METHODS USED TO CLASSIFY MEN STUDENTS ENROLLED
IN THE PHYSICAL EDUCATION REQUIRED
PROGRAM AT SELECTED COLLEGES
AND UNIVERSITIES IN
TEXAS

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METHODS USED TO CLASSIFY AEN STUDENTS ENROLLED IN THE PHYSICAL EDUCATION REQUIRED PROGRAM AT SELECTED COLLEGES AND UNIVERSITIES IN TEXAS

THESIS

Presented to the Graduate Council of the North Texas State College in Partial Fulfillment of the Requirements

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By

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CHAPTER I

INTRODUCTION

Classification of students, in terms of ability or homogeneous grouping, has been a major concern in physical education since the profession has recognized the need to equate the physical differences that exist among students. Clarke (2) points out the values of ability grouping in physical education.

1. Pedagogical advantages.--The majority of educators agree that class instruction is more efficient when the abilities of groups are equated. In heterogeneous grouping, instruction is usually geared to the ability of the average student, which leaves the poor student behind and shackles the better than average student. Homogeneous grouping allows a more desirable teaching situation in terms of materials being presented more effectively. An instructor can better meet the particular needs of students if the group has been previously equated.

2. Desirable attitudes toward physical education.--In keeping with the general objectives of physical education, physical educators are desirous of obtaining sincere, lasting interest toward physical activities, which comprise the program of physical education, so that the individual might
participate in these during leisure time and after the termination of formal schooling. The development of favorable attitudes is essentially contingent upon the individual's obtaining satisfaction from participating in the activities themselves. In ability grouping of students, there is a greater opportunity afforded for individual success.

3. **Social development.**—In equating the abilities of students, a more conducive atmosphere is created in which the learning situation may take place. To be socially accepted within a group is a major desire of all individuals. Ability grouping places an individual in a group where social acceptability could be more easily attained by all members of that group.

4. **Safeguarding the welfare of the individual.**—The range of physical abilities among students creates another factor to be considered in the discussion of classification. A real physical hazard is created for the smaller and weaker students when competing with those who are more mature and superior in physical abilities. By equating the physical differences that exist, the welfare of students will be safeguarded against injuries that might occur as a result of this range in physical abilities.

Physical education is concerned with classification as a method, as an aid to improving the learning situation so that the goals of physical education, and in turn education, are more efficiently and effectively realized.
Statement of the Study

This is an evaluative study of methods used to classify men students enrolled in the physical education required program at selected colleges and universities in Texas.

Definition of Terms

The term "required program" is the curriculum offered by the departments of health, physical education, and recreation for the fulfillment of requirements in physical education made by the institutions of all candidates for the bachelor's degree.

Purpose of the Study

1. To determine methods currently used by institutions surveyed by the study to classify men students enrolled in physical education required programs.

2. To evaluate methods in use by institutions surveyed by the study to classify men students enrolled in physical education required programs.

Limitations of the Study

This study is limited to an evaluation of methods for classifying men students enrolled in the physical education required program at selected colleges and universities in Texas.
Sources of Data

Both documentary and human sources of data will be utilized. The human sources of data will be the representatives of the department of health, physical education, and recreation of the selected colleges and universities of the study. Documentary sources of data will be official publications of the selected colleges and universities and books and articles dealing with the subject of classification.

Previous Studies

The following are previous studies that relate to the present problem: Roberts (4) completed a study to determine some educational factors associated with the growth and development of physical education in senior colleges in Texas. Hill (3) made a survey of the required physical education program for women in senior colleges of Texas. Bearden (1) completed an evaluative study of the physical education program of Arlington State College with recommendations for future development.

Procedures in the Development of the Study

The following procedures will be used in the development of the study:

1. Read, analyze, and study critically all research literature and previous studies pertaining to the area of classification in physical education required programs.
2. Select the instrument for the collection of data for the study.

3. Construct the instrument to be used for collecting data.

4. Determine the effectiveness of the test instrument.

5. Choose the subjects that will be the source of data for the study.

6. Submit the instrument to collect data for the study.

7. Classify, treat statistically, interpret, and present the data.

8. Summarize the study and the findings.

9. Evaluate the data submitted and draw conclusions from them.

10. Make recommendations for improving methods of classifying men students enrolled in the physical education required programs at selected colleges and universities in Texas including suggestions for future study.
CHAPTER BIBLIOGRAPHY


CHAPTER II

CLASSIFICATION IN EDUCATION AND PHYSICAL EDUCATION

Classification in Education

The term "classification" in education connotes the method of dividing heterogeneous student groups into homogeneous groups for instructional purposes. Establishing separate classes for the elementary, intermediate, and advanced groups, and further dividing or subclassifying the intermediate or so-called normal group into several more homogeneous groups are examples of this type of grouping.

Ability grouping or classification in education has always been a controversial subject among educators. Tiegs (41), in an early reference, points out that mostly arguments substantiate the points in favor and against ability grouping; he points out that very little evidence supports either side in this controversy, and that early studies made on this controversial topic are subject to error and naiveness.

Arguments supporting ability grouping center about the idea that pupils in a more nearly homogeneous group will learn more, or faster, than students in a heterogeneous one. Those that do not advocate homogeneous grouping point out that such grouping will create undesirable social and personality traits.

The biggest criticism of early attempts with homogeneity stems from intelligence tests as the sole factor considered
in the grouping of students, and this was the determinant for placing students, homogeneously, into all phases of the curriculum. It is pointed out that this type of "across-the-board" grouping is not desirable. The specific objectives of a course of instruction should determine the factors by which students are classified, and where level of intelligence was not the primary factor in that phase of the curriculum, homogeneous grouping hindered instruction. Tiegs (41) also points out the early works of Miller and Otta, Rock, Clark, Nettles, Kefauver, Purdom, Keliher, Breed, Bouvain, and others in ability grouping and classification.

Conant (8), one of this country's foremost educators, recently completed a study of the American secondary school; the principles involved, concerning ability grouping, would warrant presentation of his recommendations at this point.

Conant states:

In the required subjects and those elected by students with a wide range of ability, the students should be grouped according to ability, subject by subject. For example, in English, American history, ninth-grade algebra, biology, and physical science, there should be at least three types of classes—one for the more able in the subject, another for the large group whose ability is about average, and another for the very slow readers who should be handled by special teachers. The middle group might be divided into two or three sections according to the students' abilities in the subject in question. This type of grouping is not to be confused with across-the-board grouping according to which a given student is placed in a particular section in all courses. Under the scheme here recommended, for example, a student may be in the top section in English but the middle section in history or ninth-grade algebra (p. 49).
Classification in Physical Education

Although most physical educators agree that for instructional purposes the pupils should be grouped homogeneously rather than heterogeneously, very little research has been done to determine whether pupils would learn more, or faster, as members of homogeneous groups than as members of heterogeneous groups. This will not be expounded at this time but brought out in the recommendations in chapter four.

Williams (43, p. 303) points out that "physical education should classify pupils to provide for individual needs, to insure fair competition, to improve instruction, to care for like interests and abilities, and to secure program continuity."

Oberteuffer (33, p. 398) explains, "Modern physical education attempts to classify its students in order to approximate homogeneity in its groupings."

Bovard, Cozens, and Hagman (3, p. 114) further expound on homogeneous grouping, "For a considerably longer period than thirty years, the profession has recognized the desirability of equalizing, in so far as practicable, the physical differences which exist among individuals of the same age group."

Sharman (38, p. 236) states, "If pupils are placed in homogeneous groups for participation in physical education it is easier to administer the classes in such a way that each child will take part in activities suited to his needs and abilities."
Irwin (18, p. 296) comments on classification of pupils in health and physical education, "Classification of pupils should be given primary consideration in the health and physical education program as it is basic to securing successful and desirable results."

Larson (22, p. 30) also points out, "Classification is based upon the general principle that the more homogeneous the classification, the more closely related are the abilities, and, therefore, the more easily adaptable are the educational materials."

Mathews (25, p. 117) also comments on classification in physical education, "It stands to reason that if the physical education program is made up mostly of skill activities it is logical to place pupils of nearly the same general athletic ability together. As we know, this type of classification is referred to as homogeneous grouping. . . ."

Brownell and Magnus (6, pp. 234-235) have this to say about classification in physical education, "When groups are organized upon an existing or readily developed focus, learning is facilitated. . . . Thus, in teaching game skills, the grouping of students on the basis of age, experience, and/or present level of skill may be desirable."

McCloy (29, p. 403) states, "Valid methods of classifying pupils for participation in a program of physical education are based on such factors as size, maturity, strength, speed, ability to learn physical skills, and motor achievement."
Scott (37, p. 192) points out that "... in physical education classwork, where there is a wide divergence in size, ability, experience, or physical ruggedness, some method of classifying students for purposes of sectioning is indicated if the maximum learning is to take place."

It is evident from the foregoing statements that the consensus among physical educators supports homogeneous grouping for instructional purposes. It was intimated by the preceding references that in physical education, where there is a wide range of physical differences existing among students, some method of equating these physical differences should be utilized. It was also intimated that the nature of physical education activities, where individuals compete against one another in physical skills, indicates that there exists the possibility of the learning process being hampered if the students are unevenly matched in terms of physical attributes. It is felt by most physical educators that ability grouping is a necessary part of instruction in the required program.

**Purpose of Classification in Physical Education**

To reiterate the viewpoints of Clarke (7) as presented in Chapter 1, he pointed out the values of classification in physical education to be pedagogical advantages, desirable attitudes toward physical education, social development, and safeguarding the welfare of the individual. Nash (31) states that purposes of the classification of pupils for physical education
are safety, equalization of ability, and universal participation. Mathews (25, p. 117) expounds on these points further by offering two major reasons for classification into homogeneous groups, "... it permits a more desirable teaching situation from the standpoint of presenting the materials efficiently; and, a more conducive social atmosphere is created in which the instruction may take place."

Logically it can be seen that if pupils are placed in homogeneous groups for physical education it would aid instruction in terms of administering the classes in such a way that each student will participate in activities that are suited to his particular needs and abilities.

Mathews (25) considers the value of placing pupils of like ability in the same group in terms of teaching efficiency.

Were you to conduct a single tennis class made up of beginners, intermediates, and advanced players, one lesson plan could not possibly satisfy the situation. For example, you wouldn't spend a great deal of time on basic fundamentals with the advanced players, nor would you begin discussing theory and strategy of play with the novice group. Instead, the lesson would be planned with reference to the strengths and weaknesses of the individuals. Thus, if you were teaching all advanced or all beginners (homogeneous groups), your instructional program would be greatly facilitated (pp. 117-118).

In consideration of desirable attitudes toward physical education, Clarke (7) explains that

In equating the abilities of students, opportunity for individual success is increased. Under such conditions pupils compete with equals and thus have the satisfaction of extending themselves and their opponents and of winning a fair share of contests. The interest of all participants is therefore largely assured, neither contestant (or team) winning easily or losing badly (p. 223).
In considering social development Clarke (7) points out,

When competing individuals or teams are evenly matched, players are more active, co-operation is essential, and initiative and courage are necessary requisites to playing the game successfully. In fact, all of the physical, mental, emotional, and social qualities of the individual are at a premium when playing hard-fought, closely contested matches (p. 224).

Mathews (25) further elaborates on ability grouping as related to social development,

Unconsciously the physical educator may create an undesirable social atmosphere in the classroom, causing a number of the pupils to dislike the program. For instance, if you were exceptionally good in a sport you wouldn't enjoy playing with a dub, and by the same token the novice wouldn't enjoy participating with you (p. 118).

To substantiate this statement Mathews (25) explains:

Lockhart and Mott, in surveying physical education classes which had been equated on motor ability, found that 98 per cent of the girls placed in the highly skilled group favored such classification and 89 per cent of the girls placed in the less skilled groups were in favor of such grouping (p. 118).

Sharman (38), in considering safety of the students as related to ability grouping, explains,

If pupils are placed in homogeneous groups for participation in physical education it is easier to administer the classes in such a way that each child will take part in activities suited to his needs and abilities. This will obviate the danger of children being injured by taking part in events that are too strenuous for them (p. 236).

In considering the idea of equalization of ability, and universal participation, Sharman (38, p. 236) explains, "Classification also serves the purpose of equalizing ability within
relatively narrow ranges. . . . The classification of pupils enables each child to participate and compete with others whose abilities are approximately equal to his."

**Classification Plan in the Physical Education Required Program for College Men**

Oberteuffer (33) pointed out that modern physical education, in the required or instructional program, attempts to classify its students so that they will possess a high degree of homogeneity; this is accomplished by a series of screens or tests.

**Medical examination.**—In the classification plan chart (Figure 1), it is seen that the first screening device is the medical examination. It is valuable in that it is the physician's approval for the student to participate in the regular program of instruction. It tells which students are able to participate in the normal or regular program of activities and which ones should be channeled into the program of adapted activities. This means students with orthopedic deficiencies, cardiac impairment, respiratory infections, recurrent diseases, or other physical handicaps, whose health would be jeopardized by participating in the regular vigorous program of instruction, are placed into a modified program to meet their specific needs.

In the adaptive program the student undergoes proper supervision from the physician who prescribes remedial activities and the physical educator who administers the program
under the supervision of the physician. Actually the students who are channeled away from the regular instructional program should be given another screen consisting of a follow-up examination and then a personal conference between physical educator, physician, parent, and student. As a result of this conference specific remedial effects can be initiated.

Oberteuffer (33) points out that the adapted program group will comprise 2-15 per cent of secondary school and college programs.

Physical education tests.--The next screening device is the physical education test, to be discussed in some detail in the latter part of this chapter. Following the medical examination the physical education test is administered.

![Flowchart Diagram]

**Fig. 1**--A chart showing the plan of classification in the physical education required program for college men.
According to Mathews (25) and Oberteuffer (33) the screening tests should separate the students in the regular program of instruction, i.e., as differentiated from the adapted program, into at least three classifications. The classifications are based upon general traits which the students have in common, which can be measured, and which upon being determined may be used to further section the group.

The first group, the elementary group, will approximate 20 per cent of the students according to Mathews (25). This group will require specific activities to meet the particular needs of the students in this group. Some of the major causes of these sub-norm students are poor neuromuscular coordination, obesity, minor orthopedic defects, nutritional defects, general physical weakness, and emotional disorders. These defects, even though apparent at the time of the medical examination, did not warrant the students' being placed in the adapted program. This placement of students to the regular or adapted program rests entirely with the physician and his interpretation of the medical examination.

The second group, the intermediate group, approximates 60-70 per cent of the students in the regular instructional program according to Mathews (25). The particular needs of this group can be met, in most cases, by the regular program of activities. This group can be further equated by specific tests on a particular activity to be presented to determine the skill level so that the students will be matched according to their ability in that particular activity.
The third group, the advanced group, comprises the remaining percentage of the students in the regular instructional program. The needs of these students are quite different than those of the elementary group. The students in this group are characterized by a high level of physical ability. These pupils can be given a program of elected activities to meet their particular needs.

To summarize, physical educators recognize that physical differences do exist among students; these differences are equated by a series of screens and/or tests. The first screen is the medical examination which determines what students are able to participate in the regular program of activities and which ones should be channeled into the program of adapted activities. After the medical examination two groups remain in the place of one: a large group of those qualified to participate in the regular instructional program and a smaller group of those to be given a program of modified activities. The large group, which is heterogeneous in terms of general physical traits, is sectioned into at least three groups--elementary, intermediate, and advanced--on the basis of physical education tests. The intermediate group is usually subclassified on the basis of skills in a specific activity to be taken up in the regular program. The other two groups in turn should also have a program planned for their specific needs.
Methods of Classification in the Physical Education Required Program for College Men

Although there is much needed research in this field of tests and measurements, there exists some valid and reliable means for determining the student's physical status in order to better provide for his needs and for equating the physical differences that do exist among students.

Measurement of general qualities.—Under this heading such factors as general motor ability (including educability and capacity), strength, speed, neuromuscular coordination, are measured to determine the status of the student in terms of general qualities. Such tests as the MacCurdy Physical Capacity Test (23), Larson's (21) and Cozens' (12) batteries, Rogers' Strength Index (36), and McCloy's (28) revision of it offer a good means of determining the status of men students. Speed and power are measured easily by track and field type skills, as pointed out in McCloy's work (27). The stunt type tests of Brace (4), Johnson (19), and McCloy (26) are fairly good indicators of general motor ability, i.e., general bodily coordination, flexibility, and control, as are Cozens' Athletic Ability (10), the Larson General Motor Ability (20), the Phillips J C R Test (35), the City College of New York Proficiency Test (16), and the Curston Motor Fitness Test (13), for college men. The tests of Brace (4), Gire and Espenschade (17), and Metheney (30) are a good measure or predictor of aptitude to learn new skills quickly and easily; i.e., educability.
Measurements of physical and/or motor fitness.--

The Baruch Committee states:

Physical fitness describes the functional capacity of the individual for a task. It has no real meaning unless the task or job for which fitness is to be judged is specified. The fit individual can perform the task repeatedly without undue fatigue and has a reserve capacity to meet and sustain unexpected stresses which may arise (1).

The armed forces have done extensive study on physical fitness. Until a very recent time, physical or motor fitness had no practical implications in the methods of classification in physical education. The recent emphasis on national fitness has resulted in increased emphasis placed on physical fitness in the required program. Whether this is a good thing will not be discussed in this study. Owing to this recent trend, physical and/or motor fitness may well have implications in classification methods in physical education; presently tests of this type are not used in classifying students for the required program.

Motor fitness tests for high school boys and college men have been constructed by Cureton, et al. (14) and by Bookwalter (2). O'Conner and Cureton (34) discuss the problems of testing in this field quite thoroughly in their study.

The measurement of specific traits.--These types of tests are commonly referred to as sports skills tests; they usually attempt to measure potential ability or to evaluate present status in a specific activity. Owing to the length and complexity of the test batteries, it is not always feasible to
utilize this type of test in classifying for physical education, although most of the tests do possess a fairly high degree of validity and reliability.

Edgren (15) has constructed a test to measure the basketball playing ability for college men. Borleske's Touch Football Test (11) and Brady's Volleyball Test (5) for college men are two tests of this type. There are numerous other sport skills tests involving many complex test batteries that could be utilized for measuring specific traits of students for classification in physical education.

Classification Indices.--These are indices that are used specifically for classification in physical education. They are constructed by utilizing one or more of the factors of age, height, and weight. It has been found however, that in grouping college men, age is a negligible factor to consider. McCloy (28) and Neilson and Cozens (32) point out this factor in their studies. Cozens (9) also groups college men on the basis of height and weight. Sperling (40) evaluated the Rogers Test and developed a physical proficiency test as a basis for classifying college men. Classification indices can be established for any of the tests discussed in this chapter.

Measurements of stature, posture, and somatotype.--These tests stem from the earlier anthropometric studies. Cozens (9) considers body stature in his grouping of college men, as
does Sheldon, et al. (39), who term their classification method "somatotypes," which is based on stature characteristics. Wickens and Kiphuth (42) and Massey (24), have developed more objective methods of grading posture of college men.

Measurement of knowledge and behavior.--These two factors may possibly have implications in the field of classification for physical education; however, at the present time they are not being used for this purpose.

Schedule of classes, grade in school as a method.--According to Brownell and Hagman (6), such factors as schedule of classes and grade in school, although an untenable practice, are sometimes considered in the classification of students for physical education.

Summary

This chapter has briefly covered classification in education and physical education. It was pointed out, in an early reference, that ability grouping or classification in education has always been a controversial topic among educators. Very little fact substantiates either side in this controversy; argument has been the main basis in support of either side in the controversy. The arguments supporting ability grouping center about the idea of facilitating learning through equating the differences among students. The arguments against ability grouping point out that homogeneous grouping will create undesirable social and personality traits.
Criticisms of the early attempts with homogeneity stem from "across-the-board" grouping, where only one factor is considered in grouping students for all subjects. A recent study recommends ability grouping on the basis of ability, subject for subject.

Classification in physical education has not been so heavily contended. The consensus among physical educators supports ability grouping or classification in physical education. The leaders in physical education seemingly support this method of facilitating instruction. The purposes, as expressed by leading authorities in the field, for classification in physical education were pointed out to be: pedagogical advantages, social development, desirable attitudes toward physical education, and safety.

A classification plan in the physical education required program for college men was outlined. It was pointed out that a series of screens was utilized to equate the wide range of abilities of students in physical education.

The classifying scheme in required physical education utilizes as its first screen the medical examination, which is the physician's stamp of approval for the student to participate in the normal program of vigorous activities or not. If not, the student is channeled into a program of modified activities in physical education where the physician as the supervisor, the physical educationist as the administrator, and the parent as a consultant, prescribe the program.
After the medical examination, those that are qualified to participate in the regular program of instruction are further screened utilizing the second screen, the physical education tests, which consider one or more physical factors in sectioning the students within this normal program.

The students, as a result of physical education tests, are sectioned into three groups: elementary, intermediate, and advanced. The elementary group is for those who fared poorly on the test, usually those with minor orthopedic defects, obesity, recurrent respiratory diseases, emotional disorders, general physical weakness, malnutrition, and other defects which do not warrant the students' being placed in the adaptive program. The intermediate group consists of the majority of students in the required program, as their needs can best be met by the regular program of activities; screening by specified physical education tests (e.g., sports skills tests) is commonly used to subclassify the intermediate group. The advanced group is composed of students whose high level of physical ability cannot be adequately utilized for their satisfaction by participation in the intermediate group with the majority of the students.

Finally, this chapter has discussed in some detail the methods used in the classification of men students in the required physical education program and some of the works and studies of the leaders in this field. Methods used in the classification of men students in physical education were considered as measurement of general qualities; measurement
of physical and/or motor fitness; measurement of specific
traits; classification indices; measurement of stature, pos-
ture, and somatotype; measurement of knowledge and behavior;
schedule of classes, and grade in school, which are sometimes
utilized as methods in classification.

This chapter has attempted to point out, among other
things, the need for ability grouping in physical education
and the accepted methods of classification in this unique
field of education—physical education. The uniqueness of
physical education lies in its teaching-learning medium—
the physical activities. This uniqueness justifies and
necessitates, more so than any other field in education, the
narrowing of this wide range of physical abilities that do
exist among all students in the required physical education
program.
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CHAPTER III

PRESENTATION OF DATA OF THE STUDY

In order to determine methods used to classify men students enrolled in the physical education required program at selected colleges and universities in Texas, questionnaires were mailed to chairmen of departments of physical education at all private institutions (including sectarian and nonsectarian); state institutions (including local, public or municipal, and county controlled); institutions offering either a two-or four-year curriculum. The selection of the institutions of the study was also limited to those that were fully accredited during the period in which the study was made by either the Southern Association of Secondary Schools and Colleges or by the Association of Texas Colleges and offer a physical education required program for men students (1; 2, pp. 433-468, 1015-1054).

To measure the effectiveness of the test instrument the following steps were taken:

1. The questionnaire was evaluated by utilizing a score card method as set up by the National Education Association, (4) basic criteria as presented by Koos (3) in his work, and the criteria of Whipple as presented by Whitney (5) in his work.

2. The questionnaire was evaluated by experts in the field of education and physical education research.

3. A pilot study was undertaken.
The test instrument was submitted to sixty-eight institutions; thirty-five institutions responded. In the aggregate approximately 51 per cent returns were tabulated. It is felt that this percentage is a valid sampling for a study of this type. The questionnaire and letter accompanying it are presented in the appendix.

Presentation of Data

In the presentation of data, a comprehensive picture of current practices in classifying men students in required physical education at institutions surveyed by the study will be presented. In presenting data of the study, no attempt will be made to take from the objectivity of the data, but brief comments will be offered where clarification or amplification is needed.

Health Classification as a Method

It was found that 66 per cent of the responding institutions utilize the medical examination as a method in classifying men students in required physical education. This means that 34 per cent of the participating institutions do not utilize the medical examination as a method in classifying men students in required physical education.

As a result of the medical examination, 54 per cent of the responding institutions reported that men in required physical education are channeled into two groups—regular program and adaptive program; 29 per cent of the responding institutions reported that men students in required physical education are
not channeled into two groups; 17 per cent of the contributing institutions felt that this channeling into two groups is not applicable to their present program.

**Physical Education Classification as a Method**

In tabulating the returned forms, it was found that 23 per cent of the responding institutions utilize classification in regard to some physical trait in the grouping of men students in the regular or normal program of instruction. This means that 77 per cent did not utilize this type of classification.

Table I presents the factors which are used by responding institutions surveyed by the study in assigning students to homogeneous groups in the regular physical education instructional program.

**General motor ability.**—Tabulation of the returned questionnaires disclose that six institutions consider the factor of general motor ability in assigning students to homogeneous groups in the regular physical education instructional program. One institution considers this factor alone in physical education classification of men students; one institution incorporates this factor with physical fitness; one institution combines this factor with factors of physical fitness and class standing; one institution unites this factor with sports skills and class standing; one institution combines this factor with factors of physical fitness, sports skills, and class standing in their physical education classification; one institution
incorporates this factor with factors of physical fitness, sports skills, strength, age, and class standing in assigning men students to homogeneous groups in the regular physical education instructional program.

In naming the type of test used to determine these factors, one institution names the Barrow Motor Ability Test as the determinant for general motor ability; two institutions use tests of their own design which they feel meet their particular needs; the other three institutions do not acknowledge the type of test used.

Physical and/or motor fitness.-- It is found that nine of the responding institutions utilize the factor of physical and/or motor fitness in the assignment of students to homogeneous groups in the regular program of instruction. One institution combines this factor with the factor of general motor ability; one institution combines this factor with the factor of strength; two of the responding institutions consider this factor linked with the factor of schedule of classes; one institution incorporates this factor with the factors of strength and stature; one institution unites this factor with general motor ability and class standing; one institution combines this factor with the factors of strength and schedule of classes; one institution links this factor with the factors of general motor ability, sports skills, and class standing; one responding institution incorporates this factor with factors of general motor
ability, sports skills, strength, age, and schedule of classes in assigning students to homogeneous groups in the regular physical education instructional program.

One institution names the Steinbach Motor Fitness Test as the determinant for physical and/or motor fitness. Three institutions use a test of their own design, stating that their tests are carefully validated and suit their specific purposes. One institution volunteered additional information by stating that their test battery consisted of three items—pull-ups, sit-ups, 300 yard shuttle run. The other five institutions do not note the type of test used to measure this factor of physical and/or motor fitness.

### TABLE I

FACTORs USED BY INSTITUTIONS OF THE STUDY IN ASSIGNING STUDENTS TO HOMOGENEOUS GROUPS IN THE MEN'S REGULAR PHYSICAL EDUCATION INSTRUCTIONAL PROGRAM

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<th>Factor</th>
<th>Number of Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Motor Ability</td>
<td>6</td>
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<tr>
<td>Physical and/or Motor Fitness</td>
<td>9</td>
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<td>Sports Skills</td>
<td>5</td>
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<tr>
<td>Strength</td>
<td>3</td>
</tr>
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<tr>
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<td>Knowledge and Information Tests</td>
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<tr>
<td>Others</td>
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<td>Schedule of Classes</td>
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<td>Class Standing (classification)</td>
<td>9</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>10</td>
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</table>
Sports skills.—It was found that five of the responding institutions consider the factor of sports skills, by one or more combinations of factors, in the assignment of students to homogeneous groups in the regular instructional program. One institution links this factor with the factor of schedule of classes; one institution joins this factor with general motor ability and schedule of classes; one institution combines this factor with factors of schedule of classes and class standing; one institution unites this factor with factors of general motor ability, physical and/or motor fitness, and class standing; one institution incorporates this factor with factors of general motor ability, physical and/or motor fitness, strength, age, and schedule of classes in assigning students to homogeneous groups.

None of the institutions named the type of tests utilized to determine the factor of sports skills.

Strength.—In tabulating the returned questionnaires, it was found that three institutions of the study consider the factor of strength in homogeneous grouping of men students in the normal program of physical education. None of the three institutions uses this factor alone, but also considers other factors combined with the factor of strength. One institution links this factor with the factors of physical and/or motor fitness and stature; one institution combines this factor with physical and/or motor fitness and schedule of classes; one
institution of the study incorporates this factor with general motor ability, physical and/or motor fitness, sports skills, age, and schedule of classes in assigning students to homogeneous groups.

The institutions that utilize this factor did not acknowledge the type of test used to measure this factor of strength.

**Stature (including somatotype and posture)**—It was found that two institutions consider this factor in assigning men students to homogeneous groups in the regular instructional program. Neither institution considers this factor of stature alone, but combines it with other factors. One institution joins this factor with the factor of physical and/or motor fitness; the other institution combines this factor with factors of physical and/or motor fitness and strength.

**Combination of height and weight**—It was found that no institutions of the study consider this factor in assigning men students to homogeneous groups in the regular physical education program.

**Age**—It was found that one institution of the study grouped students by age. Since this is considered a negligible factor in the grouping of college men, it is unusual to find an institution surveyed by the study considering this factor in grouping. This institution combines this factor with factors of general motor ability, physical and/or motor fitness, sports skills, strength, and schedule of classes in assigning students to homogeneous groups.
Knowledge and information tests.--It was found that no institutions of the study use this factor in the homogeneous grouping of students in the normal or regular instructional program. As pointed out in Chapter II, this factor is very seldom considered in the grouping of students in required physical education.

Others.--It was found that no additional factors are considered by institutions surveyed by the study in assigning students to homogeneous groups for instruction.

Schedule of classes.--This factor was found to be the most utilized in the grouping of students. Fourteen institutions of the study consider this factor in ability grouping of students. Five of the responding institutions consider this factor alone in the grouping of students; two institutions use this factor combined with the factor of physical and/or motor fitness; one institution unites this factor with sports skills; two institutions link this factor with class standing; one institution combines general motor ability and sports skills with this factor; one institution unites physical and/or motor fitness and sports skills with this factor; one institution incorporates sports skills and class standing with this factor; one institution utilizes the factors of general motor ability, physical and/or motor fitness, sports skills, strength, and age combined with this factor in assigning students to homogeneous groups in the regular instructional program.
Class standing.--It was found that nine institutions use the factor of class standing in grouping students for the normal program of physical education. Four of the institutions consider this factor alone in the grouping of students; two institutions link this factor with the factor of schedule of classes in assigning students to required physical education; one institution unites general motor ability and physical and/or motor fitness with this factor; one institution links factors of sports skills and schedule of classes with this factor; one institution incorporates general motor ability, physical and/or motor fitness, and sports skills in assigning students to homogeneous groups.

Not applicable.--In the aggregate, ten of the responding institutions reported that the factors, as presented by the questionnaire, are not applicable to their present program of physical education classification.

As a result of utilizing any of the forementioned factors, it was found that 20 per cent of the institutions group men students in the required program into two groups, i.e., elementary and advanced; 3 per cent of the schools group the students into three groups, i.e., elementary, intermediate, and advanced; 3 per cent of the schools group the students into more than three groups; 11 per cent of the institutions group the students in other ways; 63 per cent of the institutions stated that these ways of grouping are not applicable to their present program.
Additional information was contributed by the four institutions that have other ways of sectioning students into groups. One institution states that students are grouped into two groups for swimming only; three institutions point out that their students are grouped according to their particular needs.

In physical education classification, none of the responding institutions uses physical education classification before the medical examination; 26 per cent classify for physical education after the medical examination, but before sectioning classes; 14 per cent classify for physical education after classes have been sectioned; 49 per cent felt that this portion of the questionnaire is not applicable to their present program. Additional information is contributed by 11 per cent of the institutions reporting that physical education classification takes place at or prior to registration and during the first semester, when evaluation and introduction to physical education activities is taking place.

Summary

In presenting data of the study, the selection of schools surveyed by the study was briefly discussed. It was pointed out that the institutions of the study was limited to all private institutions (including sectarian and nonsectarian); state institutions (including local, public, municipal and county controlled); institutions that offer either a two-or four-year undergraduate curriculum; institutions that are fully accredited
by either the Southern Association of Secondary Schools and Colleges or by the Association of Texas Colleges; institutions that offer a physical education required program for men students.

Definite steps were taken to ascertain the effectiveness of the test instrument:

1. The questionnaire was evaluated utilizing available criteria.

2. The questionnaire was evaluated by experts in the field of education and physical education research.

3. A pilot study was undertaken.

The test instrument was submitted to sixty-eight institutions; thirty-five institutions responded. In the aggregate approximately 51 per cent returns were tabulated.

Health classification as a method of classifying was discussed. It was found that 66 per cent of the responding institutions utilize the medical examination as a method of classifying, and 34 per cent of the responding institutions do not.

It was further found that as a result of the medical examination, 54 per cent of the responding institutions channel students into two groups, 29 per cent of the responding institutions do not channel into two groups, and 17 per cent felt that this channeling into two groups as a result of the medical examination is not applicable to their present program.

Physical education classification as a method was then presented. It was found that 23 per cent of the responding institutions utilize classification in regard to some physical
trait in the grouping of men students in the regular program of instruction, and 77 per cent do not.

Table I presented the factors which are used by the responding institutions in assigning students to homogeneous groups in the regular physical education instructional program. It was pointed out that six institutions use general motor ability as a factor, nine use physical and/or motor fitness, five use sports skills, three use strength, two use stature, none uses combination of height and weight, one considers the factor of age, none uses knowledge and information tests in assigning students to homogeneous groups, none of the institutions considers other factors than those presented by the questionnaire, fourteen use schedule of classes as a factor, nine use class standing, ten feel that these factors as presented by the questionnaire are not applicable to their present program.

As a result of utilizing any of these factors in assigning students to homogeneous groups, it was found that 20 per cent of the institutions group the students into two groups, 3 per cent of the institutions group into three groups, 3 per cent of the institutions group the students into more than three groups, 11 per cent group the students in other ways than those presented by the questionnaire, 63 per cent felt that this was not applicable to their present program.

It was found that none of the responding institutions uses physical education classification before the medical examination; 26 per cent classify for physical education after the medical
examination, but before sectioning classes; 14 per cent classify for physical education after classes have been sectioned; 49 per cent felt that this portion of the questionnaire is not applicable to their present program. Additional information was contributed by 11 per cent of the institutions.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter a summary of the study and the findings, the conclusions, and the recommendations for improving methods of classifying men students enrolled in the physical education required programs at institutions surveyed by the study, including suggestions for future study, are presented.

Summary of the Study

This is an evaluative study of methods used to classify men students enrolled in the physical education required program at selected colleges and universities in Texas. The term "required program," as used in the present study, refers to the curriculum offered by the departments of health, physical education, and recreation for the fulfillment of requirements in physical education made by the institutions of all candidates for the bachelor's degree. The following purposes for the study were established:

1. To determine methods currently used by institutions surveyed by the study to classify men students enrolled in physical education required programs.

2. To evaluate methods in use by institutions surveyed by the study to classify men students enrolled in physical education required programs.
Classification in education was discussed. It was pointed out that ability grouping in education has always been a controversial subject among educators. Most of the arguments supporting ability grouping center about the idea that learning would be facilitated by classifying students into a more nearly homogeneous group. The arguments against ability grouping center about the idea that it would create undesirable social and personality traits.

Classification in physical education was then discussed. It was intimated by the leaders in the field of physical education that there is a definite place for classification in physical education. The purposes, as expressed by leading authorities in the field, for classification in physical education were pointed out to be: pedagogical advantages, social development, desirable attitudes toward physical education, and safety. A classification plan in the physical education required program for college men was outlined. It was pointed out that a series of screens is utilized to equate the wide range of abilities of students in physical education. The screens were then discussed.

Methods used in the classification of men students in required physical education were then discussed in some detail. These methods were found to be: measurement of general qualities; measurement of physical and/or motor fitness; measurement of specific traits; classification indices; measurement of stature, posture, and somatotype; measurement of knowledge and behavior; schedule of classes, and grade in school.
Summary of the Findings

The questionnaire was chosen as the instrument to collect data for the study. The test instrument was submitted to sixty-eight institutions; thirty-five institutions responded. In the aggregate approximately 51 per cent returns were tabulated.

The data of the study were then presented. It was found that 66 per cent of the responding institutions utilize the medical examination as a method of classifying, and 34 per cent do not. As a result of the medical examination, 54 per cent of the responding institutions channel students into two groups, 29 per cent do not, and 17 per cent feel that this is not applicable to their present program of classifying men students in required physical education.

Physical education classification as a method was then discussed. It was found that 23 per cent of the responding institutions utilize classification in regard to some physical trait in grouping men students in the regular instructional program, and 77 per cent do not.

Table I presents factors which are used by the responding institutions of the study in assigning students to homogeneous groups in the regular program of instruction. It is pointed out that six institutions use general motor ability as a factor; nine use the factor of physical and/or motor fitness; five consider the factor of sports skills; three institutions consider the factor of strength, two use factors of stature, somatotype,
and posture; none of the institutions uses combination of height and weight; one considers the factor of age; none uses knowledge and information tests; none of the institutions considers other factors than those presented by the questionnaire; fourteen use schedule of classes as a factor; nine use class standing; ten felt that these factors, as presented by the questionnaire, are not applicable to their present program. As a result of utilizing any of these factors in assigning students to homogeneous groups, it was found that 20 per cent of the institutions group the students into two groups; 3 per cent group into three groups; 3 per cent group into more than three groups; 11 per cent group the students in other ways than those presented by the questionnaire; 63 per cent felt that this was not applicable to their present program.

It was found that none of the responding institutions uses physical education classification before the medical examination; 26 per cent classify for physical education after the medical examination, but before sectioning classes; 14 per cent classify for physical education after classes have been sectioned; 49 per cent felt that this portion of the questionnaire was not applicable to their present program. Additional information was contributed by 11 per cent of the institutions.

Conclusions

The following general conclusions, taken from the study, are presented:

1. Classification in education is still a somewhat
controversial subject in education.

2. There is a definite place for classification in physical education.

3. There is a wide range of physical differences that exists among all students.

4. There are definite methods used in the classification of men students in required physical education on the college level.

5. The purposes for classification in physical education are pedagogical advantages, social development, desirable attitudes toward physical education, and safety.

6. Health and physical education classification are the two determinants for grouping in the required physical education program on the college level.

7. The medical examination is a function of medical personnel and physical education tests are a function of the physical educationist.

8. The findings of the study indicate that a deficiency exists in methods of classifying men students in the physical education required program at institutions surveyed by the study.

9. The present study has accomplished what it intended to accomplish.

The following specific conclusions, taken from the findings of the study, are presented:
The findings of the study indicate that a deficiency exists in methods of classifying men students in the physical education required program at institutions surveyed by the study.

In health classification, the most common of all classification methods, the findings indicate that a shortcoming exists on the part of the institutions surveyed by the study that did not utilize the medical examination as a method of classifying men students in required physical education, and those that did not group into the regular and adapted programs. In physical education, where the medium of instruction lies in the physical skills, the medical evaluation must determine whether students can participate in the strenuous physical education program. However, if the physician finds some reason to exclude the student from the regular vigorous program of instruction, the student should not be shelved and kept away from every program of physical education. The physical educationist in close alliance with the medical doctor can prescribe a program to meet the particular needs of the student.

In evaluation of physical traits as a classification method in the regular physical education instructional program, the investigator is of the opinion that a very inadequate program exists in the majority of institutions surveyed by the study. The high percentage of institutions surveyed by the study that did not use this classification device may show that the institutions are not aware of the advantages of this classification device through recent progress and research toward a more adequate and more comprehensive grouping of students. As the
classification device for the required physical education program offers obvious advantages to the teacher, to the administrator, and to the pupil, the wider use of classification device, through emphasis on recent progress through research and practice, can focus the attention of administrators at institutions not using the classification device to the media of instruction used in physical education: games, sports, stunts, rhythmic, aquatics. In order to derive maximum benefits from the physical activities, the students should be grouped according to ability by means of an evaluation of the student's physical traits, either generally or specifically.

Schedule of classes was the most popular factor considered in assigning students to homogeneous groups in the regular instructional program. This indicates a shortcoming on the part of the institutions surveyed by the study; merely fitting the student into physical education on the basis of empty class periods is an untenable practice.

The next most used factor by the institutions surveyed by the study was physical and/or motor fitness. It was surprising to note that a high percentage of institutions utilized this factor. This, no doubt, is an indication of the changing philosophy as a result of the recent emphasis on youth fitness. Physical and/or motor fitness as a factor to be considered in required physical education has its place, but it certainly is not the only objective of physical education. It was encouraging to note that all of the institutions surveyed by the study,
and using this factor, combined it with other factors in assigning students to homogeneous groups.

Enjoying equal status with physical and/or motor fitness is the factor of class standing. The institutions that consider this factor indicate an administrative inadequacy in the fitting of the required physical education program into the overall curricula as well as overlooking the advantages of grouping students in physical education on the college level. The wide use of the factor of class standing suggests that its simplicity commends it to administrators who are not fully aware of recent classification studies and research. There exists a wide range of physical traits even among students of each grade level. By using this factor there would not be any advance in homogeneity in terms of physical traits; therefore, it is felt that this is also an untenable practice.

The next most considered factor by institutions of the study, is the factor of general motor ability. This factor is a very good determinant for assigning students to homogeneous groups in required physical education. However, the one institution that considered this factor alone should perhaps not place its entire basis for assigning students to homogeneous groups on one factor.

In evaluation of the factor of strength in grouping men students for instruction, it is encouraging to note that none of the institutions considered this factor alone, but combined it with other factors. It may be well to consider the factor
of strength combined with other factors in grouping. Of course, this would depend on the particular objectives of the required program.

In evaluation of the factor of stature, including posture and somatotype, it was noted that none of the institutions surveyed by the study used this factor alone in assigning men students to homogeneous groups. Although this factor is a fast method of grouping, it is not a valid determinant of ability to participate in vigorous activity. It may be best to include this factor in health classification rather than in physical education classification.

In evaluation of the factor of height and weight, it was surprisingly noted that none of the institutions surveyed by the study used this factor in assigning men students to homogeneous groups in the regular program of instruction. This factor has some very desirable features for grouping on the college level. It has a high degree of validity, it is expedient, and is easily administered.

In evaluation of sports skills as a factor, a majority of the institutions surveyed by the study indicated a shortcoming by not utilizing this factor in the homogeneous grouping of students. This factor is a very good indication of a student's ability to participate in a specific activity. It is quite often used to subclassify the students for instruction in a specific activity.
In evaluation of age as a factor in assigning college men in required physical education to homogeneous groups, one institution listed this as a determinant for grouping. Age is a negligible factor for assigning college-age students to homogeneous groups for physical education classification, and the institutions using this classification probably used it because of the lack of proper administration of the required physical education program.

In evaluation of knowledge and information tests, the institutions of the study are in keeping with present practices of physical education classification. At the present time, knowledge and information are not considered feasible means for classifying students into homogeneous groups for instruction in required physical education.

A deficiency in methods of classification is indicated by a majority of the institutions surveyed by the study which do not place students in any of the ways presented by the questionnaire. The remaining percentage of the institutions do an adequate job of grouping students into homogeneous groups in the regular program of instruction. Students in the regular physical education instructional program should be subclassified into at least two or more groups depending on the activity to be taught, the particular needs of the students, and the administrative feasibility of the classification method.
In evaluating the point where institutions surveyed by the study utilized physical education classification, a slight majority handled this adequately. The remaining percentage of institutions indicated a shortcoming by stating that this is not applicable to their present program, thus intimating that they do not consider the use of physical education classification in assigning students to required physical education classes. Physical education classification should take place after the medical examination, but before sectioning classes for instruction in the regular program. An alternate practice would be to administer physical education classification after classes have been sectioned in the regular program. The ideal classification plan would be a combination of both, where classes are sectioned after the medical examination, then subclassified into smaller homogeneous units.

Recommendations

The following recommendations for improving methods of classifying men students enrolled in the physical education required programs at institutions surveyed by the study are presented:

1. All institutions of the study should utilize the medical examination as a method of classifying men students in the physical education required program.

2. As a result of the medical examination, all institutions of the study should group the men students in required
physical education into either the regular or adapted program of instruction.

3. All institutions of the study should consider physical traits in grouping men students for the regular program of instruction on the college level.

4. In assigning students to classes in the regular physical education instructional program, all institutions of the study should administer physical education classification tests after the medical examination. These tests should section the students into at least three nearly homogeneous groups.

5. After the sectioning of students into at least three groups, as a result of physical education classification tests, the students in the regular program of instruction should be subclassified depending on the activity to be taught, the particular needs of the students, and the administrative feasibility of the classification method.

6. No institutions of the study should consider such untenable factors as schedule of classes, class standing, and age in grouping of men students in the regular program of instruction on the college level.

7. All institutions of the study should consider combinations of general qualities, specific traits, classification indices, and measurement of physical and/or motor fitness in the grouping of men students for the regular program of instruction on the college level.
8. All institutions of the study should include the factors of stature, somatotype, and posture as a part of the health classification rather than as a part of physical education classification.

The following suggestions for future study are presented:

1. A study to determine whether pupils learn more, or faster, as members of homogeneous groups in required physical education.

2. Additional research studies in methods used to classify students in required physical education under different conditions of age or grade level, sex, and geographical area.
APPENDIX

March 9, 1959
1809 Wilshire Lane
Denton, Texas

Dear Sir:

With a view to making a contribution to physical education, I am endeavoring to determine methods used to classify men students enrolled in the physical education required program at selected colleges and universities in Texas.

Your department was selected as one of those to be included in the study. I am writing you with the hope that you will find it possible to answer the attached blank of inquiry.

I realize that the men I am addressing are very busy educators but, as is obvious, the problem stated can only be investigated through their assistance. Will you, therefore, look over the attached blank of inquiry and if, in your judgment, my problem is of sufficient merit to warrant this expenditure of your time, complete the responses and return it to me at your earliest convenience using the enclosed self-addressed envelope.

If you are desirous of obtaining the results of this study please complete section IV; I can assure you that all data will be used in the aggregate with no reference to specific institutions. If you do not desire to know the results of the study you may waive completion of section IV.

Sincerely yours,

Dale W. Spence
QUESTIONNAIRE

I. Health Classification

A. Do you utilize the medical examination as a method of classifying men students in the physical education required program at your institution? Yes____; No____.

B. As a result of the medical examination, are the men students in the required physical education program at your institution channeled into two groups: regular program and adaptive program? Yes____; No____; Not applicable____.

II. Physical Education Classification

A. Is classification in regard to some physical trait utilized in the grouping of men students in the regular program of instruction, i.e., as differentiated from adaptive program? Yes____; No____.

B. Check any of the following factors which you use in assigning men students to homogeneous groups in the regular physical education instructional program. Also, please name type of test used; e.g., McGloy's Classification Index, self-made, etc.

1. General motor ability__________________
2. Physical and/or motor fitness__________
3. Sports skills________________________
4. Strength____________________________

5. Stature (including somatotype and posture) __
6. Combination of height and weight __
7. Age __
8. Knowledge and information tests __
9. Others __
10. Schedule of classes __
11. Class standing (classification) __
12. Not applicable __

C. As a result of utilizing any of the factors in "B" (above), are men students in the regular physical education instructional program sectioned in any of the following ways? (check appropriate response)

1. Two groups, i.e., elementary, advanced __
2. Three groups, i.e., elementary, intermediate, advanced __
3. More than three groups __
4. Others (please name if any) __
5. Not applicable __

D. At what point in your assignment of students to classes does physical education classification take place? (check appropriate response)

1. Before medical examination __
2. After medical examination, but before sectioning classes __
3. After classes have been sectioned __
4. Others (please name if any) __
5. Not applicable __
III. Remarks: (please clarify any responses that need explanation)

IV. If you desire the results of this study, please complete spaces below.

Name

Title

Institution

City
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