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Adapted Physical Education

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PREFACE

The physical educator is faced with the difficult task of selecting activities in relation to various handicaps. It is necessary for the physical educator to realize his responsibilities and limitations. Therefore, it is the purpose of this paper to describe what is expected of the physical educator in conducting an adapted physical education program.

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TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

Educational institutions of the present day offer broad and varied curricula. A student who completes a program of study in such institutions normally will find his proper place in society. The curriculum of physical education contributes substantially to this purpose.

The curriculum in physical education is rather a broad discipline involving several facets of education. The core of such a curriculum, however, is based on active, vigorous movements conducted within the framework of educational aims and objectives. In contrast, the academic program, including such subjects as languages, sciences, and mathematics, is concerned with scholastic approaches to excellence.

In the process of achieving educational aims, most institutions are confronted with students possessing various abilities to learn. Academic programs, while having to contend with the slow learner, are most interested in the brilliant student. The very slow learner is almost purposely neglected in most schools.

Physical education programs tend to follow a similar pattern in neglecting the very poorly skilled person, including the physically handicapped. The fact remains that the brilliant student and the handicapped student, as well as all atypical students, can benefit

from controlled physical education programs. It is from this standpoint that this paper is written.

The initial awareness of the problem of the physically disabled individual in the United States came in the second decade of this century. Many of the disabilities coming to the attention of the public were due mainly to the results of disease and war. In 1916 our country experienced an epidemic of infantile-paralysis. Within the next few years the wounded and disabled returned from World War I. The war seemed to give a great deal of impetus to the development of orthopedic surgery. At this time leadership in physical education was assumed by people prominent in the field of medicine.[1] Following the war, however, physical education was greatly influenced by experts in the fields of philosophy, psychology, and education. It was during this period that the awareness of the need for better fitness among boys and girls was realized, and programs for improving the fitness of school children began to be incorporated into the educational program.

During World War II physical education activities were used in the treatment of convalescent patients. It was necessary for the casualities of the war to prepare themselves physically and emotionally to meet the challenges soon to be encountered in civilian life. Both physical medicine and rehabilitation were used in the treatment of convalescent patients. Dr. H. Harrison Clarke, in his book, Developmental and Adapted Physical Education, gave the following definitions

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[1]Hollis F. Fait, Adapted Physical Education (New York: W. B. Saunders Company, 1963), p. 4.

of the terms "physical medicine" and "rehabilitation":

> Physical Medicine- The employment of the physical and other diagnostic and therapeutic properties of light, heat, cold, water, electricity, massage, manipulation, exercise, and mechanical devices for research, and for physical and occupational therapy and physical rehabilitation.
>
> Rehabilitation- The employment of physical medicine techniques of psychological adjustment and vocational retraining for the purpose of aiding the patient to achieve the maximal function and adjustment and of preparing him physically, emotionally, and socially for the fullest possible life compatible with his abilities and disabilities.[1]

Utilization of facilities and techniques used in the above application of treatment generally took place in hospitals and clinics. This type of treatment was restricted to those critical enough to be hospitalized and those wealthy enough to afford the specialized treatment administered by the professional. During the early years after World War II, various leaders of this nation took a step toward improving the physical fitness of the youth of America. President Eisenhower was one of the principal leaders in recognizing the need for placing more emphasis on physical fitness. A transition was effected from the broader and more strictly therapeutic application in hospitals and rehabilitation centers to educational centers and institutions.[2] The emphasis was now placed on the development of the student physically as well as socially, academically, and emotionally.

The development of the child socially appears to be as important as physical development. In this paper the writer specifically will

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[1] H. Harrison Clarke and David H. Clarke, Developmental and Adapted Physical Education (New Jersey: Prentice-Hall, Inc., 1963), p. 20.

[2] Ibid., p. 16.

not be concerned with the social development of the handicapped child. Some of the more important points, however, will be emphacized concerning the social and emotional development of the child.

There seem to be two schools of thought concerning the organization and administration of classes in physical education for the handicapped. One school suggests that there should not be segregation between the so-called normal individual and the handicapped person. Other educators believe that special classes should be organized for the handicapped student.

Since the words "normal" and "handicapped" will be used throughout this paper, it is essential at this time to define what is meant by these terms. Normal individuals are defined as those who display reactions and behavior patterns which are the most prevalent and most widely accepted by our society. Handicapped individuals are those individuals who, because of physical, mental, or emotional differences, cannot display reactions and patterns of behavior of the normal segment of society.[1]

The Illinois Department of Public Instruction is in agreement with the plan to organize special education classes:

> No plan of special education is complete if it does not give first emphasis to providing as much opportunity for normal contacts with other children in average life and school situations as possible.[2]

The handicapped child has the same basic drives and need for

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[1]Genevieve Drennen, "The Exceptional Child," Is Your Child Exceptional..., Illinois Department of Public Instruction, (Springfield, Ill., 1961), p. 2.

[2]Illinois Department of Public Instruction, The Physically Handicapped, The Illinois Plan for Special Education of Exceptional Children, Circular Series "A", No. 12, p. 7.

satisfaction as the normal child; therefore, it is normal for a child with some physical disability to desire to experience success or failure along with his particular age group. Instead of allowing the handicapped child to be part of a group, a segregated class separates him from the group and may have a tendency to accentuate his handicap.

Other leaders in the field of physical education believe that special classes should be included in the curriculum for the handicapped student. In this way the normal student does not have to be hampered or stymied in his developmental process due to the presence of an atypical child. Also, in a special class the handicapped child is not made to feel inferior because he must compete with others of normal capabilities. More time can be spent developing the skills of the handicapped child.

The writer in designing an adapted program of physical education will try to incorporate both plans of organization described above. Not only is it important for the handicapped child to learn to perform in a non-segregated group, but it is also important, when conditions permit, that the normal student recognize the disabilities of others and learn to cope with them in a positive manner.

Sometimes in large schools it has been possible to schedule special classes for the children with certain types of abnormalities. This type of class organization at times appears too costly. The procedure that any particular school system follows in scheduling those students for the adapted program will depend upon its educational philosophy, finances, facilities, staff availability, and it should

be guided throughout by the needs of the students.[1]

In many instances the term "adapted physical education" is dependent on the necessities and needs of the student. The adaptation of a modified program, as it is sometimes called, is usually a combination of preventive, corrective, or protective procedures.

Stafford and Kelly suggest that the aims of such a program should be as follows:

1. To prevent abnormalities by providing instruction and practice in acceptable health habits.

2. To correct existing defects and organic disturbances which can be corrected by physical education measures such as diet, rest, or exercise.

3. To protect against further injury or deformity in certain incurable cases such as those of organic heart disturbance.

4. To guide individuals in maintaining their restored bodily function and organic vigor through adapted exercises and recreation which are within their needs and capacities.[2]

As indicated by these educators the adaptive physical education program is simply the modification of the needs of the handicapped individual.

Another basic philosophy underlying the adapted physical education program is summarized by Howland.

1. The right of the restricted child to belong to his group in physical activity.

2. The consideration of psychological and sociological benefits to be derived from such participation.

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[1]Charles A. Bucher, Methods and Materials for Secondary Physical Education (St. Louis: C. V. Mosby Company, 1965), p. 207.

[2]George T. Stafford and Ellen D. Kelly, Preventive and Corrective Physical Education, (New York: Ronald Press Co., 1958), p. 42

3. The promotion of physiological values received from personalized care to aid in proper and desirable development.[1]

Daniels developed a list of objectives that are excellent goals for the physical educator to pursue. The list includes the following seven statements:

1. Accomplish needed therapy of correction for conditions which can be improved or removed.

2. Aid in the adjustment or resocialization of the individual when the disability is permanent (amputations, cerebral palsy).

3. Protect the condition from aggravation by acquainting the student with his limitations and capacities and arranging a program within his physiological work capacity.

4. Provide students with an opportunity for the development of organic power within the limits of the disability.

5. Provide students with an opportunity to develop skills in recreational sports and games within his limits.

6. Provide students with an opportunity for normal social development through recreational sports and games appropriate to their age group and interests.

7. Contribute to security through improved function and increased ability to meet the physical demands of daily living.[2]

Throughout this paper the term "regular class" will refer to that physical education class where all students, regardless of physical abilities, will be included. The term "special class" will pertain to that physical education class administered only to those students unable to engage in the regular class program.

Much progress has been accomplished in the field of physical

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[1]Ivalclare S. Howland, Adapted Physical Education in Schools (Dubuque, Iowa: Wm. C. Brown Co., 1959), p. 9.

[2]Arthur S. Daniels, Adapted Physical Education (New York: Harper and Row, 1954), p. 78.

education concerning the handicapped student. The objectives of physical education create a need for the adapted physical education program. The main objectives of physical education relate to the needs of both the normal and the handicapped student.

CHAPTER II

RESPONSIBILITIES OF THE PHYSICAL EDUCATOR

At the secondary school level the trained physical education teacher usually has some background in elementary anatomy, kinesiology, physiology, and other basic sciences. These subjects should help in selecting activities and exercises for handicapped students. Many physical education instructors have a tendency to assume responsibilities beyond their capacities to administer adaptive programs. Simply because the instructor has been exposed to courses in the basic sciences and is familiar with certain laws of motion, names of muscles or muscle groups, and worthwhile activities does not make that person an authority in physical medicine.

According to Clarke, the physical educator planning to work with physically handicapped children should not only possess a concentration in the area of the basic sciences, but in addition, post-graduate work at a special institution is suggested if a sound program is to be established. Graduate courses in anatomy, kinesiology, physiology, and psychology should be studied, as well as the relationship of those sciences to pathological conditions. Opportunity for supervised clinical and field experiences should also be included in preparation

for organizing and administering the adaptive program.[1]

Very few of the physical education teachers now in public schools have such an extended or advanced background to provide an adaptive program. Answers to a questionnaire submitted by the writer to fifty schools in the east-central section of Illinois indicate that there are eighty-four teachers of physical education with a Bachelor of Science degree, forty instructors with a Master of Science degree in Physical Education, and fourteen instructors of physical education with a Master of Science degree plus additional training in adaptive physical education. Only two teachers possessed a degree specializing in adaptive physical education.

Eighteen colleges and universities in the state of Illinois offer a major or minor in physical education. A total of forty-two courses are included in the curriculum for physical education majors under the heading of the basic sciences such as anatomy and kinesiology. Only eighteen courses, or an average of one per institution, are offered in the area of adaptive, corrective, or modified physical education. Five schools offering a major in physical education do not include any courses at all dealing with the adaptive program of physical education.

The amount and nature of the adapted physical education attempted in any school should depend on the needs of the institution and the qualifications of personnel involved in this specialized program.

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[1]Clarke and Clarke, op. cit., p. 32.

As indicated earlier, in most colleges where physical education teachers are trained, courses are offered to assist them in dealing with those who have physical handicaps. In all such colleges there should be special courses for training specialists. Such programs should be based on the principle that every child able to attend school is able to participate in some form of physical education. The majority of the physical education teachers in the field today are not qualified to directly administer corrective exercises.

One of the primary functions of the physical educator should be to initiate the organization and operation of an adapted physical education program. The first step in the organization of the adapted program should be to show the need of such a program. It is up to the physical educator to recommend that leaders in the field of medicine also be involved in the program.[1]

Need for such physical education programs can be shown through various tests and examinations given the students. The procedure and techniques utilized in the administration of such tests are dealt with more fully in the following chapter.

The adaptive teacher should be in charge of the health and general guidance of his pupils, with counsel of the family physicians. The co-operation of the school nurse, as well as the guidance staff is also required.[2]

The school health service can be of utmost importance in the

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[1]Howland, op. cit.

[2]Ibid., p. 12.

operation of the program. The main objectives of the health service in connection with an adaptive program are as follows:

1. To discover individuals with serious defects of such nature that vigorous exercise would be harmful to them.

2. To provide exercise and activity prescriptions for those with physical handicaps of any nature and for those returning to physical education class after illness or surgery.

3. To discover physical conditions resulting in physiological disturbances that may be the cause of low physical fitness in those boys classified by techniques employed by the physical educator.

4. To advise pupils on health problems beyond the scope of knowledge of the physical educator. These may include serious dietary deficiences, chronic neuromuscular hypertension and various types of maladjustments.

5. To visit the homes of public school pupils in the interest of gaining parental co-operation in the correction of physical defects, in the modification of health habits, and in many other ways.[1-2]

The medical diagnosis must serve as a basis for the construction of an adaptive program. In many instances it has proved worthwhile for the physical educator to organize weekly clinic hours, preferably in the after-school time or on Saturday morning, when the pupils have no other obligations. The physician or doctor can be present periodically at these clinical hours to check progress and to make recommendations. The only person entitled, because of training, to make the diagnosis is the school physician or the family physician. After the physician makes the diagnosis, he then can estimate the degree of probable recovery as a result of an adaptive program. The

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[1]Clarke and Clarke, op. cit., p. 33.

[2]Jesse F. Williams, Administration of Health Education and Physical Education (Philadelphia: W. B. Saunders Co., 1958), p. 105.

diagnosis will usually determine the nature of the program to be recommended.[1]

Students graduating from an accredited college or university with a Bachelor of Science degree in physical education are not qualified to prescribe activities to handicapped individuals. With the assistance of the family physician, school nurse, and other professionally trained persons, an effective program can be established.

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[1]Claude J. Ruggian, "The Physically Handicapped - Our Problem Too," Journal of Health, Physical Education, and Recreation, XXIX (May, 1958), p. 14.

CHAPTER III

CLASSIFICATION

Perhaps the most important aspect of an adaptive physical education program is that of the classification of students. The degree of testing as to the placement of students in the program will usually determine the success or failure of the program. There are two very important things that school physical education departments can do in the classification of students.

1. Use criteria of skill and physical development in grouping students for physical education. This is being done increasingly. The less skillful ones, and those whose growth is slow, are given a chance to compete among themselves in games, without suffering the recurrent disgrace of being chosen last and scoffed at for ineptness whenever a game is played.

2. Make it easy for a student to ask for information and assurance with respect to his own physical development. Every school and college should have someone who is easily approached and who is prepared by personality and by training to discuss with students their concern about their physical development. This person will usually be a doctor, a nurse, a teacher of biology or of physical education.[1]

Each child should have a thorough physical examination before the school year begins. The recognition of orthopedic handicaps, rheumatic heart cases, epilepsy, diabetis, and similar organic disturbances should be detected by the school or family physician

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[1]Robert J. Havighurst, Physical Education and the Tasks of the Body, American Academy of Physical Education, Annual Meeting (Chicago: American Academy of Physical Education, March, 1956), p. 59.

conducting the examination. Classification of these students as to handicaps and restrictions needed in the activity will not be the direct responsibility of the physical educator. It is at this point that co-operation between physicians and the physical educator be paramount to the administration of the adapted physical education program.

There are two divisions of classification included in the normal testing unit of an adapted physical education program. The first testing unit usually administered to every student, handicapped or not concerns measures of physical fitness or strength. Those students who show measures of sub-strength in relation to members of their own peer group require special attention. It is important to note here that this type of student is in need of special instruction just as much as those with serious crippling defects.

Postural deviations are very prevalent in students with sub-strength or low physical fitness. Underdeveloped muscles, due to lack of vigorous type activity, cause some individuals to carry themselves poorly. Tests administered properly and observations diagnosed correctly can help alleviate postural defects. Games and exercises can be included in the program with respect to the observations cited. Once these conditions are corrected, it is possible that disturbances which might have occurred in later life can be eliminated.

McCloy states that tests administered intelligently should produce the following results:

1. They measure the innate motor capacity and the present motor ability of the pupil.

2. Through a knowledge of these two things, the teacher will be able to classify and to place the pupil where he belongs as accurately as possible in the classroom activities.

3. When the pupil is properly classified, further use of tests of abilities will enable the teacher to measure the pupil's progress for the purpose of grading him and motivating his participation, and will help the teacher determine whether or not the pupil should advance at the end of certain definite periods or instruction time.

4. The tests when properly used will enable the teacher to diagnose pupil difficulties and thus to individualize instruction more adequately.

5. The teacher will be able to check on his own teaching ability and upon the general efficiency of his program.

6. Supervisory and administrative officers may utilize testing programs for the purpose of securing records upon which to base conclusions concerning needed changes in program and personnel.[1]

To administer a test just for the sake of recording results, which may or may not be useful, is not worthwhile. Conceding that the objectives mentioned by McCloy should be realized, it becomes necessary to select the correct test. Each test used in any physical education program should be scientifically constructed. The test used should measure what it is designed to measure. Certain criteria are used by Mathews to evaluate tests in terms of their scientific worth. The criteria used are reliability, objectivity, validity, and norms. If a test is reliable, it can be given to a group today, and one could expect the same results if the test is administered to the identical group at a later date. Objectivity refers to the consistency of results obtained for any test given by separate instructors. A test is considered valid if that test measures what it is supposed to measure.[2]

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[1]Charles H. McCloy, Tests and Measurements in Health and Physical Education (New York: Appleton-Century-Crofts, Inc., 1942), p. 5.

[2]Donald K. Mathews, Measurement in Physical Education (Philadelphia: W. B. Saunders Co., 1963), p. 19.

Clarke lists some six purposes of measurement and classification. Although Clarke's book was published ten years later than that book already mentioned by McCloy, there is much similarity between the two. This indicates a general agreement among leaders of the field of physical education concerning the value of measurement in such programs, regular or adaptive in nature. Following then are additional reasons why measurement is important in physical education programs.

1. To identify individuals with needs which may be improved through physical education. (Medical exams, strength and endurance tests). The more valid and precise the testing instruments, the more reliance can be placed on the results obtained.

2. To determine the results of developmental and adapted physical education. Periodic re-tests are essential to determine results of treatment. If progress is steady, fine; if not, steps should be taken to redirect application of methods used.

3. To provide assistance in the determination of the cause or causes of various atypical or sub-par conditions. Effective treatment depends upon locating causative conditions so that proper steps may be taken for their elimination or alleviation.

4. To orient convincingly individuals assigned to adapted physical education. The effectiveness of such programs is dependent upon each individual's acceptance of and whole hearted participation in the activities prescribed. Objective evidence based on the results of valid exams and tests serves as convincing proof of individual status and need.

5. To motivate individual students. The individual student must be motivated to co-operate fully in the exercise and other prescriptions made especially for him.

6. To determine final disposition of the individual. The decision can be made as to when an individual should be transfered to other activities.

The reasons given by McCloy and Clarke for the use, measurement,

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[1]Clarke and Clarke, op. cit., p. 38.

and classification in adapted and regular physical education programs will serve as a basis for the selection of certain tests in this paper. The tests used will be a means of classifying students as to their abilities and needs.

Many of the tests used by physical education instructors are constructed to divide classes into homogeneous groups. There are two general methods of classifying students for participation in physical education. One method used is that of grouping children according to age, height, and weight. The second method is to group them on the basis of tests scores taken from motor ability and strength tests. The former method is probably the easier to administer. McCloy's Classification Index, using height, weight, and age of the student does not, however, give any indication as to the overall strength of the individual.[1]

The Oregon Simplification tests of physical strength devised by H. Harrison Clarke provide an effort to secure more strength testing in the public schools. The simplified version of the physical fitness test does not require as many pieces of testing apparatus as does the complete Physical Fitness Index test. The back and leg dynamometer are still necessary. The simplified version of the Physical Fitness Index test can be given more rapidly and with fewer testers being used. Experience on the part of the physical educator in administering tests is still desirable especially in connection with the dynamometer.[2]

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[1]Mathews, op. cit., p. 128.

[2]H. Harrison Clarke, "Oregon Simplification of Strength and Physical Fitness Indices," Research Quarterly, XXX (March, 1959), p. 3.

The Strength Index battery of tests consists of four strength tests (right and left grip, back and leg lift), two muscular endurance tests (pull-ups and push-ups), and lung capacity. The Strength Index is derived as the gross score obtained from the sum of the seven tests. The Physical Fitness Index is obtained by dividing the Strength Index by a norm for the individual's sex, age, and weight and multiplying by one hundred.[1] Established norms are usually applied when determining the Physical Fitness Index. Sometimes it is convenient to establish norms applicable to the immediate situation. This type of classification enables the individual instructor to set up the program and adapt the activities so as to meet the needs of the student in terms of increasing strength.

Posture evaluation in the average high school will be left almost completely to the physical educator. School nurses and physicians, however, are usually willing to lend assistance in detecting postural deviations. Intricate devices are used at times to diagnose the abnormalities that exist in students. Cureton recognized the need for a reliable method or device to study the spinal curvature. After much experimentation Cureton devised the Cureton-Gunby conformateur.[2] This device is a combination of the conformateur, spinograph, stradiograph, and stradiometer. Photographs are sometimes used to determine the spinal curvature as in the Wickens and Kiphuth posture test.[3]

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[1] Ibid.

[2] Donald K. Mathews and Robert D. Kruse, The Science of Physical Education for Handicapped Children (New York: Harper and Row, 1962), p. 160.

[3] Ibid., p. 175.

The two tests mentioned here require a certain amount of equipment not usually found in many public schools.

A test which can be used in public schools to determine students in need of special attention concerning postural difficulties is a posture screening test. The Washington State College Screening Test is a good example of such a test.

> The posture screening test is used to select those students from the total group whose body status indicates a need for a more detailed examination. Subjective ratings are made by balance and alignment of the feet and legs in the standing position. In addition to the static balance, the efficiency of the gait is evaluated. Each subject is observed from the side, back, and front positions.[1]

With the help of physicians, charts are prepared to serve as a check list. In order to screen a large group of students at a single session, each student is assigned a certain number. The numbers can be placed on the floor with each student taking his place over the assigned number. A master card is then provided the recorders for the total group. Included on the card are the following categories:

1. Anteroposterior. Combinations of obvious deviations such as marked fatigue slump, shoulder overhand, and imbalance of the segments such as the head, shoulders, back, and legs are observed from the side view of the subject.

2. Lateral deviations. The subjects are observed with either face or back toward the examiner.
   a. Head tilt to one side.
   b. Shoulder height (one higher).
   c. Hip prominence (one side more prominent).
   d. Rib prominence (one side of rib cage more prominent).
   e. Leg alignment (knock-knee, bowleg, tibial torsion, or inward rotation of thighs).
   f. Feet (pronation, supination, short heel cord, hammertoes, hallux valgus).[2]

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[1] Ibid., p. 176.

[2] Ibid.

Included in Appendix I of this paper is a sample check list used by the Delaware State Public School System in a state-wide orthopedic screening test. In the 1962-63 school year the school system conducted the test in co-operation with the A. I. duPont Institute and the Delaware State Board of Health.[1]

Prior to the screening, clinics were set up throughout the state to brief physical educators and school nurses on the procedure to be used. The instructors at the clinics were orthopedic surgeons of the A. I. duPont Institute. There were 68,301 children screened in the schools of whom 3,800 children were judged to have some noticeable defect. These students were then re-screened by members of the State Board of Health, and 998 were then recommended for examination. The school nurse assumed the responsibility for contacting the parents of each child examined. Those needing medical attention became the responsibility of the family physician.

In the fall of 1963 clinics were set up by physical therapists of the Crippled Childrens Services to assist physical educators and school nurses with corrective exercise programs for the children. The exercises recommended to the physical education teachers were those found in Therapeutic Exercise by Daniels, Williams, and Worthington.[2]

This type of program used by the Delaware Department of Public Instruction is a prime example of the co-operation between physical education teachers and the medical profession. This type of co-operation

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[1]Samuel Cronis, "Orthopedic Screening of Children in Delaware Public Schools," Delaware Medical Journal, (April, 1965), pp. 89-95.

[2]Lucille Daniels, Marian Williams, and Catherine Worthington, Therapeutic Exercise (Philadelphia: W. B. Saunders Co., 1956).

between state agencies may not be possible in every state, but on a local scale it is imperative. The overall physical education program can be strengthened by this type of working agreement. The percentage of children affected by this type of program is small, but special attention to this small percentage is the basis of adaptive physical education.

The Illinois Association for the Crippled, Incorporated, has prepared a muscle test that is frequently used by physicians. A range of motion examination prepared by the association can be utilized in the school physical education program with the help of a physician. The simplicity with which these tests can be administered enable the physical education teacher to record the results and provide a program for the student. Included in Appendix II of this paper is the range of motion test provided by the association.

The types of handicaps usually encountered by physical education instructors may vary according to the institution. Surprisingly, rheumatic heart conditions make up one of the largest sections of handicapped students. A breakdown of the types of handicaps indicate that epilepsy, post-poliomyelitis, cerebral palsy, blindness, deafness, and certain orthopedic handicaps are prevalent in most schools.

A survey to determine the number and types of handicaps encountered in schools in east-central Illinois for the 1964-65 school year was taken by the writer. Fifty schools were contacted and responses were obtained from thirty-three schools. From schools responding there was a total of 10,991 male students enrolled in the various physical education classes. The total number of students enrolled per

school ranged from as low as fifty-three to a high of 950. The average size school reporting totaled 332 male students enrolled in the physical education classes. From all the schools reporting, a total of 289 handicapped students were in attendance or an average of eight students per school.

The breakdown of the various categories included in the survey and the total number under each classification was as follows:

Orthopedic Handicaps	83
Rheumatic Heart	77
Impaired Sight	47
Epilepsy	37
Post-poliomyelitis	24
Deafness	16
Cerebral Palsy	5
Total	289

A similar survey was conducted in Nassau County Public Schools, New York, in 1955.[1] The complete results can be reviewed in Appendix III of the paper. A similarity between these two surveys can be seen as to the types of handicaps encountered. This should give the physical educator some idea concerning the nature of the program to be set up in an adapted physical education program.

The selection of testing and evaluation procedures used in the adapted program should be given considerable attention. Without the use of valid tests to determine the degree of certain handicaps, the program tends to be ineffective. Many schools are not equipped with up-to-date equipment. If all schools were fortunate enough to be so equipped, the problem of testing would be minimal. It is up to the physical educator to select practical and valid measurement devices.

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[1]Ruggian, op.cit., p. 15.

CHAPTER IV

PROGRAM OF ACTIVITIES

After a student has been examined, classified, and placed in a class, and before organizing the activity program, there are several important duties to perform. The duties range from writing letters to the parents informing them of their child's placement to keeping accurate records of the day by day and week by week performance of the student. Both of these duties are important if the program is to be a success.

It is highly possible that during the strength test, posture test, or the examination by the school physician, a condition might be discovered of which the parents are unaware. Therefore, the parents may not know that the child is performing at a disadvantage. If the parents are not aware of their child's weakness or defect, the service of informing them is a sound policy and good public relations. The letter should provide the parents with information concerning the program of activities to be included. In addition, the letter should contain an invitation to attend conference periods with the physical educator, the school nurse, and the student. Conferences such as these, where all members are concerned with the well being of the student, serve as a valuable tool in the administration of the program. A copy of a letter which may be used can be found in Appendix IV.

Counseling the student, as well as the parents, is a very

important aspect of the program. Early conference periods with the student may be utilized to encourage the student to try the activity provided with extended effort.[1] Once the student is actively engaged in the program, he may still need encouragement not only in terms of participation, but also in the knowledge of when to slow down to avoid aggravating certain conditions.

Prior to counseling periods the progress report of the student should be examined. Formulation of new activities can be discussed at the counseling session if the program prescribed is not providing the desired results. Evaluation of the program by the parents, medical personnel, and others involved should be another important outcome of the conference.

The program itself should be divided into two sections. One phase of the program will usually include activities and games adapted to the handicap of the individual. The games and activities need to be selected with regard for the developmental age of the student involved. The exercise phase of the program does not depend on the developmental age of the individual as the desired results are the same throughout.[2]

In the elementary grades, to the extent that the disability will permit, certain goals may be established. Each pupil should progress as far as possible toward the achievement of such goals. Suggested goals for the elementary school pupils are as follows:

1. Walking correctly, effectively, and with as much ease as possible.

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[1]Daniels, op. cit., p. 150.

[2]Clarke and Clarke, op. cit., p. 54.

2. Running correctly with emphasis on bodily control at all times.

3. Skipping, hopping, and jumping with emphasis on balance, rhythm, and general body control.

4. Catching, throwing, rolling, or stopping large balls.

5. Doing simple stunts and self testing activities.

6. Ability to play successfully at mimetic and guessing games.

7. Ability to perform simple rhythms and to know the words and music of nursery games.

8. Understanding of fundamental body mechanics and the ability to sit, stand, and walk in a proper manner within whatever limitations are caused by the disability.

9. Ability to play simple athletic games of low organization of the basketball, soccer, and volleyball types.

10. Ability to play individual and dual games such as box hockey, ten pins, or paddle tennis.

11. Ability to catch, throw, bat, and kick balls with accuracy.

12. Ability to perform simple tumbling stunts.

13. To understand the rules of games played and to exhibit a willingness to abide by the rules and to play fairly.

14. When aquatic facilities are available, develop at-homeness in the water, floating skills, one basic stroke and one resting stroke.

15. Ability to help plan and to carry out a social event, as well as to understand social amenities in relationship with others.

16. Acquire an understanding appropriate to the level of development of the mature of the disability involved, and show signs of utilizing acceptable adjustment devices.[1]

For the junior high school student, the class may follow the pattern of the general physical education program. The necessary modifications need to be taken to fit the pupil's limitations. Here are

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[1]Daniels, op. cit., p. 150.

included the various activities which can be successfully adapted:

Aquatics-
The activities adopted for use here can be of developmental and recreational value. An entire section will be devoted for usage in exercise for postural deviations.

Dancing-
A student regardless of the disability should be able to engage in social or square dancing.

Team Sports-
The overall goal here will be to play the team game with necessary modifications added to insure a satisfying and enjoyable experience.

Games and Relays-
A student's disability frequently places him as far as two years behind the general group in the physical development and game skills.

Individual and Dual Sports-
Games and sports such as horse shoes, badminton, and paddle tennis lend themselves to the accomplishment of the individual. In these types of activities they are dependent only on their own efforts for satisfaction.

Gymnastics and Tumbling-
These activities also have a high developmental and recreational value for the handicapped student. The safety factor involved here should be of the utmost concern to the physical educator.

Body Mechanics-
Instruction in proper body mechanics is a very important aspect of the adapted program. Proper methods of instructions and types of exercises used will be discussed later in this chapter.

Recreational Activities-
The purpose of these activities is to include the individual as a part of a group as much as possible. Activities to fulfill this might include outings, picnics, supervised free play and others to broaden his recreational experiences.[1]

The program for the senior high school student is very similar to that of the junior high school student. The main difference is

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[1]Ibid., p. 155.

that in junior high school, stress is placed on beginning skills, and in the senior high school, emphasis is on more advanced skills. If the physically handicapped pupil has progressed according to his limitations through the junior high school activity program, little difficulty should be encountered in the high school program. A degree of satisfaction should arise from the student's participation in the program. Enough satisfaction should arise to motivate participation after school is completed. Essentially, the program of activities provided for the handicapped student from elementary school through senior high school should remain within the following four guide lines:

1. The activity should never aggravate an existing injury. The medical adviser is indispensible in aiding the physical educator in determining just what activities are safe for the particular student.

2. Activities should be appropriate to the age level of the child. It is extremely important to make sure that the chosen activities are geared to the age level of the pupil.

3. The child should be able to find success in the activity in which he participates. Nothing is more frustrating than continual failure in any area of endeavor.

4. It is wise to select activities which have lasting recreational value. Particularly with the older child, it is not wise to "make up" something to do. If, on the other hand, he is learning activities such as golf and swimming, activities he knows he will enjoy in later life, they tend to be of more value.[1]

Orthopedic Handicaps

According to the survey taken by the writer, the handicaps most likely to be encountered are those classified as orthopedic. Most orthopedic handicaps or crippling conditions are usually classified as follows:

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[1]Mathews and Kruse, op. cit., p. 48.

1. Crippling due to infection. This catagory includes joint tuberculosis, poliomyelitis, and osteomyelitis.

2. Cerebral palsy, including athetosis, ataxia, rigidity, spasticity, tremor, and variations of these manifestations of brain damage.

3. Crippling resulting from birth injury. This catagory includes Erb's palsy, bone fractures, and similar disorders.

4. Cardiovascular conditions of both congenital and acquired origins.

5. Congenital anomalies such as congenital amputation, congenital dislocation, clubfoot, torticollis, and spina bifida.

6. Traumatic crippling. This catagory includes amputation, fractures, and dislocation.

7. Tumors. This catagory includes bone tumors, bone cysts, and similar conditions.

8. Developmental conditions, including coxa plana, spinal osteochondritis, and Osgood-Schlatter disease.

9. Other conditions. This catagory includes diseases such as muscular sclerosis and muscular dystrophy.[1]

Most of the students, crippled by the diseases mentioned here, will benefit mostly by a program designed around team sports. To be effective, the games and sports offered these students should have some carry-over value. The majority of the cases encountered will not be corrected by strictly an exercise program.

Rheumatic Heart Conditions

Rheumatic heart conditions are one of the most prevalent handicaps to be found in physical education programs. In 1951 it was estimated that over one million children in the United States had a history of rheumatic fever with about twenty-thousand new cases each

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[1]Ibid.

year.[1]

Approximately 98% of all heart disease in patients under twenty years of age is caused by rheumatic fever.[2] From the thirty-three schools reporting in a survey taken by the writer, rheumatic heart conditions ranked second in number only to those classified as orthopedic handicaps.

When setting up the program of activities for rheumatic heart cases, it is important that the teacher submit a list of activities to be offered to the school medical doctor. In turn those activities suitable for the student in question should be checked by the physician. As indicated before, the activities submitted for approval should be appropriate to the age level of the child. In terms of activity permitted, the student should be classified under the following headings: greatly restricted, moderately restricted, or ordinary activity permitted. Activities that the individual student can successfully participate under those headings are as follows:

1. Greatly restricted - checkers, domimoes, jacks, billards, croquet, clock golf, quoits, dart games, and shuffleboard.

2. Moderately restricted - bowling, archery, bait casting and fly casting, shuffleboard, table tennis, pitch and put golf, selected rhythms of slow tempo and mild movement, and selected camping skills.

3. Ordinary activities - bowling, archery, bait and fly casting, recreational swimming, golf, camping skills, badminton doubles, horseshoes, volleyball, softball, tennis doubles, social and folk dancing, boating and canoeing, and skating.[3]

Many schools today tend to give rheumatic heart patients a

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[1]"Heart-Mend House," Newsweek, (April 16, 1951), p. 59.

[2]Mathews and Kruse, op. cit., p. 269.

[3]Fait, op. cit., p. 173.

permanent excuse from the regular physical education classes. Although not a satisfactory one, if there are no provisions for an adapted program, an excuse may be the answer. It is up to the physical educator to provide activities adapted to the limitations and capabilities of the student.

The physical activities selected for the rheumatic heart cases should be taught with two purposes in mind. The first is to present correct skill pertinent to the activity, and the second is to impress upon the student a need to realize his own personal restrictions of play.[1]

The first purpose mentioned is, of course, basic to the principles of physical education. Without learning the proper skills involved, satisfaction in participation is unlikely to occur. The second point mentioned is difficult to achieve especially in the elementary and junior high school program. The students at that level are possessed with an abundant amount of energy. Knowing what personal restrictions are necessary does not always mean that the student will stay within those limits. Close supervision on the part of the physical education instructor is very important.

Poor Body Mechanics

It is a misconception of many physical educators that all postural deviations can be remedied by corrective exercises. According to Irwin,[2] the appeal had been so great with respect to correcting the

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[1]Clarke and Clarke, op. cit., p. 303.

[2]Leslie W. Irwin, The Curriculum in Health and Physical Education (Dubuque, Iowa: Wm. C. Brown Co., 1960), p. 334.

posture of school children that it has been over emphasized. Certain leaders within the field of correctives believe that all students need correction in posture by the use of exercises designed for that purpose. It is not enough to say that since Johnny has such poor posture, he should be placed in a special exercise program. Simply because students exhibit poor posture habits, exercise is not always the only answer.

In the preceding chapter two methods were shown as to the techniques used in recognizing poor posture. After students have been classified in terms of good, fair, or poor posture, other steps need to be taken. Recognition of the deviation as to the type of defect, whether structural or functional, is the first step. A structural defect refers to the student who is crippled as a result of an orthopedic disturbance. A student classified as having a structural posture problem should be referred to a physician. Under the guidance of a trained person, special exercise programs can be planned. Exercise programs such as these are usually conducted outside of the school itself. However, the majority of schools in the United States do not have sufficient personnel trained in corrective phases of the program to conduct such classes.[1] Any physical education teacher without proper training who initiates a special exercise program is placing himself in danger.

A functional disorder may be the result of many things. It is not always possible to recognize the specific cause of a functional problem as easily as a structural disorder. An examination of the

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[1] Ibid.

medical file card will usually indicate the presence of any orthopedic defect that could cause a structural deviation. Poor hygienic habits and emotional conflict are two leading causes for the functional disorders.[1] This type of causal situation does not always show up on the student's medical file card. Observation by the entire faculty over a long period of time may give some indication as to the cause of poor posture.

Poor hygienic habits can refer to dietary problems that exist. These problems are sometimes not the fault of the youngster himself. Inability for the family to provide the proper nourishment needed to sustain a healthy body is often the cause. This type of problem can be alleviated somewhat by encouraging students to participate in school lunch programs. Instruction in this phase of physical education should be included in the health section of the program. Also, instruction in the proper methods of sitting, standing, and walking is a valuable asset to the program.

Students suffering from underdeveloped muscles due to lack of vigorous activity make up a great percentage of postural cases. Joints tend to succumb to the pull of gravity if certain muscles do not possess a certain amount of tonus.[2] Exercises used to strengthen the muscles causing postural deviations are concerned with the foremost common postural faults as expressed by Toulon.[3] The four most common

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[1] Ibid., p. 335.

[2] Gene A. Logan and James G. Dunkelberg, Adaptations of Muscular Activity (Belmont, California: Wadsworth Publishing Co., 1964), p. 77.

[3] Roger Toulon, "Study of a Child's Equilibrium in a Normal Standing Position," Phi Kappa Epsilon, VII (October 1960), p. 36.

postural faults are as follows: 1) General tendency to lean forward, 2) Tendency to lean forward in the stomach and pelvic regions, 3) Tendency to lean forward in the pelvic regions and in the knees, 4) Leaning forward in the stomach causing a sway back.

The joints most frequently affected by weak muscular development are the ankle, knee, hip, and back. There are a number of muscles that must function properly at the various joints. These muscles are: at the ankle, the gastrocnemius and soleus; at the hip, the gluteus maximus; at the knee, the quadriceps. The erector spine group acts to extend the spine counteracted by the abdominal muscles.[1] Josephine Christaldi points out the particular areas and muscles that need to be strengthened. The areas mentioned correspond with those already cited previously. The regions that need concentrated attention are the posterior neck, the back and buttocks muscles that hold the neck and trunk erect, the abdominal muscles that support the vital organs, and the leg muscles that support the body weight.[2] Exercises and movements should be incorporated into activities to strengthen muscles that have some effect on posture.

Epilepsy

Contrary to earlier beliefs, persons suffering from epilepsy or epileptic seizures should be able to participate in physical education activities. For many years it was believed that strenuous physical activity brought about harmful seizures. In recent years new evidence has indicated the need for more vigorous activity for the epileptic.

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[1] Logan, op. cit., p. 74.

[2] Josephine Christaldi, "Guide Lines to Good Posture," Grade Teacher, XXCII (February, 1965), pp. 126-28.

The acid products produced by strenuous exercise are believed to be a contributing factor in control over epileptic seizures.[1] The development of the heart and vital capacity through exercise appears to have greatly improved some epileptics.

The major problem confronting the epileptic is that of maintaining consciousness during certain activities. Professional opinion varies as to the type of vigorous activity that should be provided. Activities performed on or around gymnastic equipment should be very closely supervised to protect the participant. The belief that all activity performed with gymnastic equipment needs to be eliminated is also expressed by leaders in the field of physical education.[2] To be more specific, activities on the high bar, trampoline, or other apparatus should not be offered. Any activity in which the participant's feet are not in contact with the floor should be discouraged. A loss of consciousness at any time on equipment such as these could result in serious injury.

Swimming is an activity that can provide sufficient physical exertion to satisfy the need of the student. Here again strict supervision should be the rule. No one should be permitted in a swimming pool alone, but this especially applies to the epileptic because of the possible loss of consciousness. Rules and regulations to prohibit such a consequence should be set up by the teacher in charge of aquatics. Competitive athletics, particulary the contact sports should be avoided. Football and boxing, which can result in a severe blow to the head and

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[1] Daniels, op. cit., p. 421.

[2] Logan, op. cit., p. 137.

sometimes result in a seizure, should be eliminated from the program of the epileptic student.[1]

Should a student suffer a grand mal seizure, the most prevalent and most violent type, during a physical education class, the action taken by the instructor is very important. The student may receive a warning before an attack occurs. This warning is called an aura. Typical symptoms of an aura are sensations of nausea, numbness, an odor, image, or lack of memory.[2] The physical education teacher should recognize such a warning and prepare the student for a seizure that might follow. The convulsions that usually accompany an epileptic seizure are not harmful to the student. The injuries incurred by the student are usually results of falling to the floor due to the loss of consciousness.

Mathews and Kruse describe the procedures that can be taken to insure the safety of the student during a seizure.

1. If there is an aura, or a warning signal, the student may be removed from the classroom to a place of safety and seclusion.

2. He should be lowered to the floor, away from all furniture and other objects that might prove dangerous.

3. Keep all bystanders away from him. Do not try to restrain him during the convulsive stage of the seizure, or try to revive him with stimulants such as throwing water on him or forcing liquids down his throat. There is no sense trying to rush the child to the hospital or doctor's office; once an attack has begun, nothing will stop it.

4. When the convulsive movements have ceased, the pupil should be left in a quiet place and allowed to regain consciousness naturally. He may or may not sleep heavily for a while after the seizure. When he so desires, he should be allowed to

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[1]Clarke and Clarke, op. cit., p. 278.

[2]Ibid., p. 274.

rejoin his class.[1]

The handicaps mentioned in this chapter are indicative of the types of handicaps most prevalent in the public schools. Activities, games, and exercises should not be given the handicapped student without some serious forethought. It is important to consider the individual's personality, his handicap, and his growth development. Certain types of games and activities are given here for each handicap mentioned in order to give the reader some indication of the necessary organization needed in selection of activities.

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[1]Mathews and Kruse, op. cit., p. 257.

CHAPTER V

SUMMARY

The atypical student as well as the normal student should have the opportunity to benefit from a physical education program. Physical and social values can be established through a sound adapted program.

To administer the adapted program for the physically handicapped student, the physical educator is a very important person. Although it is known that the teacher holding a Bachelor of Science degree in Physical Education is not qualified to prescribe certain exercises for handicapped children, he can employ other professional personnel to guide him, and thus strengthen the entire program.

A very important phase of the adapted physical education program is that of classification of students. Individuals placed in the correct section according to the physical handicap ensures success of the over-all physical education curriculum. Recent and up-to-date methods and techniques used in classifying students should be incorporated into the testing.

Survey results give the physical education teacher an indication of the incidence and type of handicaps to be encountered in the schools of east central Illinois. The individual handicaps most prevalent in the schools are: orthopedic in nature, rheumatic heart, or epilepsy.

The objectives for the activities selected for each handicap vary somewhat with the level of development of the student. It is important that the level of development of the child is considered when activity is prescribed.

Through a sound adapted physical education program and a sincere interest by the physical education instructor, the handicapped child can receive a worthwhile and beneficial experience in physical education.

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APPENDIX I

Orthopedic Screening
Referral Check List

PUPIL'S NAME SCHOOL

SCHOOL NURSE DATE OF REFERRAL

1. POSTURE
   a) Poor

2. SHOULDERS
   a) Drooped and unable to correct voluntarily_____
   b) Shoulder blades prominently protruding and cannot be actively corrected_____
   c) One shoulder markedly higher than the other_____

3. SPINE
   a) Lateral Curvature:
   Mild_____Moderate_____Severe_____
   b) Posterior Curvature (Kyphosis)
   Upper_____Lower_____
   c) Anterior Curvature in Lower Spine
   (Lordosis) : Moderate_____Severe_____

4. ABDOMEN
   a) Markedly protruding_____

5. LOWER EXTREMITIES
   a) One short_____
   b) One smaller_____
   c) Knock knees: Moderate_____Severe_____
   d) Bow legs: Moderate_____Severe_____

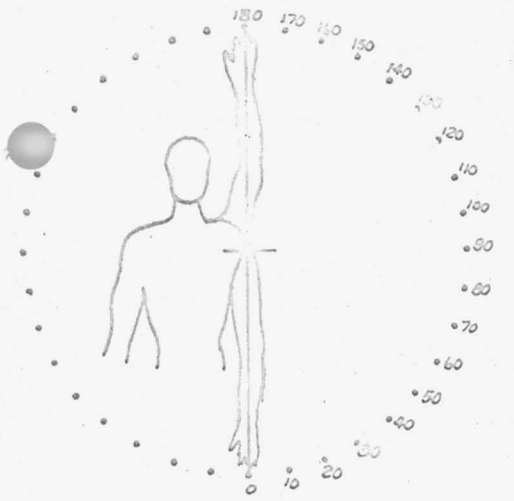
6. FEET
   a) Long arches markedly flat_____
   b) Tight heel cord_____
   c) Bunion_____
   d) Hammer toe_____

7. WALKS WITH
   a) Limp_____
   b) Waddle_____
   c) Feet: turned in _____ out_____

8. MUSCULATURE
   a) Generalized weakness_____
   b) Apparent weakness in one extremity_____

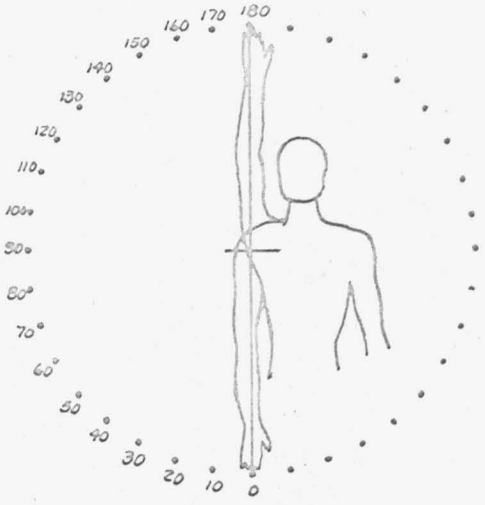
APPENDIX II

SHOULDER
Abduction and Adduction



LIMITATIONS

	L		R	
	Abd.	Add.	Abd.	Add.
1				
2				
3				
4				



SHOULDER
Internal and External Rotation
(shoulder abducted 90°, elbow flexed 90°)

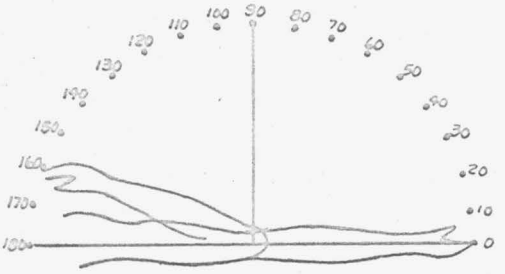
INT. EXT.

LIMITATIONS

	L		R	
	Int.	Ext.	Int.	Ext.
1				
2				
3				
4				

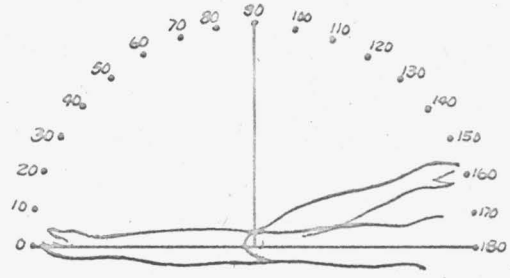
EXT. INT.

ELBOW
Flexion and Extension



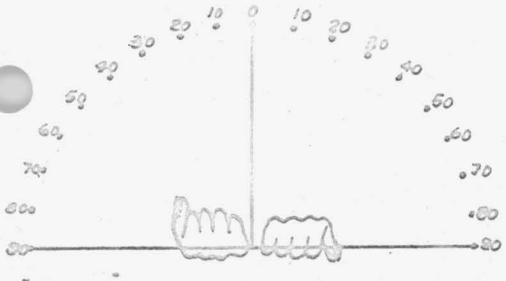
LIMITATIONS

	L		R	
	Flex.	Ext.	Flex.	Ext.
1				
2				
3				
4				



FOREARM
Supination and Pronation
(elbow flexed 90°)

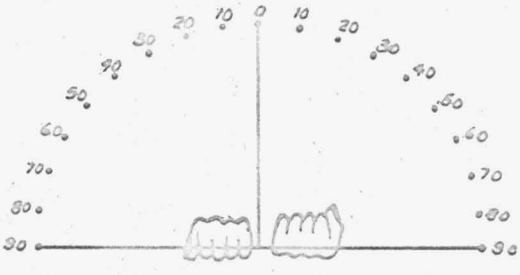
SUP. PRON.



LIMITATIONS

	L		R	
	Sup.	Pron.	Sup.	Pron.
1				
2				
3				
4				

PRON. SUP.



APPENDIX III

TYPES OF PHYSICAL HANDICAPS ENROLLED IN ILLINOIS PUBLIC SCHOOLS

Name of School_____

Enrollment (boys)_____

What is your school policy concerning handicapped students?

Placed in a special physical education class_____
Placed in a regular physical education class_____
Excused from participating _____
If the student is excused from participating in any type of physical education class, who makes the decision?

Please check appropriate space.

Family _____
Family and physician _____
School and family physician _____
School alone _____

Please indicate number of handicapped individuals according to classifications listed below.

Post-poliomyelitis ____
Cerebral Palsy ____
Epilepsy ____
Rheumatic Heart ____
Blindness and impaired sight ____
Deafness ____
Other orthopedic handicaps ____

Physical Education Staff: What degree do they hold? Please check appropriate space. Indicate number of physical education staff holding such degrees.

B. S. degree in Education (Physical Education) ____
M. S. degree in Education (Physical Education) ____
M. S. degree in Education plus additional training in adaptive physical education ____
M. S. degree in Adapted Physical Education ____
Degree in Physical Therapy ____

TABLE I

SURVEY TAKEN OF HIGH SCHOOL PHYSICAL EDUCATION PROGRAMS IN EAST CENTRAL ILLINOIS

School	Enrollment (Boys)	Staff BS	Staff MS	Staff ADV	Post-polio	Cerebral Palsy	Epilepsy	Rheumatic Heart	Blindness	Deafness	Orthopedic	TOTAL
Arcola	144	2			1						1	2
Arthur Jr. High.	55	1			1		1					2
Atwood-Hammond	180	3						1			3	4
Bement	115	1	1					2			5	7
Blommington	669	2	4		1	2	1	4	2		4	14
Blue Mound	58	1						1			1	2
Brocton	53	1										0
Centiennial Jr.	250	2			1		1	2			1	5
Central Jr.	275	2										0
Cerro Gordo	120	1	1									0
Champaign	950	2	10	2			10	5			2	17
Charleston	465	2		2	1							1
Clinton Jr.	135	1			1			2				3
Eisenhower	832	7	6		1			2			8	11
Fisher	95	2										0
Franklin Jr.	353	4			3		1	3		5		12
Jefferson Jr.	347	2	1		1			5			6	12
Jefferson Jr.	430	1		1				2	1		4	7
Lakeview	561	5	1	1		1	11	7			6	25
LeRoy	185	2			1						1	2
Mahomet-Seymour	140	2	1								3	3
Mattoon	600	1	3	1								0
Mayo	190	1			2			2			2	6
Farmer City	90	3						2			2	4
Monticello	229	3			2			2			5	9
Mt. Zion	235	2					1	4			3	8
Normal Community	415	1		2	1		1	2			3	7
Paris	450	1	1			1				1	1	3
Roosevelt Jr.	340	1	1		2			5			2	9
Stephen Decatur	950	4	4	2			6	12	42	9	15	84
Tri-Valley	70	2										0
Urbana	600	4	7	2	1		1	2		1	2	7
Woodrow Wilson	370	2			4	1	3	10	2		3	23
TOTAL	10951	71	41	13	24	5	37	77	47	16	83	289

RESULTS OF SURVEY TAKEN IN NASSAU COUNTY SCHOOLS, NEW YORK[1]

Schools Involved	42
Types of Handicaps	
Post-poliomyelitis	69
Cerebral Palsy	15
Epilepsy	29
Rheumatic Heart	159
Blindness	94
Deafness	115
Orthopedic Handicaps	142
Total	623

[1]Ruggian, op. cit., p. 15.

APPENDIX IV

DEPARTMENT OF PHYSICAL EDUCATION FOR BOYS[1]

Dear Parent:

We have received a restricted card from the school physician which indicates that your son is to be limited in the amount and kind of physical education activity in which he may engage.

If there are any problems or questions concerning the activities provided, the physical education instructor in charge of the adapted program will be happy to set up a conference period.

We sincerely hope that the program provided for your son will be enjoyable and physically beneficial.

Sincerely,

Instructor, Boys' Health
and Physical Education

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[1]Agnes M. Hooley, "We Can Serve the Student with Disabilities," Journal of Health, Physical Education, and Recreation, XXX (March,1959), 46.