unique physical education needs of the MR.

2. Physical educators should be aware of, and use hard evaluative evidence to understand, the heterogeneity of the physical capacities and abilities of MR students.

TABLE III

INSTRUCTIONAL ACTIVITIES TO ACHIEVE PHYSICAL EDUCATION PROGRAM GOALS IN THE LEAST RESTRICTIVE ENVIRONMENT

Goal 1	Goal 2	Goal 3	Goal 4
The physical education teacher will be able to develop an IEP for the MR.	The physical education teacher will be able to develop activities that best facilitate that attainment of instructional objectives by MR students.	The physical education teacher will organize instruction to accomodate the individual and group needs of the class.	The physical education teacher will be able to evaluate instructional programming throughout the year.
The physical education teacher will: A. Formulate objectives to meet long-term goals. B. Relate the selection of instructional objectives to developmental sequence. C. Write a complete IEP for physical education.	The physical education teacher will: A. Produce instructional activities based on objectives in the IEP. B. Select activities from curriculums, manuals, and activity books to best meet the needs of the class, including MR children with specific needs.	The physical education teacher will: A. Describe elements of an individual MR student's learning style. B. Effectively organize group activities for children sharing a commonality in a task. C. Provide opportunities for the reinforcement and generalization of skills.	The physical education teacher will: A. Conduct ongoing assessment by criterion-referenced standards or program objectives. B. Utilize the ongoing assessment to improve instructional activities for the MR.

Source: M. A. McFarlane, Teaching Early Childhood: Exceptional Educational Needs (1979).

3. Physical education teachers should be present and involved at all meetings and hearings in which the educational placement of the MR is discussed.

4. Discussions and consultations should be preceded by valid and thorough assessments of the physical needs of the MR conducted together with other specialists concerned with psychomotor development.

Crowe et al. (1981), in discussing the concept of homogeneous versus a restrictive educational environment in physical education, stated that:

> It is fallacious to assume that handicapped and non-handicapped children can be taught in two separate groups in a regular physical education class. Stigmatizing handicapped children in front of their peers by magnifying differences between them and non-handicapped children restricts their opportunities to function in a normal setting. Thus, the implementation of the IEP in the least restrictive environment can be effectively conducted only if all children in a specific class receive an IEP. However, trained teachers are needed to implement such instructional materials (p. 85).

Mainstreaming the MR into physical education is usually associated with a rigid form of homogeneous grouping whereby they are grouped by ability within a class by teacher-evaluation of their capacity to achieve the predetermined objectives of the curriculum. One of the major problems associated with the difficulty of establishing truly homogeneous groups in a mainstreamed class can be found in the lack of precision of the measurement instruments used to establish groups. The potential for problems generated by ability grouping of the MR far outweight the scant benefits to be gained. Johnson, Collins, DuPuis, and Johansen (1979) described the following major problems associated with homogeneous grouping:

1. Teachers tend to favor teaching average or above average groups rather than low ability groups, which typically include the MR.

2. Students who are given labels of low ability usually perform poorly because of the teacher's low expectation for those students.

3. The problems associated with social class and handicapping differences are usually increased with ability grouping of the MR.

4. Ability grouping tends to reinforce unfavorable self-concept among the MR placed in low ability groups.

5. For the learners, ability grouping does not enhance the value and acceptance of differences within society.

6. Low achievers such as the MR tend to perform poorly in low ability groups.

The concept of least restrictive environment suggests that all student grouping in physical education be on a heterogeneous basis. The mainstreaming of the MR requires the physical educator to expect diversity. As individualized programs are developed and implemented for these students, varied types of ability grouping will be employed. However, there is an advantage of a limited and flexible grouping program in that it contributes to teaching effectiveness. If grouping remains flexible and is based upon abilities, needs, interests, social practices, and if MR students are not locked into fixed groups, the physical educator can arrange instruction to achieve a set of appropriate objectives for a particular group.

Winnick (1979) stated that the least restrictive environment in physical education necessitates the implementation of strategies which

individualize instruction and, in addition, stimulate and enhance the integration of regular and MR populations. The physical education setting must be characterized by interplay, interaction, and involvement between the MR and non-MR students. Techniques must be designed to involve the MR in the same activities which are conducted for all students without placing their education or that of the non-MR students in jeopardy. Winnick suggested techniques which enhance integration when including MR and non-MR students in the same physical education setting. These were:

1. The modification of activities so as to equalize competition between the MR and non-MR students.

2. Permitting the substitution or interchange of duties in activities.

3. The inclusion of activities in which contact is made and maintained with a partner, small group, or object.

4. The modification of selected activities in a manner in which the regular students assume an impairment similar to that of the MR.

5. The analysis of position in activities according to the ability of the MR.

6. The avoidance or modification of elimination-type games and activities.

7. Limiting play areas if the movement capabilities of the MR are restricted.

8. The modification of activities to maximize the abilities of the MR while insuring successful participation.

There appears to be little doubt that educational opinion varies greatly on the advantages and disadvantages of the term mainstreaming

and the concept of least restrictive environment. Where the MR are concerned, it seems wise to offer both segregated and integrated physical education opportunities in a continuum related to what Howe (1981) suggested. The appropriate integration of the MR into public school regular physical education will not be swift or easy. Miller and Sullivan (1982) sum it up best by their statement that

> Good programming calls for instructors to be creative enough to challenge outdated ideas; to know about community resources that enrich the program, and to secure additional education on integrating the impaired into the mainstreamed class (p. 95).

Organizational Framework of Physical Education Programs for the MR

Campbell, Bridges, and Nystrand (1977) stated that organizational development assumes the educational environment is dynamic rather than static. For physical education to survive in the "turbulent environment" of P.L. 94-142 while educating the MR, such programs will have a greater chance of adapting successfully to this changing environment if they can effectively bring their resources to bear on the problems created by changes in this environment. To improve the interpersonal processes within physical education programs for the MR and the way which the various subsystems of special education relate to one another, organizational training is necessary. Schmuch (1972, p. 6) stated that "this type of training seeks to develop skills in interpersonal communication, problem solving, and to foster a restructuring of roles and norms in the relevant system."

Harris, McIntyre, Littleton, and Long (1979) suggested that special programs often result in creating an imbalance of personnel,

especially when the adoption of new programs is haphazard. DeArman's (1975) study found that most abandoned special programs were the more complex, expensive, difficult-to-administer programs and likely involved a large staff. Another important finding was that large numbers of school districts reported partial adoption on a trial basis. Harris (1975) reviewed this problem of high rates of "corruption" in special program adoption and emphasized the importance of rigorous attention given to such programs in reviewing their organizational framework and procedures to best reassign and balance personnel. These findings corroborate previously cited literature in suggesting that physical education programs for the MR are neglected as well as imbalanced, and if not corrected by concerted action, will cause severe and growing defects in instructional quality. Vodola (1977) stated that the success or failure in the adoption of physical education programs for the MR is directly related to the consideration given to operationalizing the program.

Physical education programs are influenced by a number of practical factors that vary from district to district and even among schools located in the same district. Crowe et al. (1981) identified these factors as:

1. Community and administrative support
2. Adequacy of the budget
3. Available facilities and equipment
4. Availability of qualified supervisory and teaching personnel
5. Student interest and support

Thus, based on sound goals, objectives, and principles which are conditioned by practical factors influencing the curriculum, physical

education for the MR must be organized so that it operates most effectively for the students, teachers, and administrators.

Howe (1981, p. 55) stated that, "unfortunately, special education has been linked most frequently to ancillary services. This, in effect, places the special education program outside the mainstream of the school system's operation." Kohl and Marro's nationwide survey (1971) of special education programs described administrative changes in the organization of programs that would: (a) directly connect special education to regular education operations in order to be more congruent, (b) upgrade administrative or coordinative positions to increase authority, as general responsibilities were far in excess of authority in the areas of personnel and budget, and (c) the integration of administrative personnel of special education into regular curriculum and instruction. Rather than attempt to balance power between the dual system of regular and physical education, it appears to be a more reasonable approach to merge or integrate the administration of physical education for the MR into a single organizational component.

Wiseman (1982, p. 40) suggested that physical education programs do not "experience easy, comfortable, and unbothered growth." Often curricula are changed to reflect an emphasis perceived to be appropriate at the time. New approaches to meeting the needs of MR students should be researched and evaluated prior to being implemented. In this regard, Dauer and Pangrazia (1979) suggested a number of principles of program organization that should be addressed. Application of these principles to the MR included:

1. The major purpose of developing a curriculum is to provide direction and continuity to the physical education program. The curriculum guide should be constructed with enough detail to provide congruence with program goals and objectives and still retain a reasonable degree of flexibility.

2. The activities selected for the curriculum should be based on their potential to help teachers and the MR reach expected objectives as set forth by the IEP. Activity selection should consider appropriate vigorous physical activity that promotes growth and physical fitness as well as instructional sequences that lead to a broad range of movement capacities and skill development.

3. Program development also should take into consideration the hidden curriculum. Attempts should be made to arrange the learning environment so that both the hidden and formal curriculum facilitate the purposes of the program and the special needs of the MR.

4. Planning should be done on a district-wide basis with active inclusion of special education personnel and administrators. The project should be under the direction of the adapted physical education coordinator or supervisor, since it will be his responsibility for implementation.

5. The program should be broad as well as balanced. It should contain a wide variety of physical education experiences for the MR which can be taught through different approaches.

6. Program activities should be selected to make possible the achievement of desirable behavioral changes, associated educational values, and personal benefits by the MR. However, the selection of activities should be such that the aforementioned changes and values

can be achieved with appropriate methodology in the least restrictive environment.

7. Program content should be based on the foundation of efficient body management and fundamental movement skills applied to the developmental needs of the MR. This implies an instructionally oriented program that leads toward a goal of reasonable movement competency and concept acquisition.

8. Activities should be organized so that they can be presented to the MR is a sequential fashion, arranged in meaningful progression beginning with easy experiences and proceeding to more difficult. Progression should be reflected within grades and activities. Specific skills for examples might be broken into the following levels of: (a) performance with assistance, (b) performance without assistance, (c) performance with a mature skill pattern, or (d) performance with a mature pattern executed in specific standards.

9. The program should offer extended opportunities for the MR who are interested and skilled in particular areas. Intramural programs, Special Olympics, and recreational opportunities after school can be implemented and considered as a portion of the total program.

10. Activities in the program should be scheduled in line with the seasons of the year. Although this may place a constraint on the availability of facilities, especially during the winter months, it essentially is a scheduling problem that can be resolved. However, some traditional outdoor activities may need to be modified to provide for a broad program of instruction indoors. Additionally, specialized interests can affect the development of activities within a program. For example, cross country skiing may be inappropriate in

the south. Certain popular lifetime activities should be considered when adults in the area participate in them regularly.

11. The program must have a climate of positive administrative support if it is to achieve its educational goals for the MR. The administration has a moral and legal obligation to provide competent direction and leadership, adequate accessible indoor and outdoor facilities, adequate budget for general and adapted equipment, locker rooms and shower facilities that are accessible, and office or other space for personnel. Obviously, the degree of administrative support has a profound effect on the program.

Administration of Physical Education Services for the MR

Crowe et al. (1981, p. 425) stated that the person responsible for directing a physical education program for the MR "constitutes the program's most important single aspect." For this reason, that supervisor should be selected because of outstanding or specialized professional preparation (see Appendix A). Crowe et al. elaborated by stating:

> The traditional role of adapted physical education was to provide opportunities for handicapped persons to successfully participate in activities of the physical education program. There are two different aspects to current adapted physical education programs. One is the accommodation of the handicapped child in handicapped-only classes; the other involves making provisions for the Individual Education Program in the least restrictive environment or the regular class. The supervisor of physical education for the handicapped should be competent in both roles (p. 425).

The Special Education Supervisor Training Project at the University of Texas (Evans et al., 1975) has provided a carefully developed

set of competency specifications for instructional supervisors in special education (Table IV). The competencies for instructional supervisors were specified in seven leadership task areas, including: (a) developing curriculum, (b) developing learning resources, (c) staffing for instruction, (d) organizing for instruction, (e) utilizing supporting services, (f) providing inservice education, and (g) relating to the public. Initial efforts to develop extremely elaborate descriptions of competencies were abandoned early for a lack of feasibility in school settings. The competencies reflect a commitment to the selection of those that seemed most critical for the improvement of instruction for the handicapped. They also reflect replicable instructional and supervisory competencies necessary in administrating appropriate physical education services for the MR.

Range of Physical Education Services

Meyen (1978) suggested that physical education for the MR may be viewed from three primary perspectives: (1) determination of the most appropriate instructional program, (2) establishment of the most accurate diagnostic base for programming, and (3) selecting the most efficient and economical structure for delivering services. It is apparent that the latter two relate to instruction; and instruction, to be effective, depends upon accurate diagnosis and effective adminstration. A construct or organizational structure is important if physical educators are going to be making decisions regarding MR children. Johnson (1975, p. 153), in explaining the move toward conceptualized organization of special education models and alternative planning, stated that: "Today our business is not only very complex,

TABLE IV

OUTLINE OF 24 CRITICAL COMPETENCIES FOR PROFESSIONAL SUPERVISORS OF INSTRUCTION IN SPECIAL EDUCATION

A. Developing Curriculum
   - A-1 Setting Instructional Goals
   - A-2 Designing Instructional Units
   - A-3 Developing and Adapting Curricula

B. Developing Learning Resources
   - B-1 Evaluating and Selecting Learning Materials
   - B-2 Producing Learning Materials
   - B-3 Evaluating the Utilization of Learning Resources

C. Staffing for Instruction
   - C-1 Developing a Staffing Plan
   - C-2 Recruiting and Selecting Personnel
   - C-3 Assigning Personnel

D. Organizing for Instruction
   - D-1 Revising Existing Structures
   - D-2 Assimilating Programs
   - D-3 Monitoring New Arrangements

E. Utilizing Supporting Services
   - E-1 Analyzing and Securing Services
   - E-2 Orienting and Utilizing Specialized Personnel
   - E-3 Scheduling Services
   - E-4 Evaluating the Utilization of Services

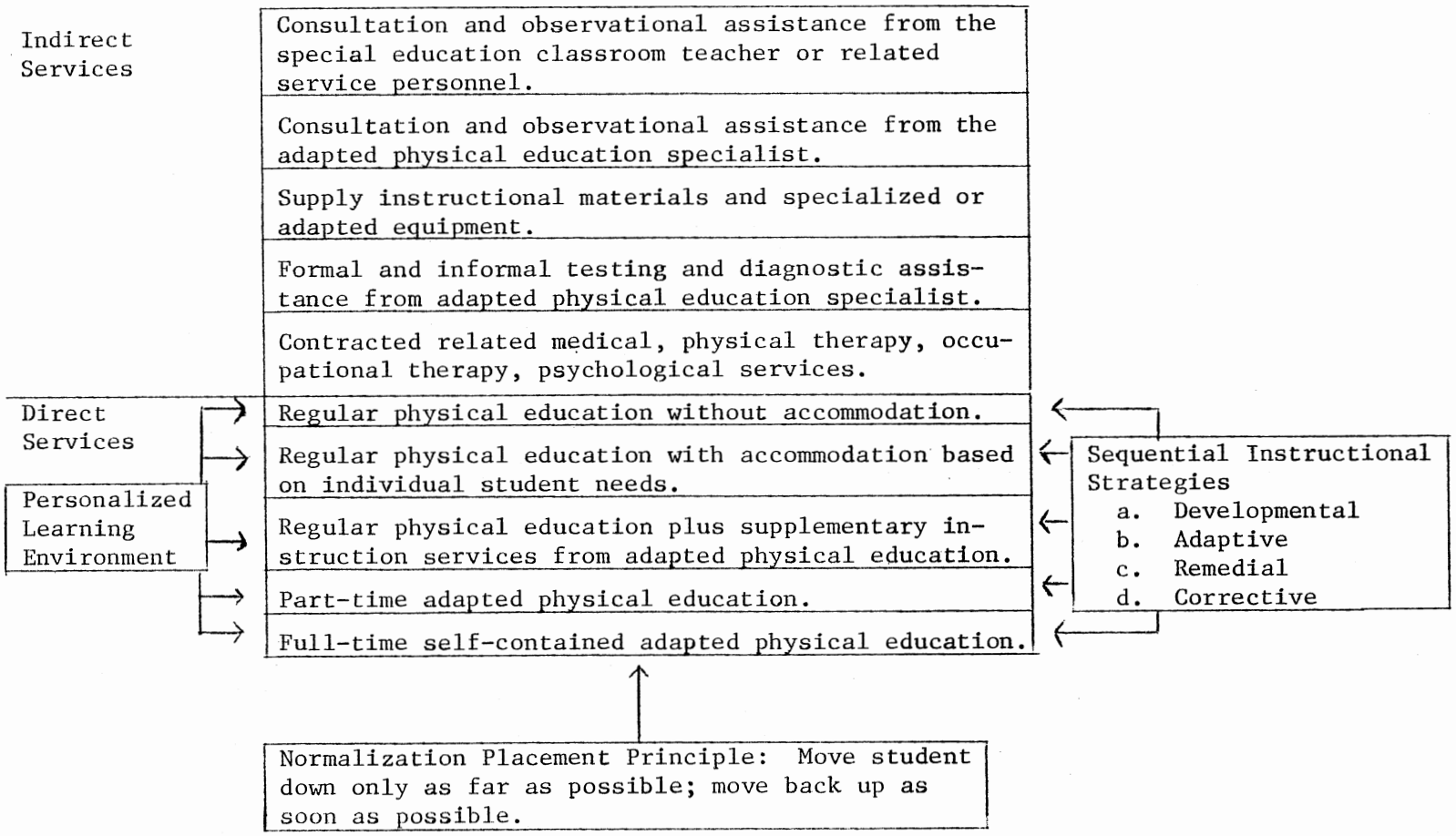
F. Providing Inservice Education
   - F-1 Supervising in a Clinical Mode
   - F-2 Planning for Individual Growth
   - F-3 Designing Inservice Training
   - F-4 Conducting Inservice Training
   - F-5 Training for Leadership Roles

G. Relating to the Public
   - G-1 Informing the Public
   - G-2 Involving the Public
   - G-3 Utilizing Public Opinion

but is also subject to the requirements of accountability for demonstrating that what we do with and for handicapped learners is productive."

Chafin (1975) suggested that special education services be arranged in a hierarchial fashion so that they are commensurate with each child's development. Deno (1970) described a special education cascade model which focuses upon a process of matching program alternatives with individual student need. Dunn (1973) modified Deno's cascade model by directing the emphasis from levels of program options to types of exceptional pupils. Adelman's Instructional Model (1970-71) differed from Chafin's, Deno's, and Dunn's by placing emphasis not on the service delivery system but on instructional options available to the teacher, regardless of the educational setting. These models in themselves do not provide direct solutions to physical education instructional problems posed by MR students, but they do provide a construct from which physical educators can work to resolve such problems.

Based on the delivery models proposed by Adelman, Chafin, Deno, and Dunn, a physical education service model was designed to meet the varying needs of the MR (Figure 19). Attention must be given to determining the MR student's physical education needs as a prerequisite to considering available service options. After the student's needs have been determined by the multidisciplinary team process, the emphasis should shift to providing assurance that the needed services are provided. This provision may involve developing service options not currently operative within the physical education program or by contracting for such services with outside private or public agencies.



Source: H. S. Adelman, "Learning Problems, Part 1: An International View of Causality, Academic Therapy (1970-71); J. D. Chafin, "Will the Real 'Mainstreaming' Program Please Stand Up?" in E. L. Meyen et al. (eds.), Alternatives for Teaching Exceptional Children (1975); E. Deno, "Special Education as Developmental Capital," Exceptional Children (1970); L. M. Dunn (ed.), Exceptional Children in the Schools (1973).

Figure 19. Physical Education Placement Model for the MR

School districts need to construct or adopt physical education service models which provide a reference in program decision making pertaining to the unique needs of the MR. Such models should premise instructional decisions upon a program design (Figure 4) and placement decisions upon a service model (Figure 19). However, design and service elements must be congruent with the operational process of special education (Figures 2, 3, 5, 9).

The Council for Exceptional Children (1974) defined appropriate services as those which:

1. Provide the most appropriate education for each child in the least restrictive environment.

2. Look at the educational needs of children, not clinical or diagnostic labels.

3. Look for and create alternatives that will help general educators with learning or adjustment problems in the regular setting.

4. Unite the skills of general education and special education so that all children have equal educational opportunity. The determination as to the extent of physical education services that the MR student will receive should be accompanied by provisions for instructional support, in which the physical educator has input regarding the amount and type of direct and indirect services needed. All personnel who will work with the MR, including the regular physical educator and the adapted physical education specialist, should be involved in any aspect of continuation or improvement of these services.

Program Evaluation

Melograno (1979, p. 383) defined program evaluation in physical

education as "a recurring process of obtaining information about program goals which may be used for judging decision alternatives." Consequently, the worth of a physical education program for the MR is based on analysis and interpretation which are relevant to program goals. It is this judgment which leads to decisions about the advantages and disadvantages of program alternatives.

Program evaluation is required at least annually to provide better data for making decisions about program alternatives. More importantly, evaluation is a process which should ensure the effectiveness of physical education programs for the MR. It is a varying and critical responsibility that cannot be avoided. Determining standards of the physical education program in relationship to special education processes and strategies for the MR represent an ambiguous challenge to most physical educators. Despite the problems involved, there are some models of program evaluation which may have applicable potential for evaluation of physical education programs for the MR.

Brinkerhoff (1979) has applied the discrepancy evaluation model to special education programs and differentiated the scope of district evaluation from program operations (Figure 20). This model uses an input-process-output construct in describing individual components. Brinkerhoff (1979) suggested that a discrepancy evaluation model lends itself to the major purposes of evaluation, which are:

1. To clarify and communicate the expectations or standards for the program;
2. To document operation of the program, particularly those phases of operation requiring legal compliance;

3. To assess the impact of the program on its intended recipients; and

4. To provide information to revise and improve the program (p. 356).

Program operation	Evaluation Responsibility
↓	↓
Determine standards for operating procedures and goals	Explicate program standards
Organize staff and resources	Document resources actually allocated
Identify and select the treatment population	Document and verify characteristics of treatment population selected
Deliver the treatment program	Document program activities actually delivered
Effect changes in the treated population	Assess changes in the treated population

Figure 20. Program Operations/Evaluation Responsibilities

MacMillan and Semmel (1977) applied the context, input, process, and product (CIPP) modular components of evaluation to special education. In this evaluation, outcomes are utilized principally to provide useful information for deciding program alternatives. Application of MacMillan's and Semmel's efforts to physical education are as follows:

1. Context evaluation. The emphasis is on specifying objectives to be realized. Agreement must be obtained, in this case, about the

anticipated outcomes of including MR students into appropriate physical education services. Perspectives may vary as to what is important, as physical education's interest to many individuals and groups (administrators, teachers, parents, school boards) probably is diverse and each of those interested may desire different types of information.

2. Input evaluation. The intent is to consider alternative ways of using resources to achieve the objectives of the program. Input evaluation as related to adapted physical education might be concerned with the costs estimated for the program in terms of specially trained staff, inservice needs of regular physical education personnel, additional equipment, instructional materials, ancillary staff, etc.

3. Process evaluation. The major concern is with monitoring the ongoing physical education program on the basis of the input evaluation to see whether it is meeting the objectives set for the MR. Process evaluation provides a description and record of what is occurring with the intention of providing relevant information should changes be necessitated. If certain objectives for the physical education program are not being achieved, efforts can be given directly to the problem, and solutions attempted.

4. Product evaluation. The emphasis is on outcomes of the program's activities, both formatively and summatively in scope. Although many outcomes might be measured, the major focus should relate to change data for the MR and the service delivery option in which it occurred.

Gunn and Peterson (1978) described a six-stage evaluation plan of special education programs. The plan, which is developed prior to program implementation, specifies the major evaluation questions that will be addressed, and when and how data will be collected. This information then allows for the development of instrumentation and for the determination of a schedule for collecting data, which will be followed throughout the program. A description of each of the six steps as applied to physical education are as follows:

1. State the evaluation question. Evaluation questions should focus upon determining: (a) program outcomes, (b) the program's implementation as designed, (c) the appropriate processes of the program, (e) any unanticipated outcomes of the program, (e) the appropriateness of program objectives for the MR, and (f) a theoretical validation of the physical education program's objectives.

2. Determine the variables. Each of the evaluation questions developed are reduced to variables. These are specific questions asked to obtain information required to answer the evaluation question. For example, in dealing with a multidisciplinary team process question, the following might be variables: (a) the number of meetings attended by physical educators, (b) the number of IEPs developed for physical education, (c) the number of MR students mainstreamed, (d) the number of MR students self-contained in adapted physical education, etc.

3. Sources of data. Each variable is analyzed in order to determine the most appropriate source of data to answer the evaluation variable question. Sources of data might be school administrators, physical education personnel, parents, related service personnel, special education processes themselves.

4. Method of collecting data. This step identifies the instrument or method of collecting needed information. This may include formal or informal tools. Tools might involve state reports, locally developed instruments, existing information forms, IEPs, etc.

5. When data are collected. Some information may be collected in an ongoing manner, such as the number of IEP objectives the MR achieve while participating in the program. Other information, such as the number of self-contained adapted physical education classes scheduled in the district, for example, would only need to be collected once.

6. Treatment of data. This step indicates how the information for each variable will be utilized. This might involve making recommendations to the administrator, whereas other data might involve statistical analysis. Regardless, treatment must be objectively reported to facilitate effective and efficient programmatic decisions.

Cook (1966) generated the application of network analysis, particularly Program Evaluation Review Technique (PERT), to educational programs. This technique has a systems perspective which assists in planning and controlling programs with a special emphasis on managing and allocating time. PERT requires the user to do the following:

1. Identify the activities involved in the program.

2. Determine the sequence in which the activities must be completed. A network schematic should illustrate the sequence.

3. Estimate the time needed to complete each activity. Any unit of time may be used; however, the same unit must be used throughout a given network.

4. Compute the time required to complete each activity.

5. Determine the times at which each activity must be completed in order for the entire program to be completed on time.

PERT is capable of creating various levels of complexity, and implementation difficulties may be encountered. Network analysis assumes that the individual who constructs a network has sufficient expertise and knowledge to be able to identify what the relevant activities are and how much time is required to complete each activity. Although PERT is a systems approach to program development and review, the process has application to evaluation of physical education programs for the MR which include:

1. Network analysis necessitates implementation by a skilled practitioner in the profession such as an adapted physical education specialist, Director of Special Education, or a combination thereof. This constraint insures that the physical education program will be developed in accordance with legislative intent as well as appropriate program design to facilitate effective evaluation.

2. Demands of time are computed during all aspects of identified activities. This allows the evaluator to easily measure the number of program development activities (meetings, inservices, reports, etc.), as well as the time, personnel, and facility elements required to complete each activity.

3. PERT is capable of performing simple or complex evaluation. The development of the activity network for physical education in more sophisticated forms can be easily adapted to existing computerized special education software, as well as accommodated within simpler existing formats.

4. Even though there may not be the opportunity for long range planning and development, implementation and evaluation of physical education programs can be accomplished, to a certain extent.

Howe (1981) described program outcome evaluation techniques which focus on what actually happens within a program and the factors to which any change can be attributed. The major concerns regarding such techniques focus around the reliability and validity of measurements used. These approaches include: (a) longitudinal designs, (b) single-subject design, and (c) goal attainment scaling. Part of the current frustration of implementing and evaluating physical education programs for the MR relates to establishing standards for concepts like "least restrictive environment" and "appropriate individualized instruction." These and other partially defined program variables can be established by program outcome evaluation techniques. This type of evaluation is also helpful in determining compliance monitoring of P.L. 94-142, as illustrated in Table V.

Utilizing Evaluation Information

Gagné and Briggs (1979), in discussing evaluation of the effects of process variables, stated:

> The assessment and control of process variables is of particular concern in seeking evidence bearing on the attainment of stated objectives. Quite evidently, an instructional entity may 'work' either better or worse depending upon how the operations specified are carried out (p. 302).

The intent of evaluating operational processes of physical education programs for the MR has its basis in accountability mandated by law and reinforced by societal pressure. Dougherty and Bonanno (1979)

described this intent as threefold. First, it allows for the specific revision of program operational processes in order to better attain the stated objectives. Second, it allows for the identification and elimination of undesirable outcomes. Third, it serves as an effective means by which the administration and public can monitor programs within schools.

TABLE V

ADAPTED PHYSICAL EDUCATION PROGRAM ADMINISTRATIVE REVIEW VARIABLES

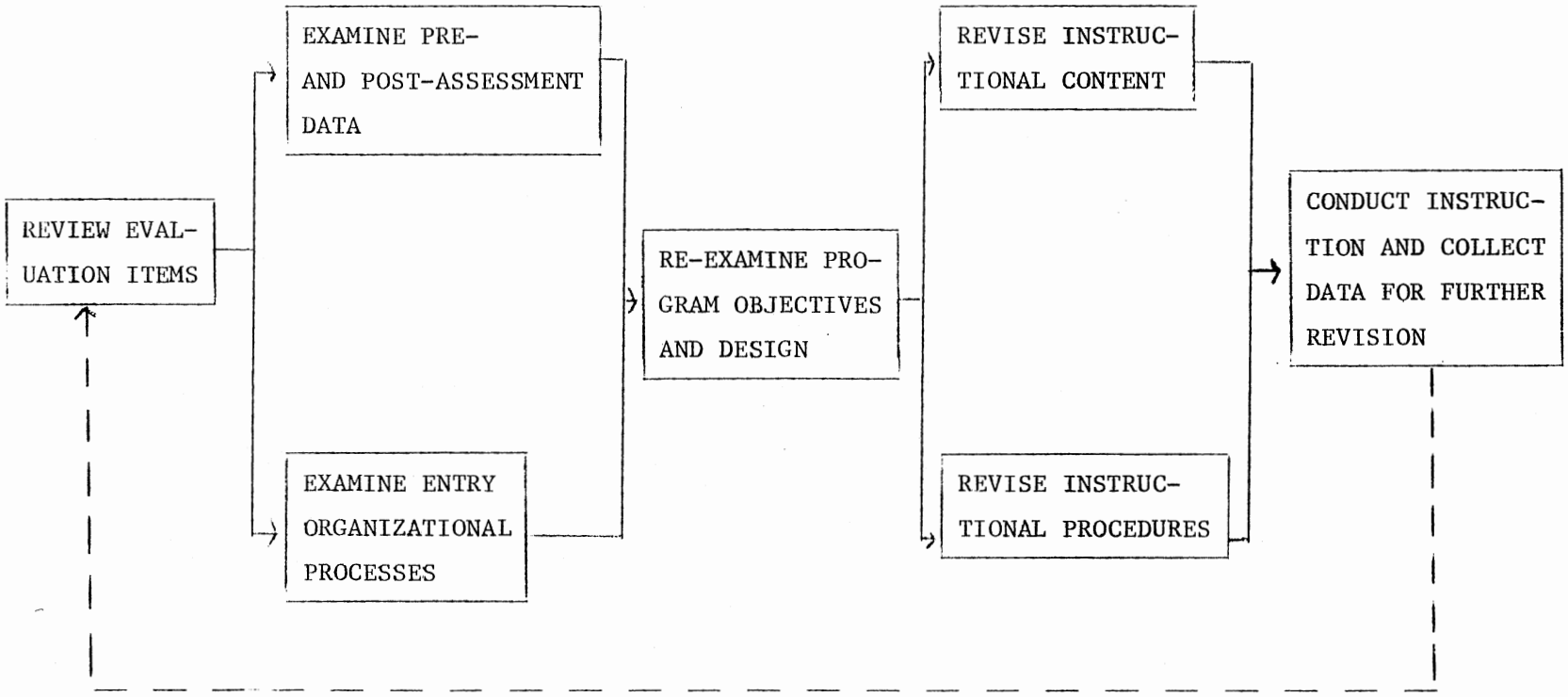
1. Program Priorities	13. Evaluation of Education Achievement of Participating Children
2. Child Identification	14. Least Restrictive Environment
3. IEP	15. Measurable Program Goals/ Objectives
4. Staff Development	16. Technical Assistance by Outside Agencies
5. Administration of Funds	17. Program Evaluation
6. Child Evaluation Safeguards	18. Distribution of Funds, Staff, Equipment Among Grade Levels
7. Program Monitoring	19. Related Service Involvement
8. Class Composition/ Size	20. Accommodations and Adjustments Caused by Participating Children
9. Scheduling	21. Instructional Activities and Distribution
10. Facility Accessibility	
11. Organization Patterns	
12. Instructional Activities	

No single evaluative technique is satisfactory in and of itself. The more data available the greater the likelihood of an accurate program evaluation and successful ongoing program. Given the broad diversity of evaluation models discussed and their application to program operational variables, it is necessary that an appropriate model be employed for evaluating program progress. If a physical education program is truly concerned with meeting the educational needs of the MR and seeks the best possible learning environment, then every evaluation model should be applied at one time or another.

Melograno (1979) suggested that the last step in the evaluation sequence involves the use of discrepancy information as feedback for making judgments about the effectiveness of the program. This also includes the task of revising the program to reduce or eliminate any of these discrepancies. Singer and Dick (1974) described a useful procedure which may be followed to utilize evaluation information and remedy deficient aspects of the program. This system was adapted in Figure 21, and each step is briefly described below.

1. Review Evaluation Items. The various evaluation models and instruments should be scrutinized to insure that the evaluation items are valid and note any inconsistencies between the evaluation item and the associated program process variable. A rough indication of item reliability is indicated by examining the relationship among those items which have been used to measure the same objective or variable.

2. Examine Entry Organizational Processes. This step determines whether or not the program actually possessed the process objectives that were assumed when the design was implemented. If the



Source: R. Singer and W. Dick, Teaching Physical Education: A Systems Approach (1974).

Figure 21. A Procedure of Utilization of Evaluation Information for Revision of a Program

achievement by MR students who satisfied most or all of the short-term objectives stated by their IEP differs significantly from the achievement of those MR students who did not, then it can be reasoned that entry behaviors are required for placement into certain direct or indirect service alternatives. If the differences are not great, then entry behaviors should not be used as criteria for placement of the MR into service alternatives.

3. Examine Pre- and Post-Assessment Data. Reviewing the pre-assessment data indicates which program objectives and subordinate objectives showed the greatest or least gain from pre- to post-assessment. For example, pre-assessment data reveals mainstreamed MR students into regular physical education have adequate social interaction but low level functioning in motor ability and physical fitness. After implementing the program design and process, those same MR students on a post-assessment had maintained their level of social interaction and increased functional levels of motor ability and physical fitness. However, high pre-assessment scores make it nearly impossible to judge program effectiveness and warrants further examination of evaluation items. Low pre-assessment scores and corresponding low post-assessment scores indicate some form of faulty instruction warranting staff inservice, technical assistance, or a professional competency evaluation.

4. Re-examine Program Objectives and Design. The re-examination of program objectives and design is actually a validity check to determine if the terminal objectives and subordinate objectives continue to be represented by organizational dimensions and achievement by the MR.

5. Revise Instructional Content and Procedures. This step includes those instructional activities which are used to convey the intent of the program's goals (e.g., subject matter, teaching behavior) and instructional procedures (e.g., media, materials, types of learning experiences). The next step is to conduct instruction and collect data for further revision.

The decision to revise the program means that any changes are incurred for positive reasons. Revision based on sound evaluation suggests that aspects of program design should be analyzed as a method of validating actions against intents. Therefore, it is necessary to maintain an accurate record of program planning and implementation. The IEP, daily lesson plans, and other corresponding formats may be used for this purpose.

Verducci (1980) described the selective utilization of evaluation for the physical education teacher by stating:

> The facilitation of learning may be the basic concern of most physical education measurement. This function can be defined in terms of uses, subdivided into three categories: student-related, teacher-related, and administration-related uses. Although these uses are stated generally, the functions of specific evaluation are limited largely by the ingenuity and insight of designers and users. As new means of measurement and evaluation come into use, instructors should become more sophisticated in selecting and administering them (pp. 4-7).

These three uses and respective categories are illustrated in Table VI.

Vodola (1977) stated that an annual report detailing the year's efforts should be prepared by each physical education teacher responsible for any educational aspect of the MR and submitted to the coordinator or supervisor responsible for adapted physical education. The individual reports should be made according to the format established by special education and/or physical education. The individual reports

TABLE VI

USES AND CATEGORIES OF PHYSICAL EDUCATION PROGRAM EVALUATION

Student Related Uses	Teacher Related Uses	Administrative Related Uses
1. Determining Student Objectives	1. Determining Teaching Effectiveness	1. Evaluating the Curriculum
2. Predicting Future Performance	2. Adjusting Program Content	2. Justifying the Physical Education Program
3. Directing Student Programs		3. Developing Community Interest
4. Classifying Students		
5. Individualizing Student Learning Situations		
6. Motivating Students		
7. Developing Student Skills		
8. Determining Student Improvement		
9. Determining Student Achievement		
10. Grading		

should then be synthesized into one comprehensive document disseminated to the Director of Special Education, the superintendent and school board, as well as any other appropriate state or local public agencies. Vodola (1977) recommended the specifics for inclusion as:

1. The pre-post test performance scores for every student in the program with gain scores preferably included.

2. The total number of students that participated in the program listed categorically.

3. The number of students that were not serviced because of staff and facility limitations.

4. The number of students who made significant progress and were consequently mainstreamed.

5. The number of students who were recommended for continued program involvement in various service alternatives, including grade levels and classifications.

6. An inventory of all supply and equipment items on hand.

7. A budget request which follows a program-oriented format justifying items requested in terms of deficiencies noted or recommended curricular changes.

8. A per pupil cost projected for the following year.

9. Any evidence of professional staff development in terms of workshops attended, courses taken, inservices provided, articles written, etc.

10. A narrative one or two page summary which identifies: program strengths and deficiencies, important achievements, recommendations for program improvement, and any other noteworthy information.

Additionally, evaluation procedures may be utilized to make programmic decisions, recommendations, and revisions regarding the following criteria effecting full physical education services for the MR:

1. The amount of program resource support provided by assessment systems, sequences of objectives, adequate materials cross-referenced to program objectives, standardized forms, aides, and consultive assistance (Safer, 1980).

2. The amount of time physical education teachers are carrying out their planning and instructional tasks associated with the development and implementation of IEPs for the MR.

3. The usage of a feedback system at the district level which enables administrators to maintain close contact with physical education teachers so that problems in the sytem can be worked out as they arise (Safer, 1980).

4. The degree to which the model of individualized instruction selected by the school district is flexible to accommodate varying teacher beliefs and styles (Safer, 1980).

5. The degree to which informal testing can be structured to fit into regular physical education programs (Moran, 1979).

6. The extent to which early identification and intervention in physical education is useful to the development of the MR (Haring, Hayden, and Beck, 1979).

7. The amount of time it requires for a MR student to be processed from original referral to placement in physical education.

8. The extent to which the administrative arrangement of physical education and the amount of integration within the program

differentially affects academic, behavioral, and social outcomes in MR students (Keogh and Levitt, 1979).

Stufflebeam (1971) dealt with the reasons educational program evaluation has either been poorly conducted or not conducted at all in the past. Included are symptoms such as avoidance (the process is viewed as painful), anxiety (evaluation is viewed as a judgment, often of personal competency), immobilization or lethargy and lack of interest, skepticism regarding whether evaluation can really be done or whether the results are of any use, and a lack of significant differences as the result of much educational research, all of which leads to frustration on the part of the physical education practitioner. The potential for comparing physical education programs and types of instructional designs for the MR is an aspect yet to be explored as the implementation of special education processes continue to be implemented. It also appears certain that recent legislation will require more accountability and evaluation procedures for MR in physical education programs than has typically been common practice. Once this commitment to program evaluation is made and accepted, the critical issue of developing and designing appropriate physical education programs for the MR can be undertaken.

CHAPTER IV

SUMMARY AND DISCUSSION

Summary

Many social, economic, and political issues face the provision of physical education services for the MR. In the final analysis, these issues are best met by helping physical educators to develop and maintain their full professional expertise, to acquire familiarity with the disability of the MR, to accept moral and social responsibility in educating the MR, and to learn contemporary means of delivering instruction. In short, it requires a realization of individual capabilities in a changing educational climate.

Physical education is deeply concerned with the needs of all children and youth for optimum development. The identified guidelines in this study were dedicated to this basic principle. They represent a theoretical construct which should be of assistance to school personnel in stating policies, defining procedures, and developing standards in physical education programs for the MR. Therefore, the primary function of this study was to serve as a model for the development and implementation of programs in physical education for the MR.

A good physical education program for the MR facilitates professional effort by clear policies well founded in goals and objectives, exact procedures, and reasonable standards. The model identified in this study, as with any theoretical construct in education, stressed problems of current practice and presented information relative to

the intricate organization of innovative educational design. However, the concept of reasonable standard was intentionally overlooked.

The author's purpose was to set forth the highest degree of program organization possible under the assumption that identified guidelines would be of particular professional value for the specially trained and competent adapted physical educator. It is in that framework which the theoretical model has the most potential for realistic implementation. Yet, the regular physical educator should also be capable of finding and deriving solutions to the problems inherent in educating the MR through a multidisciplinary approach.

In presenting the operational guidelines, however, the author has been mindful of the need for including extensive background material to give direction to the solution and to recognize the impossibility of immediate execution of the model by physical education personnel. Therefore, no attempt has been made to define the long and continuous process necessary to activite the interrelationship between design and practice. Concepts of model implementation in adapted physical education are fairly well defined in the physical educator's mind by the time one is a practitioner, even though they may not be substantiated by an appropriate basis of knowledge related to the instruction of MR students.

There is considerable doubt in the minds of many physical educators whether the potential abilities of MR children can be developed by means of an organizational model. The author does not claim to have the answers to the many diversified problems in adapted physical education. Unfortunately, such problems do not come into focus with neat arrangements and simple solutions. Rather, they generally cross

the disciplinary lines of both special education and physical education encompassed by legal and administrative interpretation.

Since, however, a physical education program for the MR needs some system of organization, a theoretical design based on professional competencies was constructed. The identified guidelines for development and implementation depict the latitude of optimum physical education decision making for MR children within a multidisciplinary framework. If physical education services for the MR are to be successfully implemented in public schools, they should be constructed as close to model delivery as possible, integrated within the special education process, and accompanied by organizational activities which project reasonable standards relative to the degree of optimum construct desired.

It is the hope of the author that the reader may receive a better insight into adapted physical education by seeing it in a theoretical form. Physical educators may formulate their own organizational design or obtain one from this study. This study presupposed a concept of program development which tolerates the idea that examination of optimum model design may yield significant insight and facets of adapted physical education which can elude even the most successful intentions of educating the MR in physical education by the traditional manner.

Physical education programs for the MR need to have a thorough foundation in the educationally sound scientific principles of regular physical education. Adapted physical education covers a wide range of philosophy, goals, objecitves, and the programmatic dimensions of their attainment. Consequently, the program's design should be congruent

with the scope of regular physical education, and allow for participatory decision making by physical educators in the development of instructional alternatives for the MR.

This will entail a multidisciplinary effort in the performance of nondiscriminatory assessment practices to appropriately place the MR student in the least restrictive environment in physical education. The corresponding development of the IEP assures not only accountability, but also professional involvement and management of special education in which physical education has a vital role to perform.

The model of organization and administration used to implement these services must allow for conceptual strategies in the instructional process to effect the range of services delivered to the MR in physical education. It should facilitate staff and program flexibility by communicating generalizations and presumed practices about special education situations and processes. Effective and realistic program evaluation must then envelope judgments leading to decisions about the advantages and disadvantages of the extent to which identified guidelines were adopted.

One can never be sure that all facets of a model have been discovered and identified. New research and models usually bring out new insights and hopefully more effective and efficient solutions to problems of current practice. The extent to which this model might be incorporated into existing physical education programs alone should reveal new insights. The operational guidelines identified are primarily for the trained adapted physical educator. They do not attempt to address all the problems which the regular physical education will encounter in teaching the MR. No single model or study can. However,

with design emphasis given to theoretical construct, the model should aid all physical educators to grow professionally by selective application or adaptation of the model to individual needs and circumstances.

Discussion

This study has attempted to offer the teacher and administrator clear operational guidelines for the development and implementation of full service physical education programs for the MR. Use of the word "clear" does not imply easy. Development and implementation of any new educational program is not easy. It requires many hours of diligent planning based upon precise program goals and objectives encompassed by an appropriate design. This study centered primarily upon the program organization environment before all the delivery or administrative models have been analyzed and are selected for implementation. However, the challenges of teaching the MR physical education still remain. Operational guidelines never taught the MR a motor skill or improved physical fitness.

A climate of change has been influencing physical education for many years. Conditions have not been static, although from a narrow perspective they may have appeared to be. Observed from a broader perspective in which the present becomes a relevant relationship to the past, and future, changes are on the verge of being almost dramatic. P.L. 94-142 marked the beginning of a new era of accountability in physical education reflected and conceived upon the cumulative changes within the profession of the past.

Many questions related to the future impact of P.L. 94-142 upon physical education for the MR still remain. For example:

1. What will be the actual role of the physical education teacher in developing and implementing IEPs? Current conditions suggest that physical educators are typically excluded from the multidisciplinary team process and if by chance are included, will usually assume a passive role. How do we ensure that physical education teachers develop leadership and responsibility for educating the MR as opposed to being bystanders or followers?

2. In view of the fact that physical education is the only curricular area specifically listed within P.L. 94-142 and was thought te be vital to the education of the MR, what commitments to program development still need to be corrected?

3. Is adapted physical education a field in itself separate from physical education and special education? How is adapted physical education integrated to perform its service role for the MR so that it is congruent with the goals and objectives of both special and physical education programs?

These are but a few of the questions encountered in the development of physical education programs for the MR. Finding the answers, and more importantly acting upon them, will not be simple. Nevertheless, finding the appropriate answer to these and other questions cannot continue to be avoided, and now is the time to begin.

The professional boundaries between the disciplines of adapted physical education and special education are becoming more and more ambiguous. New models of child-centered service delivery systems for the MR are fast replacing the traditional unidisciplinary systems. Sherrill (1981) stated these professionls have far more commonalities than differences:

> Each has its earliest roots in medicine; each is extending its role and scope in response to new legislation; and each is dedicated to the self-actualization of handicapped persons (p. 51).

Valletutti and Christoplos (1977) further elaborated:

> Interdisciplinary team members should be viewed as individuals with insights and skills to contribute to the team rather than as representatives of a discipline. Team membership is thus envisaged as a state of mind and members as unique contributors to the whole team process (p. 6).

A great deal of acronyms, jargon, and lip service is continually applied to current special education trends of noncategorical approaches, mainstreaming, multidisciplinary team processes, behavior management, appropriate and individualized instruction, and the like. Although each concept is important, and although procedural processes are designed to move the concept toward implementation, little has been done to blend theory and actual practice in terms of physical education services for the MR. Jointly, the disciplines of special education and physical education have catalyzed confusion about adapted physical education. Too often the obvious has been tainted and the simple made complex. This is well illustrated by the common practice of arbitrarily mainstreaming the MR student into a regular physical education class without involving the physical education teacher in the multidisciplinary process and then hoping no problems arise. Each activity and procedure of the special education process is important to the delivery of appropriate physical education services to the MR. However, unless this process is presented as part of a truly interdisciplinary effort, functional means of implementation, practical suggestions, and realistic approaches will continue to be pursued in the current haphazard manner.

If physical education services for the MR are ever going to become comprehensive and current, both physical and special educators must employ and address certain tactical dimensions which are necssary to effect changes in the appropriate delivery of services. First and foremost, there needs to be an informational and linkage perspective to the dissemination of innovative practices of the special education process and its relationship to physical education. This necessitates the development of operational guidelines reflecting an appropriate program design while taking into careful consideration the aspects of user involvement and the legal aspects of P.L. 94-142. Finally, there must be a concerted effort to train the physical education personnel regarding installation to ensure ongoing support and implementation.

Planners of physical education programs for the MR must recognize and be prepared to deal with opposition. Physical educators have been aware of the mandates of P.L. 94-142 and its potential effect upon physical education; however, they continue to be uninformed about the actuality of impact and the process by which it occurs. For the most part, physical educators see P.L. 94-142 as the "mainstreaming law" which placed the MR in their classes. They observe the MR students in their classes and ponder with amazement, alarm, and resentment why they got there. There is little doubt that the adoption and control processes used by school districts and special education programs have inhibited the innovation of physical education services for the MR.

Diffusion of innovative physical education services for the MR represents a social change for the entire discipline of physical

education. Traditional physical education programs focused primarily upon providing activities under the assumption that all students can participate to some extent. However, the emergence of alternative physical education approaches, such as adapted physical education, has significantly challenged the traditional context by necessitating the determination of individual student potential and then formulating activities to develop that potential. Adapted physical education represents a reversal of philosophy and practice which demands that program planners and developers address the forces of change. Direct attention must be given to the implications of peer and authority relationships, personal attitudes, and physical and temporal arrangements, as well as the characteristics of practice presented by the extension of appropriate physical education services to the MR.

Levine (1978) suggested that the process of change is incongruent with the educational environment and any change therefore must include:

1. Communication and Publicity
2. Administrative Leadership
3. Wide-based Support
4. Reward and Resources
5. Appropriate Innovation Management and Organization

The change to individualized physical education for the MR must not only be concerned with the profitability of such experiences but also with the compatible integration of special and physical education disciplines. The overemphasis of specialization by special education and the generalized nature of physical education have bilaterally diminished opportunities for beneficial experiences for the MR in

psychomotor development. This stratification contains none of the elements deemed important by Levine nor constitutes congruence between the disciplines. To actuate this process of change and effect the MR, both disciplines must be involved in developing an integrated programmatic approach which is coherent and organized to reinforce each other.

The operational guidelines identified in this study are based on the premise that the organization of adapted physical education builds on the knowledge and practices used in special education and the general field of physical education. What this means is that whatever unique knowledge a special education program has about the MR should also be shared with the physical education program. Ideals and commitments need to be combined with knowledge and experience of such educators, both intra- and interdisciplinarily. Technology and methodology are giving special educators immense instructional capability, but without intimate aquaintance with physical educators, their use can result in added frustration and failure to provide meaningful physical education experiences for the MR. It is because of this varied base of programming that operational guidelines of adapted physical education need to be compatible with the broad-based program and curriculum content required by special education. These guidelines should find content accompanied by organizational activities and tasks which are important for the developing MR student in a wholistic sense.

Geddes (1980) found that the body of knowledge specific to the relationship between physical activity in the physical education setting and mental health development of the MR is quite limited. Most

of the literature reviewed in this study was not current and dealt primarily with variables in motor/physical development, physical fitness, and perceptual-motor development. This limited knowledge base seems even smaller when compared with that of the special education field, which has historically placed greater emphasis on the organization of educational setings in order to develop the educational potential of the MR. The analysis and identified operational processes of physical education programs for the MR in this study implied that current educational practices need to be investigated in future studies, projects, and programs. However, the primary issue raised concerning operationalization of programs was not whether it was possible to implement such, but rather, when are these educational services going to play a vital role in the total development of the MR student.

It was not the intent of this study to overplay the importance of adapted physical education or the reluctance of special education and regular physical education to assume an interdisciplinary responsibility for the education of the MR. Many physical educators and special educators do not possess the professional competencies to provide fully meaningful physical education opportunities for the MR. The identification of operational guidelines was intended to compensate for the current unidisciplinary focus and to enhance capacity for professional commonalities in the multidisciplinary process. The rationale was to allow greater attention to the process of involvement and less to the continuance of fragmented delivery of services.

It is an obvious but frequently overlooked fact that teachers of physical education are professional educators who share a high degree

of concern for the MR. Hence, their interests and endeavors are quite similar to those in special education. Physical education is capable of providing an effective and vigorous educational program that assists the MR student to develop and to maximize his potential capacity as a positive and functional individual within society. This is particularly true because many MR students are not motivated to maximize their ability by the traditional seclusion in special education and exclusion from physical education.

This further reflects the fact that appropriate participation by the MR in physical education is educational and not merely diversionary. Enjoyment is an apparent reward of involvement but not the sole criterion upon which the program should be designed and operationalized, if it is to have a significant impact upon the cognitive, psychomotor, and affective potential of the MR. The structure of the program must allow constant and particular attention to growth and development patterns of the MR as well as accommodation of adjustments to satisfy individual accomplishment.

This study attempted to reduce the void between theory, legality, and reality by identifying practical application of those three integrative variables, It was consistent in its message that effective physical education programs for the MR require physical education teachers to acquire knowledge and skill in determining educational needs from a conceptual context integrated within the multidisciplinary process of special education. Program design must be comprehensive in providing multitudinous options for physical educators working with the MR in a variety of service delivery settings. The selection of these options demands that teachers obtain information, use

available resources, and carefully analyze the organizational construct, as well as the operational tasks through which appropriate services will be delivered.

It is hoped that serious advocates of quality physical education programs for the MR can find some relevant assistance in this study. Meyen (1979) summarized it well:

> We are at the beginning of a new beginning. The opportunity cannot be missed--and it won't be if all educators review their commitment to providing the best for children to whom they are responsible (p. 2).

Conclusions

The study found that adapted physical education programs can be appropriately developed and implemented in a design congruent with the goals and objectives of regular physical education, as well as be an effective and positive element in the delivery of special education services to the MR. However, the likelihood of program success is apparent only through a multidisciplinary emphasis in programming. Physical education also possesses the capability for MR students to participate in a variety of educational services individually designed for a range of placements in the least restrictive environment.

The author concluded that no single theoretical program model of operational design or dimension can be successful if implemented in an immediate or haphazard approach. Effective implementation requires careful and continuous planning of existing service capabilities to ensure both staff and student accommodation in the design process. Therefore, if physical education services for the MR are to be successfully implemented in public schools, they should be

integrated within the special education process and accompanied by organizational activities and tasks which are important for developing the MR student in a wholistic sense.

The study also found that the body of knowledge in special education and physical education specific to the relationship of programming physical education services for the MR was quite limited and restrictive. The majority of reviewed literature was not current and dealt primarily with variables in psychomotor development. The analysis of current operational processes of physical education programs for the MR suggested inadequacies in educational practices that need to be investigated in future studies, projects, and programs.

It was suggested by the author that complete implementation of identified operational guidelines be done only by qualified professionals specially trained and competent in the area of physical education for the handicapped. The guidelines, which were constructed in a optimal model construct, are a complex extrapolation of legal and educational concepts and practices bridging the disciplines of special education and physical education. However, selective and critical application of various elements of organizational components may be appropriate for physical educators, special educators, and administrators. A decision to utilize only specific components of the operational guidelines should be done when professional competency in either physical education or special education assures a thorough understanding of the specific process, and the school district and/or personnel involved possess the resources necessary for successful implementation. Otherwise, failure, frustration, or confusion of purpose are likely to be eruptive forces in the actual intentions of delivery.

Need for Further Research

The identification and development of any innovative educational programming model necessitates further investigative study to determine its validity and reliability. This principle also applied to the findings of this study. However, in this instance, a major obstacle must be overcome prior to further research in determining the value of the identified guidelines. The study revealed that structured physical education programs for the MR are limited in existence and scope of program in the United States. Consequently, the extremely limited number of ongoing adapted physical education programs in public schools presents an obstacle to further research as to the replication and installation of the model.

Another hindrance lies within the identified operational guidelines themselves. The model is designed from a theoretical construct that does not easily lend itself to practical adoption or integration in public school physical education or special education programs. Therefore, careful task analysis of sequential implementation procedures of the model need to be identified. An implementation guide or process should be developed so that accurate field testing can be performed. This is perhaps the only viable and realistic means by which to measure and evaluate its effectiveness.

Other areas where future research endeavors might be directed are related to physical education and special education staff development needs for new requisite professional skills necessary to facilitate implementation. Once these skills are identified and eventually acquired, installation strategies, either in physical education or special education need to be determined for ongoing implementation and

maintenance. Currently, neither of the disciplines have assumed responsibility in a consistent fashion, and the future affords continued uncertainty of ultimate responsibility.

Naturally, only the future contains the answer to these basic problems. As programs begin to emerge throughout the country, educators will find this study valuable in providing some sense of meaningful direction. If physical education programs for the MR are conceived and initiated in public schools, we will have begun to address a primary concern. At least there will be an adequate number of programs in operation to appropriately begin the profession's quest to maximize physical education opportunities and experiences for all children regardless of individual needs.

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APPENDIXES

APPENDIX A

COMPETENCIES NECESSARY FOR THE ADAPTED PHYSICAL EDUCATION SPECIALIST

AAHPERD GUIDELINES FOR ADAPATED PHYSICAL EDUCATION

(Journal of Health, Physical Education, and Dance, 1981 (52), 6, pp. 44-45)

1.0 Biological Foundations

1.1 KINESIOLOGY

1.1.1 Demonstrate ability to apply understanding of motor dysfunction and their implications to adapted physical education programs.
1.1.2 Demonstrate ability to apply understanding of neurological disorders and their implications to motor functioning.
1.1.3 Demonstrate ability to apply understanding of deviations from normal physical growth and development to analyses of motor skills.
1.1.4 Demonstrate proficiency in evaluating and analyzing motor skills.
1.1.5 Demonstrate ability to apply understanding of unique structures of individuals with disabilities to individualized instruction in adapted physical education.
1.1.6 Demonstrate ability to apply biomechanical principles which affect motor functioning to wheelchair, crutch, braces, and artificial limb use.
1.1.7 Demonstrate ability to apply biomechanical principles which affect motor functioning to posture, and neurological, muscular, and other specific physical health needs.

1.2 PHYSIOLOGY OF EXERCISE

1.2.1 Demonstrate knowledge of how dysfunctions affect physiological responses to exercise.
1.2.2 Demonstrate ability to design instructional physical education programs in accordance with essential physiological considerations and principles specific to individuals with disabilities.
1.2.3 Demonstrate proficiency in conducting instructional physical education programs in accordance with essential physiological considerations and principles specific to individuals with disabilities.
1.2.4 Demonstrate ability to apply research findings in the area of exercise physiology specific to individuals with disabilities.

1.3 PHYSIOLOGICAL AND MOTOR FUNCTIONING

1.3.1 Demonstrate ability to apply an understanding of physiological functioning of individuals with physical, mental, sensory, neurological and other specific health needs to programs designed to improve motor performances of these individuals with disabilities.

1.3.2 Demonstrate ability to apply an understanding of physiological motor characteristics for individuals with physical, mental, sensory, neurological and other specific health needs to programs designed to improve motor performance of these individuals with disabilities.

1.3.3 Demonstrate ability to apply techniques for the prevention and care of injuries specific to individuals with specific disabilities.

2.0 Sociological Foundations

2.1 SPORT, DANCE, AND PLAY

2.1.1 Demonstrate ability to analyze the role and significance of sport, dance, and play in the lives of individuals with disabilities.

2.1.2 Demonstrate understanding of roles and significance of lifetime physical activities for individuals with disabilities.

2.1.3 Demonstrate understanding of influences of community social agencies on sport, dance, and play in lives of individuals with disabilities.

2.2 COOPERATIVE/COMPETITIVE ACTIVITIES

2.2.1 Demonstrate ability to apply understanding of potential for human interaction and social behavior occurring in cooperative/competitive activities for individuals with disabilities.

2.2.2 Demonstrate ability to work and cooperate with organizations which conduct adapted sport, dance, and play programs and activities for individuals with disabilities.

2.3 SOCIAL DEVELOPMENT

2.3.1 Demonstrate ability to apply understanding of the potential that sport, dance, and play provides for social interaction among individuals with and without disabilities.

3.0 Psychological Foundations

3.1 HUMAN GROWTH AND DEVELOPMENT

3.1.1 Demonstrate ability to apply understanding of deviations in normal human growth and development of individuals with physical, mental, sensory, neurological, and other specific health needs.

3.1.2 Demonstrate ability to apply understanding of atypical motor development to individuals with disabilities.

3.2 MOTOR LEARNING

3.2.1 Demonstrate ability to apply principles of motor learning to individuals with specific physical and motor needs.
3.2.2 Demonstrate ability to apply principles of motivation on development of motor skills by individuals with disabilities.

3.3 SELF-CONCEPT AND PERSONALITY DEVELOPMENT

3.3.1 Demonstrate understanding of how participating in physical and motor activities contributes to positive self-concepts of individuals with disabilities.
3.3.2 Demonstrate ability to apply understanding how interpersonal relationships are affected by participation in physical and motor activities.
3.3.3 Demonstrate ability to apply skills and techniques to assist individuals with disabilities overcome additional barriers which can affect interpersonal relationships and development of positive self-concepts.

3.4 MANAGEMENT OF BEHAVIOR

3.4.1 Demonstrate ability to apply appropriate techniques for managing behavior (i.e., behaviorism, existentialism, humanism).
3.4.2 Demonstrate ability to apply techniques of motivation to enhance acceptable behavior and promote motor performance.

4.0 Historical-Philosophical Foundations

4.1 HISTORICAL DEVELOPMENT

4.1.1 Demonstrate understanding of the historical development of adapted physical education.
4.1.2 Demonstrate understanding of roles and significance of professional and voluntary organizations on development of professional standards, ethics, and programs related to adapted physical education.

4.2 PHILOSOPHICAL DEVELOPMENT

4.2.1 Demonstrate understanding of philosophies of adapted physical education.
4.2.2 Demonstrate ability to apply a personal/professional philosophy of adapted physical education.
4.2.3 Demonstrate understanding of current issues and emerging trends in adapted physical education and their philosophical significances.
4.2.4 Demonstrate understanding of ways individuals with disabilities realize and express their individualities and uniquesnesses through physical education, sport, dance, and play programs.

5.0 Assessment and Evaluation

5.1 PROGRAM GOALS AND OBJECTIVES

5.1.1 Demonstrate ability to apply goals and objectives of adapted physical education.

5.1.2 Demonstrate ability to develop instructional objectives which lead to fulfillment of physical education goals in psychomotor, affective, and cognitive domains by individuals with disabilities.

5.2 SCREENING AND ASSESSMENT

5.2.1 Demonstrate proficiency in applying appropriate instruments and procedures for measuring levels of physiological, biomechanical, and psychomotor functioning of individuals with disabilities.

5.2.2 Demonstrate proficiency in applying appropriate criteria in constructing assessment instruments for measuring physical and motor performances of students with disabilities.

5.2.3 Demonstrate proficiency to interpret assessment results of students with disabilities in terms of physical education goals and objectives.

5.3 EVALUATION

5.3.1 Demonstrate proficiency in applying appropriate instruments in determining physical and motor needs of individuals with disabilities.

5.3.2 Demonstrate proficiency in applying principles of evaluation in determining student progress in adapted physical education.

6.0 Curriculum Planning, Organization, and Implementation

6.1 PROGRAM PLANNING

6.1.1 Demonstrate proficiency in planning instructional programs to meet needs of students with disabilities emphasizing the following areas:

- physical and motor fitness
- fundamental motor skills and patterns
- skills in aquatics, dance, individual and group games and sports, including lifetime sports and leisure skills.

6.1.2 Demonstrate ability to plan individual physical education programs based on goals and objectives established by an interdisciplinary team.

6.1.3 Demonstrate ability to adapt physical and motor fitness activities, fundamental motor skills and patterns, aquatics and dance, and individual and group games and sports, including lifetime and leisure skills, to accommodate needs of individuals with disabilities.

6.1.4 Demonstrate understanding of organizations that govern adapted sports and games.

6.2 INDIVIDUAL INSTRUCTION

6.2.1 Demonstrate ability to apply strategies for individualizing instruction for students with disabilities in a variety of instructional settings.
6.2.2 Demonstrate ability to apply task analysis techniques in the process of individualizing instruction.
6.2.3 Demonstrate ability to implement appropriate physical education programs for individuals with disabilities based on each student's current level of performance.

6.3 PROGRAM IMPLEMENTATION

6.3.1 Demonstrate ability to implement appropriate physical education curricula for individuals with disabilities based upon adequate supportive factors (i.e., administrative policies, facilities, equipment, faculty, and community)
6.3.2 Demonstrate ability to function effectively as a member of an interdisciplinary team.
6.3.3 Demonstrate ability to apply appropriate techniques for facilitating interdisciplinary communication among all persons working with individuals with disabilities.

6.4 SAFETY CONSIDERATIONS

6.4.1 Demonstrate ability to apply principles of safety to wheelchair transfers, lifts, and assists needed when individuals with disabilities participate in physical activities.
6.4.2 Demonstrate understanding of scientific bases for specifically contraindicated exercises and activities for individuals with disabilities.

6.5 HEALTH CONSIDERATIONS

6.5.1 Demonstrate ability to apply principles of appropriate health practices to participation in physical and motor activities by individuals with disabilities.
6.5.2 Demonstrate understanding of effects of medication, fatigue, and illness on mental, physical, and motor performances of individuals with disabilities.
6.5.3 Demonstrate understanding of implications of personal hygiene, posture, and nutrition for individuals with disabilities.

APPENDIX B

PHYSICAL EDUCATION INSTRUMENTS FOR THE EVALUATION OF THE MENTALLY RETARDED

NAME OF TEST: AAPHER Fitness for the Mentally Retarded
TYPE OF TEST: Physical Fitness
APPROPRIATE AGE LEVEL: 8 to 18 years
POPULATION TESTED: Mentally Retarded
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Strength - flex arm hang, sit-ups
2. Agility - shuttle run
3. Speed - 50 yard dash
4. Power - Standing broad jump
5. Coordination - Softball throw
6. Endurance - 300 yard run/walk

STANDARDIZATION: The test was standardized on a random sample of mentally retarded children in 241 public schools in 21 states of the U.S. Norms by sex for each chronological age in months from 8 to 18 years, inclusive, have been established for each of the seven tests. The table of norms provides a means of comparison of a child's performance on each test with standards for other educable mentally retarded children of the same chronological age. The test is patterned after the AAHPER Youth Fitness Test with three of the test items modified slightly: flex arm hang for boys, sit-ups and the 300 yard run/walk in substitution for the 600 yard run/walk.

MATERIALS:

1. Special fitness record form
2. Profile record
3. Horizontal bar (1/2")
4. Stop watch
5. Gymnastic mats
6. Blocks of wood (2" b 2" by 4")
7. Tape measure
8. Softball (12")
9. Small metal or wooden stakes
10. Award system

GENERAL INFORMATION: The seven test items evaluate specific aspects of motor performance which, taken together, gives an overall picture of the child's general physical fitness. Three trials were given in the standing broad jump and two in the shuttle run with the remaining test items given on trial. An individual form is used to enter the raw scores on each of the seven items and also in percentile equivalent. Each raw score when more than one trial is given needs to be recorded. Recommendations include that the children should be acquainted with each test prior to testing and that the flex arm, shuttle run, sit-up and standing broad jump be administered on one day and the rest of the test items on the second day.

PUBLICATION DATE: 1968

SOURCE: American Association for Health, Physical Education, and Recreation, Department of the National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

NAME OF TEST: AAHPERD
TYPE OF TEST: Physical fitness test for normal populations
APPROPRIATE AGE LEVEL: Three of the tests provide norms for children aged 5-18; norms for the skinfold test start at age 6-18
POPULATION TESTED: The test is designed for normal populations
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

A. Cardiorespiratory function
   1. Mile run or nine minute run (can stop and start again, or walk)
   2. One and one-half mile run or 12 minute run for those 13 years and older
B. Body Composition (leanness/fatness)
   1. Sum of triceps and subscapular skinfolds
   2. Triceps measurement can be used alone
C. Abdominal and low back-hamstring musculoskeletal function
   1. Modified, timed sit-ups (60 sec.), arms across chest, can stop to rest
   2. Sit and Reach test

STANDARDIZATION: Three of the tests, sit-ups, skinfold measurement, and leg flexibility have norms based on testing done on 12,000 children in 1979. The reliability is 0.95 by experienced testers on the skinfold measurement, 0.68-00.94 on the sit-ups, and above 0.79 on the sit and reach test. Validity is 0.79-0.90 on the skinfold measurement, 0.80-0.90 on the sit and reach test, and none is stated on the cardiorespiratory test. It is stated as logical validity on the sit-up test. The norms for the cardiorespiratory tests come from the 1973 Texas Physical Fitness Test.

MATERIALS:

1. Test Manual
2. Scoresheets
3. 400 yd. or 400 meter track, or any flat measured area, indoors/outdoors
4. Harpenden and Lange Skinfold Calipers; others can be substituted
5. Felt marking pen
6. 1-1/2" folding mat
7. Stopwatch or sweep second hand watch
8. Specially constructed sit and reach box

GENERAL INFORMATION: The 1980 AAHPERD Health Related Physical Fitness Test was revised and updated from the 1975 version. Tests involving agility, balance, speed, power, and arm strength were deleted as they did not test physical fitness as defined by the task committee. This is not to say they are not important to physical development or testing, but were not appropriate to this test. The test is easily administered and not time consuming. The equipment is relatively available and cheap, except for the fat calipers. The normative data and percentile charts are very clear and can be used to develop individual and class fitness projects. The test manual also includes a chapter on remedial exercises and benefits of exercise.

PUBLICATION DATE: 1980
SOURCE: American Association for Health, Physical Education, Recreation, and Dance, Department of the National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

NAME OF TEST: Assessing and Programming Gross Motor Development for Children

TYPE OF TEST: A criterion referenced assessment tool which permits the practitioner to examine the qualitative aspects of eleven basic motor skills.

APPROPRIATE AGE LEVEL: 3-14 years of age

POPULATION TESTED: Test results based on normal and special populations

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Walking
2. Stair Climbing
3. Running
4. Throwing
5. Catching
6. Jumping
7. Hopping
8. Skipping
9. Striking
10. Kicking
11. Ladder Climbing

STANDARDIZATION: Copies of the first draft of the SIGMA were sent to 13 evaluators. The evaluation which was an open-ended survey approach provided four basic questions for consideration by the evaluators. The response from the 11 evaluators was categorically arranged and used to revise the first draft in order to produce the current form of the SIGMA. Thirteen judges viewed the videotaped performances of 12 children, ages 2-1/2 years to 14 years, who were administered the SIGMA. A test-retest reliability study was implemented whereby the judges observed and rated the performances of all 12 children on one night, and one week later viewed the identical tapes. At the conclusion of the test-retest process, the raw data was submitted to computer analysis. The data emanating from the reliability study conducted on SIGMA was analyzed with Scott's Pi, which produced test reliability coefficients for inter- and intra-judge relationships on a test-retest basis for each skill; this produced the statictic referred to as scorer reliability.

MATERIALS: Flat surface, series of steps, 6" rubber playground ball, tennis ball, tape, plastic bat, ladder.

GENERAL INFORMATION: The Individual Motor Program (IMP) was designed in an effort to develop a model which would address the problem of providing an evaluative instrument of motor behavior applicable to young mentally retarded and normal children of preschool and elementary school age, and to provide instructional materials to promote an individualized approach based on the assessment instrument. The IMP consists of two major components; namely, the OSU Scale of Intra-Gross Motor Assessment (SIGMA) and the Performance Base Curriculum (PBC). Through these two major components, the IMP assists the practitioner in the field to assess basic motor behavior, to plan sequential and progressive motor experiences based on assessment findings, and to implement a planned individualized motor program. Each basic motor skill in the SIGMA has four levels of development which range from Level 1 (the least mature performance) to Level 4 (the mature functional behavior of the skill). Specific criteria have been established for each level within a skill and thus the examiner is provided a descriptive assessment of the child's current gross motor functioning behavior for all select 11 basic motor skills.

The PBC provides a sequence of progressive motor instructional experiences designed for each level within each skill of the SIGMA. The prescribed learning experiences designed for the four levels within each skill are linked to specific performance objectives. Such performance base instructional materials permits the practitioner to determine whether the program is accomplishing its objective. The programmatic materials within the PBC allows the practitioner to select a sequence of progressive motor experiences based on the current functional level of the child in select basic motor skills. The instructional materials focus on the basic motor skills essential for more complex skill development and for interacting with others in the expression of play.

PUBLICATION DATE: 1979

SOURCE: Mohican Textbook Publishing Co., Lousonville, Ohio 44842.

NAME OF TEST: Bayley Scale of Infant Development (BSID)
TYPE OF TEST: An individually administered test of infant development consisting of three parts: Mental Scale, Motor Scale, and the Infant Behavior Record
APPROPRIATE AGE LEVELS: Two months to thirty months
POPULATIONS TESTED: Norms based on normal infants
ABILITIES/SKILLS AND TEST ITEMS USED:

1. Mental Scale: Include 163 test items, assess sensory perceptual acuties, discrimination, responsiveness, memory, vocalization, problem solving, and abstract thinking.
2. Motor Scale: Includes 81 test items which measure the degree of body control, coordination of large muscles, and finer manipulating skills of the hands and fingers. An example of this test item would be "jump off floor, both feet."
3. Infant Behavioral Record: Measures the nature of the child's social and orientation toward his environment expressed in attitude, interest, emotion, energy, activity, and tendencies to approach.

STANDARDIZATION: The BSID has been standardized on a sample of 1,262 children distributed in approximately equal numbers among 14 age groups. The sample was selected to be representative of the U.S. population within this age range. Therefore, a stratified sample was used to collect the data necessary to establish the norms of the test. Reliability: Coefficients for the Mental Scales range from .81 to .93, Motor Scales range from .68 to .92. Validity: Correlations between raw scores and standard scores on the Mental and Motor Scales range widely, from .24 to .78 for raw scores and from .18 to .75 for standard scores. These broad variations by age probably represent a combination of aging specific factors and random variations to sampling. Re-test: Werner and Bayley (1966) found high reliability among object-oriented behavior items and high reliability on independent control of head, trunk, and lower extremities items. Low reliability was found for motor scales emerging skills in the areas of fine and gross coordination.

MATERIALS: All materials are contained in a carrying case. Included are 49 different items: crayons, rabbit, ring with a string, two teaspoons, sugar pellets w/o bottle, pellet bottle, handball, mirror, red ball, yellow pencil, rattle, flashlight, light switch, peg board, blue box with nine blocks, toy car, plastic bottle, whistle doll, picture book, yellow beads, round yellow box, pink board with three blocks, orange pull stock, toy watch, scissors, toy chair, jointed doll, cup, picture cards, doll with detached head, plate, incomplete watch cards, chalk, 10 foot cord, pull toy, tape measure, carrying case, combined record forms 25-100, mental record forms 25-100, motor record forms 25-100, infant record forms 25-100, and manual.

GENERAL INFORMATION: The child's developmental stages of characteristics are recorded on the combined, mental, motor, and infant behavior record forms by checking P (Pass) or F (Fail). If "other" mark O (Omit), R (Refused), or RPT (Reported by mother). Norms are divided into three sections: Mental Development Index, Psychomotor Developmental Index, and Infant Behavior Index.

The standard scores permit ready comparison of performance of an infant with the performance of his age peer. The BSID is designed to be given individually, taking approximately 45 minutes to complete the Mental and Motor Scales. Rapport with the infant is essential, with the mother present during testing.

PUBLICATION DATE: 1969

SOURCE: Psychological Corp., 757 Third Avenue, New York, NY 10017.

NAME OF TEST: Bruininks-Oseretsky Test for Motor Proficiency
TYPE OF TEST: Gross Motor and Fine Motor
APPROPRIATE AGE LEVELS: Ages 4-1/2-14-1/2
POPULATION TESTED: Norms are based on normal population
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

The test consists of eight subtests of 46 separate items. Three composites of the test are: (1) Gross Motor (Subtests 1-4), (2) Battery (Subtest 5), (3) Fine Motor Skills (Subtests 6-8).

Subtest 1: Running Speed and Agility (one item)
Subtest 2: Balance (eight items)
Subtest 3: Bilateral Coordination (eight items)
Subtest 4: Strength (three items)
Subtest 5: Upper-limb coordination (nine items)
Subtest 6: Response speed (one item)
Subtest 7: Visual-Motor Control (eight items)
Subtest 8: Upper-limb speed and dexterity (eight items)

STANDARDIZATION: The standardization of the test was obtained by a multistage stratefied sampling based on the 1970 U.S. Census. Sampling size of 800 subjects, 400 from the North Central regions. Subjects were randomly selected from calss lists based on sex, race, age, and community size. No students were severe physical impairments were included in the testing program. Validity - Correlations of subtest points with chronological age and sex have been established. A range of .56 for balance to .86 for Upper-limb speed and dexterity. Reliability - A test-retest range from .58 for Grade 2 and from .29 to .89 for grade 6. The reliability coefficients for the Gross and Fine Motor are .77 and .88.

MATERIALS: All materials are housed in a carrying case. 1) Examiner's Manual, 2) Balance geam, ball with string, wooden beads, block, boxes, masking tape, peg board, wooden pegs, black pencils, red penciles, pennies, response speed stick, scissors, shape cards, shoelace, standing mat, target, tape measure, tennis ball and clipboard, stop watch, and table.

GENERAL INFORMATION: The test was adapted from the Oseretsky Test of Motor Proficiency by Dr. Robert H. Bruininks The Bruininks-Oseretsky is designed to assess the important aspects of motor development. Of the eight subtests, four are to measure gross motor skills, three to measure fine motor skills, and a measure for both fine and gross motor skills. Both a short and long form are available for testing. Long form requires 45 to 60 minutes to administer, while the short form requires 15 to 20 minutes to administer.

PUBLICATION DATE: 1978

SOURCE: Bruininks-Oseretsky Test of Motor Proficiency, American Guidance Service, Inc., Circle Pines, MN 55014.

NAME OF TEST: Denver Developmental Screening Test (DDST)
TYPE OF TEST: Developmental assessment covering fine and gross motor areas as well as language and personal-social skills
APPROPRIATE AGE LEVELS: 0 through 6-1/2 years
POPULATION TESTED: Test results based on normal population
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

Fine Motor:
- visual tracking involving midline
- preliminary grasping and object manipulation
- pre-writing and copying skills
- ability to draw a person

Gross Motor:
- head support while prone
- sitting balance
- standing balance
- walking forward, backward
- hopping
- object control

STANDARDIZATION: The DDST was standardized on 1,035 (543 male, 493 female) normal children between the ages of two weeks and six and a half years of age. Efforts were made to keep the sample population uniform, in that children with handicaps and other atypical characteristics were not part of the original sample. The subjects were selected at random and represent a cross-section of the Denver population.

MATERIALS: DDST manual and score sheets
DDST test kit containing:
- red yard pom pom (4" in diameter)
- raisins
- rattle with narrow handle
- eight, one-inch square colored blocks
- small clear bottle with 5/8" opening
- small bell
- tennis ball
- pencil

GENERAL INFORMATION: The DDST was formulated from many development tests and preschool intelligence tests. Items were selected for ease of administration and scoring. A pilot study was conducted to substantiate the current 105 item screening. Subsequent studies have shown the DDST to be reliable and its scores correlate positively with intelligence testing.

PUBLICATION DATE: Current revision, 1975
SOURCE: Medical Center, University of Colorado, Denver, CO.

NAME OF TEST: Fait Physical Fitness Test Battery for Mentally Retarded Children

TYPE OF TEST: Fitness

APPROPRIATE AGE LEVELS: 9-20 years old

POPULATION TESTED: Educable and Trainable Mentally Retarded Children

ABILITIES/SKILLS BEING TESTED AND TEST ITEMS USED:

1. Cardio-respiratory endurance (300 yd. walk/run)
2. Static muscular strength and endurance (bend arm hang)
3. Static balance (stand with hands on hips, foot on knee)
4. Dynamic muscular strength and endurance (leg lift)
5. Agiligy (modified squat thrust)
6. Speed in running short distances (25 yd. run)

STANDARDIZATION: A chart of performance norms was developed after administering the test to Trainable (TMR) and Educable Mentally Retarded (EMR) individuals between the ages of 9 and 20 at the Mansfield Training School in Connecticut.

MATERIALS:

1. Track marked for 25 yards
2. 300 yard track
3. Chin-up bar
4. Stopwatch

GENERAL INFORMATION: The rationale for developing the fitness battery was based on a study by Fait and Kupferer in 1956 which found that a high correlation exists between intelligence quotient and certain fitness tasks. It was reported that intelligence factors effect fitness scores as much or more than physical factors. Therefore, in formulating his test, Fait selected those items with a low correlation between physical performance and intelligence.

PUBLICATION DATE: 1972

SOURCE: Mansfield Training School, Mansfield Depot, CT 06251.

NAME OF TEST: Frostig Move-Grow-Learn Movement Skills Survey

TYPE OF TEST: A perceptual-motor and physical fitness survey

APPROPRIATE AGE LEVELS: Kindergarten through primary grades

POPULATION: Full Spectrum

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Coordination and rhythm: Tumbling, running, skipping, hopping, rope jumping, throwing, ball catching, kicking, etc.
2. Agility: Dodgeball, shuttle runs, sitting to standing exercises.
3. Flexibility: Toe touching, backbends, etc.
4. Strength: Sit-ups, leg lifts, push-ups, pull-ups, jungle gym activities, broad jump, rope climbing, etc.
5. Speed: Running
6. Balance: Standing on tiptoe, standing on one foot, walking on balance beam, carrying beanbag on head, etc.
7. Endurance: Distance running, basketball, soccer
8. Body Awareness: Relaxing, discriminating right and left, etc.

STANDARDIZATION: This is not a standardized psychometric instrument in which developmental norms are provided for each age level. The assessment is based on the examiners' observations of the child in classroom, playground, and gymnasium activities.

MATERIALS: The materials vary according to what is specified on each activity card, and include such traditional equipment as balance beam, mats, playground balls, etc.

GENERAL INFORMATION: The assessment was developed to assist in evaluating selected aspects of a child's motor development. It is intended for use with the Frostig/Maslow Move-Grow-Learn Program. Selected exercises and activities are listed from a set of 160 from Frostig's Movement Education Teacher's Guide. The results of these chosen activities will be representative of the proficiency level in each general area being assessed. The recording sheet is in the form of a checklist. Ratings are from one to five: 1 = severely impaired; 2 = mildly impaired; 3 = adequate; 4 = good; and 5 = excellent. All assessment is subjective in nature.

PUBLICATION DATE: 1971

SOURCE: Follett Educational Corporation, Chicago, IL.

NAME OF TEST: Frostig Movement Skills Test Battery
TYPE OF TEST: Norm-referenced test of sensory motor skills
APPROPRIATE AGE LEVELS: 6-12 year olds
POPULATION TESTED: It is suggested that this test be used for children who have learning and behavioral difficulties and show developmental lags in sensory-motor and movement skills, language, perception, cognitive process, social adjustment, and emotional development.
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

A. Eye/Hand Coordination:
   1. Bilateral eye/hand coordination and dexterity; bead stringing.
   2. Unilateral coordination involving motor sequencies; fist/edge/palm.
   3. Eye/hand and fine motor coordination; block transfer

B. Visually Guided Movement:
   1. Visual motor coordination involving aiming and accuracy; bean bag throw.

C. Flexibility:
   1. Ability to flex the spine; sitting, bending, reaching

D. Balance:
   1. Dynamic balance; walking board

E. Strength:
   1. Leg strength; standing broad jump
   2. Running speed and ability to make quick stops, changes of direction, and changes of body position; shuttle run
   3. Speed and agility in changing body position from a lying to a standing position; changing body position
   4. Abdominal muscle strength; sit-ups
   5. Arm and shoulder girdle strength; chair push-ups

STANDARDIZATION: The FMSTB was standardized on 744 Caucasian elementary school children (K-6) from Buena Park Elementary School District, California. The samples at age levels (6-12) ranged from 103 to 109. Lower bound estimates of reliability ranged from .44 to .88, with only 14 of 91 communalities being less than .60. Validity of this test was provided by factor analysis of the intercorrelation for each age group. This detailed information is available in the test manual.
MATERIALS:

1. Manual with explanation of test battery
2. FMSTB Equipment Kit (available from publisher) wich contains all materials needed for the test except for the table and chair.
3. If not administered in a carpeted room, materials should also include about 5' square with non-skid backing or gym mat.

GENERAL INFORMATION: A score sheet is presented with blanks provided to record the raw scores of test item results. The manual also explains how to convert the raw scores to scale scores which are also recorded on the score sheet. When these two steps are completed, each of the abilities are summed and a composite mean scale is obtained. Further information regarding scoring is available in detail in the manual. The results obtained are

useful in the area of assessment and helpful in determination of program planning for children who exhibit deficits in sensory motory. The full battery of 12 subtests requires approximately 20-25 minutes administration to an individual child; however, a group of three can be individually administered in about 45 minutes.

PUBLICATION DATE: 1972

SOURCE: Frostig Movement Skills Test Battery, Consulting Psychologist Press, Inc., 577 College Avenue, Palo Alto, California 94306.

NAME OF TEST: Gross Motor Test for Early Childhood

TYPE OF TEST: A motor development test for young children, designed to reveal information about a child's readiness, maturation, and development for kindergarten education.

APPROPRIATE AGE LEVELS: The test is designed for children ages 3-6.

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Body Awareness: Right/left body part identification
2. Gross Agility: Rise to stand for time; sequential kneeling process
3. Static Balance: Balance on right/left foot individually, arms folded
4. Locomotor Skills: Jump, hop, skip; forward, backward, zig-zag
5. Ball Throwing: To determine throwing pattern, not accuracy
6. Tracking: Bounce, catch, and throw a playground ball

STANDARDIZATION: The test was done in three Wisconsin school districts with 2,150 children, aged 3-6. Norms are currently being developed at the University of Wisconsin-Whitewater.

MATERIALS:

1. Screening form for each child
2. A private area or room approximately 10' by 30'
3. A mat
4. Stopwatch
5. Object or marker to be placed on floor
6. Rubber playground ball (8-1/2" diameter)

GENERAL INFORMATION: The test pamphlet contains a screening device, and the gross motor test. The screening device takes very little time to administer, and is a yes/no test. For a more detailed observation of the child, the gross motor test can be administered in less than one hour. Scores for each subtest can be tallied individually and/or a composite score is obtained. Each subtest provides items which are sequentially more difficult. The test is derived from the Cratty Six-Item Gross Motor Test.

PUBLICATION DATE: May, 1977

SOURCE: Wisconsin Association of Health, Physical Education and Recreation, Wisconsin Department of Public Instruction, or Eugene P. Kruchoski, HPER UW-Whitewater, Whitewater, WS 53190.

NAME OF TEST: Hayden Physical Fitness Test for Mentally Retarded

TYPE OF TEST: Norm-referenced physical fitness test

APPROPRIATE AGE LEVELS: 8-17 year olds

POPULATION TESTED: Trainable mentally retarded

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Strength and endurance - Hang for time
2. Power, strength, and coordination - Medicine ball throw
3. Flexibility and strength - Back extension flexibility
4. Flexibility, strength, and endurance - Speed back lifts
5. Strength and endurance - Speed sit-ups
6. Power - Vertical jump
7. Flexibility - Floor touch
8. Organic fitness - 300 yard run

STANDARDIZATION: The Physical Fitness Test for Mentally Retarded was carried out under Frank Hayden in Toronto, Ontario. The test was standardized on 2,000-3,000 trainable mentally retarded boys and girls (CA 8-17) in day care centers and institutions in Canada. Validity of this test is reported between .97 and .77. However, there was no information available in regards to reliability.

MATERIALS:

1. Manual which contains instructions for test administration and for prescription of exercises and activities.
2. Four pound medicine ball, yardstick, and 6" ruler
3. Mats
4. Stopwatch and tape measure
5. Ladder or stool
6. Pointer or stick
7. Hang bar, 10" block of wood with markings every 2".

GENERAL INFORMATION: In determination of child's level of fitness, test scores are recorded for each test item and then the score is placed into one of seven classifications (from excellent to very poor) in two-year steps for each test item. The test is available to any individual who is interested in evaluating the physical fitness of the trainable mentally retarded. The Hayden test can be administered in two sessions with a minimal requirement of equipment. Hayden suggests that regular participation in a physical fitness and/or activity program and the use of this test, will aid in the improvement of the trainable mentally retarded child's physical fitness.

PUBLICATION DATE: 1964

SOURCE: Physical Fitness for Mentally Retarded, Metropolitan Toronto Association for Retarded Children, 186 Beverly Street, Toronto, Ontario, Canada.

NAME OF TEST: The Hughes Basic Gross Motor Assessment
TYPE OF TEST: Gross motor ability
APPROPRIATE AGE LEVELS: 5 years, 6 months - 12 years, 5 months
POPULATION TESTED: Norms were established for the normal population

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Static balance: One leg balance
2. Elementary ball handling: Catch, throw, dribble
3. Object control: Yo-yo
4. Dynamic balance: Hopping, skipping
5. Leg strength and balance: Stride jump, tandem walk
6. Aiming: Target throw

STANDARDIZATION: Norms were established from the test scores of 1,260 randomly selected subjects. There were 90 boys and 90 girls chosen from age levels 5 years, 6 months to 12 years, 5 months, from 18 different Denver public schools. Reliability was determined at a coefficient of .97 using the test-retest method. Content, construct, and criterion-related validity were established for the BGMA.

MATERIALS: Masking tape
Stop watch
6 colored bean bags with a slick covering and measuring 4-1/2" x 4-1/2"
1 - 6" diameter rubber ball
1 - 7" diameter rubber ball
2 - 1 gallon bleach bottles
Heavy string
1 whiffle ball
1 small baseball-sized heavy rubber ball
Cloth bag to carry equipment

GENERAL INFORMATION: The assessment was designed to evaluate motor performance of children having minor motor dysfunction, but is not appropriate for children having serious diagnosed physical disabilities. It can be used to effectively detect any gross motor strengths or weaknesses and produce information for program planning with evaluation being both subjective and objective. There are 16 items assessed, with scoring determined on the basis of the quality of performance. Deviations are listed for each sub-test, and each deviation subtracts from the total score for that sub-test. A good performance without any deviations receives a score of 3. The scoring is as follows: 3 = good; 2 = fair; 1 = poor; 0 = unable to perform a task of more than two deviations.

PUBLICATION DATE: 1975
SOURCE: Jeanne E. Hughes, 1000 Zinnia Street, Golden, CO 80401.

NAME OF TEST: Lincoln-Oseretsky Motor Development Scale
TYPE OF TEST: A 36-item, individually administered test of motor proficiency
APPROPRIATE AGE LEVELS: 6-14 years of age
POPULATION TESTED: Test results were based on a normal population
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Finger dexterity - touching fingers, placing coins and matchsticks in a box
2. Eye-hand coordination - catching a tennis ball, throwing a tennis ball
3. Gross motor activity of the hands, arms, legs, and trunk - walking backwards, crouching on tiptoe, jump and touch heels, jumping and clapping
4. Motor speed - sorting 40 matchsticks, drawing horizontal lines, putting coins in two boxes
5. Simultaneous movement - tapping with feet and fingers, jump and touch heels

STANDARDIZATION: Subjects in the standardized group consisted of 380 males and 369 females between the ages of 6-14 years. The number of subjects at each age level ranged from 39 to 46. All subjects were obtained from public schools in small towns in Central Illinois, and were chosen mainly for their availability. Intelligence test scores were not used in connection with the test. Reliability is expressed in terms of a split-half coefficient, which gives a measure of the internal consistency of the scale. Within the 36 item scale there were exactly 53 detailed items to be scored, since some of the items involved both right and left limb performance. Reliability was then computed for the test and was found to have reliability coefficients ranging from .59 to .93 for each sex and for ages 6-14. Validity: The overall split half reliability coefficients of .96 for males and .97 for females indicate that there is a great deal of internal consistency in the test. High internal consistency points to the fact that we are dealing with a homogeneous test. The correlation of total score with age .87 for males and .88 for females.

MATERIALS: Record blank, two wooden boxes (1/4" thick), cigarette papers, thread on a wooden spool, 40 matchsticks, rope (6' long), two pencils and plain paper, wooden rod with flat surface ends, wooden target (10" square), and tennis balls, mazes, 20 pennies, four thumb tacks, concentric circles, blunt pointed scissors, and tape measure.

GENERAL INFORMATION: The 36 items included in the test are arranged in approximate order of difficulty. All items are scored on a 3-point system, with items receiving a different point score depending on the subject's performance. The time for administering all the test items is usually less than one hour, and rest periods should be allowed when the subject shows signs of fatigue. A sample of 109 subjects in the standardized group were retested after one year. Correlation between the original test scores with the retest scores was .83. This is evidence of a good relationship between performance on the test and successive age levels.

PUBLICATION DATE: 1954
SOURCE: Western Psychological Services, Publishers and Distributors, 12031 Wilshire Boulevard, Los Angeles, CA 90025.

NAME OF TEST: Motor Fitness Test for the Moderately Mentally Retarded

TYPE OF TEST: An individually or group administered motor fitness test and award program

APPROPRIATE AGE LEVELS: 6-20 years old

POPULATION TESTED: Norms based on a lower trainable mentally retarded population

ABILITIES/SKILLS AND TEST ITEMS USED:

1. Arm and shoulder girdle strength - flexed arm hang
2. Efficiency of abdominal and hip flexors - sit-ups in 30 seconds
3. Muscular power-standing broad jump
4. Muscular power and coordination-softball throw for distance
5. Speed - 50 yard dash
6. Cardiorespiratory endurance - 300 yard run/walk
7. Height - height
8. Weight - weight
9. Flexibility - sitting bob and reach
10. Developmental skills - hopping, skipping, tumbling progression and target throw

STANDARDIZATION: The motor fitness test was administered to 1,097 moderately retarded persons ages 6-21 throughlyt the Missouri State Schools for the Retarded Children. The percentiles reported in the test manual represent an accumulation of two years of motor fitness testing. Reliability: This was not measured, but correlation measures were done between the Fall of 1972 and the Spring of 1973 by the test designers to the same population, finding 4 = .60 and skipping/tumbling were r = .70. A retest was not administered on the 300 yard run/walk. Of the exception, the flexed arm hang and bob and reach tests have been reported to have test-retest reliability as high as 4 = .90. Validity: The motor fitness test has been modified from the Special Fitness Test for the Mentally Retarded (AAHPER, 1968). However, the test is based on the Youth Fitness Test which has been discovered of not measuring what it is supposed to do in four of the seven test items. Therefore, the validity of the test is in question.

MATERIALS: High bar, tumbling mat, two stop watches, 3 12" softballs, agricultural lime, track or reasonably solid/smooth surface, scale, bob and reach box, and masking tape.

GENERAL INFORMATION: The test provides percentiles for male and female single test items. Raw scores can be converted into percentiles for each student to determine the overall fitness level. Awards are available for various levels of achievement such as the Special Gold, Silver, Kennedy Foundation Champ, and Progress awards. The purpose of the award system is to motivate youngsters to participate actively in physical education and recreational activities, thus giving them feelings of accomplishment and personal satisfaction.

PUBLICATION DATE: 1976

SOURCE: AAHPER Publication-Sales, 1900 Association Drive, VA 22091.

NAME OF TEST: Movement Pattern Checklist

TYPE OF TEST: A criterion referenced checklist of 15 fundamental gross motor skills

APPROPRIATE AGE LEVELS: Open

POPULATION TESTED: Full Spectrum

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

Pattern elements of the following skills are evaluated: Walking - running - jumping - hopping - skipping - sliding - crawling - climbing - rolling - standing - throwing - carrying - sitting

STANDARDIZATION: No standardized scores are provided in this test. The Checklist was developed through a number of years of investigation of movement activity of children. The movement patterns are based on research in kinesiology, body mechanics, body mechanics, biokinetics, cinemagraphic studies, and principles of perceptual-motor learning.

MATERIALS:

1. Movement Pattern Checklist and pencil
2. An open area such as a gymnasium
3. A ladder or similar rigid device for climbing
4. Mats
5. Objects of various sizes and weights for throwing
6. Plastic baseball bat
7. Long jump rope with an attached object
8. Large playground ball

GENERAL INFORMATION: The test is a checklist designed to facilitate evaluation of fundamental movement pattern characteristics. The complete Movement Pattern Checklist consists of a long form, short form, and a movement pattern profile. The long form consists of two checklists: pattern elements present and deviations noted for each skill. Elements present and deviations are recorded by placing a check in front of every applicable item in each column. A plus or minus is used in conjunction with the check to indicate the strength or weakness of that particular pattern characteristic. The movement pattern profile is a single profile with the scores charted from those achieved on the long form. The profile is used to provide quick general summaries of students' movement patterns. The short form is similar to the long form but is not as detailed and may be used as a general overview of skill performances.

PUBLICATION DATE: Unknown

SOURCE: Margaret M. Thompson, Department of Physical Education, University of Illinois, Urbana, IL 61801.

NAME OF TEST: Peabody Developmental Motor Scale
TYPE OF TEST: A criterion-based checklist of gross and fine motor skills occurring in children between birth and 7 years
APPROPRIATE AGE LEVELS: Birth to 7 years
POPULATION TESTED: Full Spectrum
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Gross motor skills: crawling, independent sitting, climbing, throwing
2. Fine motor skills: grasping, object manipulation, finger opposition

STANDARDIZATION: The validity of the PDMS was determined in a pilot study comparing gross and fine developmental motor ages with gross and fine motor ages obtained on the Denver Developmental Screening Test. A .97 correlation for gross motor ages was obtained (DuBose, Folio, 1977). No correlation was reported for fine motor ages. The design of the Developmental Activities program was based on a task analysis of each skill on the PDMS. Sequential steps for teaching each skill were incorporated in the program. The program's design suggests face validity.

MATERIALS:

1. Peabody Developmental Motor Scales Manual
2. Pencil and record sheet
3. Gross motor scales
4. Fine motor scales
5. A room in which to administer the test and various objects such as blocks, balls, a rattle, and mats which are listed in the test.

GENERAL INFORMATION: The test is a checklist of skills appearing at various developmental levels. The checklist of skills is presented sequentially in accordance with chronological ages. Five criterias are provided for rating the child's performance on each item, ranging from total dependence to complete independence in performing the task. The test can be administered by a parent or teacher by turning to the appropriate section of scales at the child's chronological age, unless the child is obviously functioning below his/her age level. The PDMD allows the teacher or parent to determine the skills the child has accomplished, skills he/she is currently developing, and skills which are not presently in the child's repertoire. The scales are accompanied by a program of activities which are designed to teach each skill included in the scales.

PUBLICATION DATE: 1974
SOURCES: IMRID, Box 154, George Peabody College, Nashville, TN 37203.

DuBose, R. and Folio, R. "Investigation of short-term gains in Motor Skill Achievement in Delayed and Non-delayed Preschool Children." Peabody Journal of Education, Nashville, TN. George Peabody College for Teachers, April 1977.

NAME OF TEST: Mr. Peanuts Guide to Physical Fitness
TYPE OF TEST: Physical Fitness
APPROPRIATE AGE LEVELS: 7-19 years of age
POPULATION TESTED: Norms based on normal population but test is applicable to all populations
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Arm and shoulder strength and endurance - flexed arm hang
2. Flexibility - stand and reach (trunk flexion)
3. Abdominal strength and endurance - bent knee sit-ups
4. Explosive leg power - standing long jump
5. Speed - 50 yard dash
6. Coordination - softball throw
7. Cardiorespiratory endurance - 600 yard walk/run

STANDARDIZATION: The norms for children between the ages of 7 to 9 were developed to supplement the AAHPERD Youth Fitness Test. There were no figures available regarding norms.
MATERIALS:

1. Flex arm hang - bench and horizontal bar
2. Trunk flexion - chair or bench with a 20" ruler
3. Standing long jump - level surface, tape measure or yard stick
4. 50 yard dash - stopwatch, tape measure, or yard stick
5. Softball throw - softball, tape measure, or yard stick
6. 600 yard run/walk - stopwatch, tape measure, or a place to run 600 yards

GENERAL INFORMATION: The test manuals are free of charge. The test is simple enough for classroom teachers, volunteers, special educators, and parents to administer. The test manual also contains recommended warm up exercises, as well as a variety of other activities.
PUBLICATION DATE: 1967
SOURCE: Standard Brands Education Service, P. O. Box 2695, Grand Central Station, New York, NY 10017.

NAME OF TEST: Project ACTIVE - Low Motor Ability
TYPE OF TEST: This is a test of motor ability. It is a diagnostic, prescriptive, sequential approach to initiating an individualized motor and perceptial-motor activity program.
APPROPRIATE AGE LEVELS: 4-17 years of age
POPULATION TESTED: Full Spectrum (mentally retarded, learning disabled, normal, and gifted)

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Gross body coordination: walk, creep, climb stairs, skip, march in place
2. Balance and postural orientation: standing balance, jumping, hopping
3. Eye-hand coordination: catch, bounce, swing
4. Eye-hand accuracy: throwing
5. Eye-foot accuracy: kicking

STANDARDIZATION: Norms based on tests conducted in the State of New Jersey and the Township of Ocean School District are provided in the Project ACTIVE Manual Appendix. Little information on how the norms or criterion points were established is included in the Low Motor Ability Manual. Complete statistical data is provided in the ACTIVE Research Monograph.

MATERIALS:

1. Motor ability instrument (3) test - bench, whiffle ball, 8" playground ball, plastic bat, volleyball, large flat surface
2. Basic Movement Performance Profile - variety of equipment
3. Project ACTIVE - Low Motor Ability Manual, including test forms

GENERAL INFORMATION: The Project ACTIVE Manual provides an explanation on eight instruments used for diagnosing the developmental needs of children in the preschool and primary grades. The eight tests are as follows:

1. Pre-kindergarten Motor Ability Screening Test - preliminary screening, 4-5 years
2. Basic Motor Pattern Checklist (group) - preliminary screening for ages 3-5
3. Basic Motor Pattern Checklist (individual) - comprehensive screening for ages 3-5, or children with severe motor problems
4. Motor Ability Instrument: Level I - comprehensive screening for the severely or profoundly retarded (ambulatory)
5. Basic Movement Performance Profile - comprehensive screening for severely or profoundly retarded (ambulatory)
6. Motor Ability Instrument: Level II - comprehensive screening for ages 5-7 or the mentally retarded and learning disabled
7. Motor Ability Instrument: Level III - screening instrument for themotorically gifted
8. Perceptual-Motor Screening Instrument - general screening for perceptual, motor, and perceptual-motor problems

These assessments and evaluations are used to identify priority needs for the purpose of constructing an appropriate and effective physical education program. The test may be used to establish goals and objectives according to the students' needs and interests. From the baseline information gathered, the instructor will

assess the individual's performance and prescribe a sequential developmental program of individual activities for the child. At the completion of each prescribed unit, an evaluation of the student's progress will be done to arrive at a decision on subsequent programming. The sequence the teacher uses for individualizing instruction involves the TAPE system.

T - Testing the student to gather baseline data
A - Assessing the individual performance of student
P - Prescribing a sequentially developed program of individualized activities
E - Evaluating student progress at periodic intervals

Norms are provided in terms of percentiles and stanine scores for each age level. A stanine conversion chart is provided and stanine scores are combined to achieve a Motor Ability Index (MAI), which reflects a child's performance on the total test battery. The MAI provides a score which can be used by the instructor to determine whether a student should be schedule in an enrichment program.

PUBLICATION DATE: 1976, with second printing in 1979

SOURCE: Thomas M. Vodola, Ed.D., Project Director, Township of Ocean School District, Ocean Township School, Dow Avenue, Oakhurst, NJ 07755.

NAME OF TEST: Project ACTIVE* Physical Fitness Test
(*All Children Totally Involved Exercising)

TYPE OF TEST: A physical fitness test which is both normative and criterion referenced

APPROPRIATE AGE LEVELS: 6-17 years old

POPULATION TESTED: Full Spectrum

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Arm/Shoulder Strength: static arm hand for time
2. Abdominal Strength: modified straight leg sit-ups
3. Explosive Leg Power: standing broad jump
4. Cardiorespiratory Endurance: 200 yard run (ages 6-11), 8 minute run (ages 12-13), 12 minute run (ages 14-17)

STANDARDIZATION: The standardization was achieved by testing the students in grades K-12 in the Township of Ocean School District and from data received from a variety of school districts in New Jersey. Over 50 students in each age group were tested for each fitness component. It is recommended that school districts using Project ACTIVE establish their own norms and details to assist in that endeavor are provided within the manual. Test reliability from three previous studies of boys and girls ages 7-15, ranged from .93 to .95. A correlation of .87 with the Roger's Physical Fitness Test indicated test validity.

MATERIALS:

1. Adjustable chin-up bar
2. Mats for sit-ups
3. An open area measured in inches for standing broad jump
4. An open running area which is over 200 yards long
5. A 440 yard track or similar area which is divided into 55 yard sections
6. Project ACTIVE testing manual, including the Physical Fitness test forms and norms

GENERAL INFORMATION: The test is a part of the Project ACTIVE comprehensive manual of teacher training in individualized instruction in Physical Education. The normative referenced scores are provided in terms of percentiles and stanine scores for each test item according to age groups. The stanine scores are combined to achieve a comjlete Physical Fitness Index. The criterion referenced test battery (with the same test items) was modified for use as a screening device for children who cannot perform the tasks without assistance. The backbone of Project ACTIVE is the TAPE procedure; Test, Assess, Prescribe, Evaluate, and this is thoroughly discussed within the manual. In addition to the Physical Fitness Test battery, procedures for determining body fat, vital air capacity, muscle girth, and flexibility are included as recommendations for complete physical assessment.

PUBLICATION DATE: 1979

SOURCE: Dr. Thomas M. Vodola, Director, Project ACTIVE, Township of Ocean School District, Dow Avenue, Oakhurst, NJ 17755.

NAME OF TEST: The Purdue Perceptual Motor Survey
TYPE OF TEST: Motor ability survey, specifically perceptual-motor
APPROPRIATE AGE LEVELS: 6-10 years of age
POPULATION TESTED: Normal
ABILITIES/SKILLS TESTED:

1. Balance and Posture: walking forward, backward, and sideways on a walkboard performing a series of eight tasks evaluating ability to jump, hop, and skip while maintaining balance
2. Body Image and Differentiation: Identification of body parts; imitation of movement, obstacle course activities, angels-in-the-snow, Kraus-Weber test items
3. Perceptual Motor Match: making circle, double circle, lateral line, and vertical line on chalkboard. Performing eight rhythmic writing tasks.
4. Ocular Control: ocular pursuits of both eyes, right eye and left eye, and convergence testing
5. Form Perception: seven geometric forms - circle, square, cross, triangle, horizontal diamond, vertical diamond, divided rectangle - are drawn on paper

STANDARDIZATION: Norms were derived from the test scores of 200 students, 50 each from grades 1 through 4. The data was analyzed with respect to grade level, socioeconomic status, and sex. Validation was established utilizing the normative sample and a non-achieving group of 97 subjects, from grades 1 through 4. The non-achieving sample was selected to approximate the same age levels as the norm group with none of the subjects tested having known retardation. Using test-retest method, a reliability of .946 was established, and the survey has shown to be valid at the .05 level with the use of a chi square variable.

MATERIALS: Score sheets, walking board (8' to 12' length), broom handle, pillow, mat, two lead pencils, chalkboard, chalk, paper pen flashlight

GENERAL INFORMATION: The survey includes a variety of test items in three major areas: directionality, laterality, and perceptual-motor match. It was specifically designed to identify children who do not possess the perceptual-motor skills necessary for acquiring academic skills. There are 22 scorable items with a 1 to 4 rating scale, with 4 being the highest score. Subjective evaluations are also encouraged with the survey being both normative and criterion-referenced.

PUBLICATION DATE: 1966

SOURCE: Charles E. Merrill Publishing Company, 1300 Alum Creek Drive, Columbus, OH 43216.

NAME OF TEST: Sensory Motor Training for Severely and Profoundly Retarded

TYPE OF TEST: Developmental test of three skills categories: awareness, manipulation, and posture. Two levels available.

APPROPRIATE AGE LEVELS: Open

POPULATION TESTED: Severely and profoundly retarded

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

Various sensory responses, in isolation or combinations:
tactility - reponse to being cuddled, response to pressure
audition - response to name, commands
vision - tracking suspended ball, watching named objects
kinesthesia - response when held tightly
olfaction - response to pleasant/unpleasant odors
gustation - response to bitter tastes

STANDARDIZATION: The original test of 50 items was administered to an intact sample of 32 institutionalized individuals. Validity and reliability were high in the original sample but subsequent research has been done. The ninth revision was completed in 1977, with correlation coefficients of .691 in Awareness categories and .828 in Manipulation. Comparisons with the Catell-Binel Short Form Intelligence Scale indicate positive correlations of .370 in Awareness and .722 in Manipulation.

MATERIALS: rubber hammer, strong penlight, full lengthed mirror, bottle with small opening, metal basin, wet clay, 4" doll. sponge ball, 2 (3") square boxes, rattle, towel, raisins, small bolster, balance board, hot and cold eater, various odors, taped music, straightened paper clip, weather thermometer, sand, 2" block, pull toy, colored stringing beads, ball suspended on string, ring and stick, small bell, push cart.

GENERAL INFORMATION: The test was originally developed as a pre-test, post-test instrument to determine the effectiveness of a sensory motor training program with the 32 subject sample population. The subject is given three trials on each of the 37 items tested on either level of the instrument. The developers suggest that two people administer the test and also indicate that one person should be familiar with the subject in order to insure accurate scoring. Administration of the 37 items on either level of the test takes about 1-1/2 hours. In addition to the assessment, materials are available which assign short and long term goals that can be used in programming for the subject's needs in deficit areas indicated on the test.

PUBLICATION DATE: Ninth revision, 1977

SOURCE: Ruth C. Webb, Ph.D., Iowa Department of Social Services, Division of Mental Health Resources, Glenwood State Hospital and School, Glenwood, IA 51534.

NAME OF TEST: Southern California Perceptual Motor Tests
TYPE OF TEST: Test of Perception, covering six items, each individually administered
APPROPRIATE AGE LEVELS: Ages 4 to 8 years
POPULATION TESTED: Normal
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Imitation of postures
2. Crossing mid-line of the body
3. Bilateral motor coordination
4. Right/left discrimination
5. Standing Balance - eyes open and closed

STANDARDIZATION: Standardization was completed in 1967 by administering the Southern California Perceptual Motor Test to 1,004 children, ages 4 through 8. The children were from public and private schools and a variety of geographic and socioeconomic levels from Los Angeles, California.

To achieve score reliability, 239 of the original 1,004 children were retested 5 to 15 days after the initial testing. Results showed that for right/left discrimination, the use of standard scores for 4 and 5 year olds was not recommended as a low correlation was found between those scores and scores on other tests in the standard sample. To present a more accurate picture it was recommended that the percentile rank of raw scores on right/left discrimination be used.

MATERIALS: The Perceptual Motor Manual and score sheets.
GENERAL INFORMATION: Each of the tests receives a score of 2, 1, or 0. These scores are specific for each of the items and offers criteria for 2, 1, or 0 points. These scores are then combined and the sum of these scores allows the tester to determine the subject's functioning age level in perceptual-motor skills. The tester must be familiar with instructions and scoring to insure that the test is administered accurately. The test was designed for the limited ages of 4 to 8 of the normal population; however, it can be used with other populations. The norms can be used to inform the professional where the handicapped child lies as compared to the age level he/she is functioning. The test does not have to be given in its entirety. One or several of the items can be used.
PUBLICATION DATE: 1976
SOURCE: Western Psychological Services, Publishers and Distributors, 12031 Wilshire Boulevard, Los Angeles, CA 90025.

NAME OF TEST: Sullivan Perceptual Motor Survey
TYPE OF TEST: A perceptual motor and physical fitness checklist
APPROPRIATE AGE LEVELS: Open
POPULATION: Full Spectrum
ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Foundation Skills: posture, balance, visual-motor locomotion
2. Physical Fitness: arm/shoulder strength, endurance, flexibility, leg power, abdominal strength, agility, speed
3. Developmental Games and Activities: rhythm and dance activities, tumbling, games of low organization
4. Lifetime, Team, and Recreational Activities: line soccer, softball, t-ball, volleyball, etc.
5. Affective/Effective: awareness, socialization, concepts relative to movement, class structure

STANDARDIZATION: This is not a standardized test but serves as a checklist, providing general assessment of an individual's performance in specific areas of motor development and fitness.
MATERIALS: Determined by area being assessed and activity being performed.
GENERAL INFORMATION: The booklet contains separate checklists for each area and each individual being assessed. It provides a system for collecting data and assisting teachers in identifying specific learning objectives. Assessment can be done during group activities. The scoring ranges from X, which indicates inability to perform, to the highest score of 3, which means performance is sustained, coordinated, and relaxed.
PUBLICATION DATE: March, 1981
SOURCE: Special School District, St. Louis County, 9820 Manchester Road, Rock Hill, MO 63119.

NAME OF TEST: TMR Performance Profile

TYPE OF TEST: The test was designed to measure a wide variety of living skills based on teacher observation.

APPROPRIATE AGE LEVELS: Open

POPULATION TESTED: Educable and Trainable Mentally Retarded

ABILITIES/SKILLS TESTED AND TEST ITEMS USED:

1. Social Skills: self control, personality, group participation, and social amenities
2. Self Care: bathroom and grooming, dealing with food, clothing, and safety
3. Communication: modes of communication, listening, language activities, and language skills
4. Basic Knowledge: information, numbers, awareness, and social studies
5. Practical Skills: tools, household items, family chores, vocational readiness
6. Body Usage: coordination, health habits, fitness, hand/eye coordination

STANDARDIZATION: The test was designed to meet the needs of severely and moderately mentally retarded, who may not be able to be effectively evaluated on a test designed for the general population. There were not any figures available concerning the reliability and validity of the test.

MATERIALS: A form of a chart used to record the child's progress over a period of time, as well as other chart forms, available with the testing packet.

GENERAL INFORMATION: There are six major areas, each of which possess four topic areas, and each of these consist of 10 related items. These items are rated by five descriptive levels of performance, starting at a negative or non-performance level to one that is just beyond the realistic realizable goals for the severely and moderately retarded. The following is the evaluation scale used: 0-Negative or non-performance or no display of awareness; 1-Minimal performance; 2-Limited acceptability; 3-Realistic goal; 4-Performance above goal. The main purpose of this test is to provide a tool to periodically test the performance of the individual child in comparison to another. Graphs available with the test allow the teacher to record a child's progress over a period of time.

PUBLICATION DATE: 1968, third edition

SOURCE: Reporting Services for Children, 563 Westview Avenue, Rigge, NJ 07657.

VITA 2

Patrick James Powers

Candidate for the Degree of

Doctor of Education

Thesis: OPERATIONAL GUIDELINES FOR THE DEVELOPMENT AND IMPLEMENTATION OF ADAPTED PHYSICAL EDUCATION PROGRAMS FOR THE MENTALLY RETARDED IN PUBLIC SCHOOLS

Major Field: Higher Education

Minor Field: Health, Physical Education, and Recreation

Biographical:

Personal Data: Born in Fort Atkinson, Wisconsin, April 4, 1954, the son of Mr. and Mrs. Ralph D. Stammen. Married to Mary Ann Bushendorf, November 25, 1977.

Education: Graduated from Mt. Horeb High School, Mt. Horeb, Wisconsin, in May, 1972; received Bachelor of Science degree in Physical Education and Coaching from the University of Wisconsin, Madison, in May, 1976; received Master of Science degree in Physical Education for the Handicapped from the University of Wisconsin, LaCrosse, in August, 1977; enrolled in doctoral program at Oklahoma State University, June, 1981; completed requirements for the Doctor of Education degree at Oklahoma State University in December, 1982.

Professional Experience: Graduate Teaching Assistant, University of Wisconsin, LaCrosse, 1976-77; Adapted Physical Education Coordinator, Oconomowoc Area Schools, Oconomowoc, Wisconsin, 1977-79; Instructor, University of Wisconsin, Stevens Point, Physical Education for the Handicapped, 1979-82; Research Associate, Oklahoma State University, Adapted Physical Education, 1981-82; Assistant Professor, University of Montana, Physical Education for the Handicapped and Motor Learning, 1982.