

AN EVALUATION OF THE PHYSICAL EDUCATION PROGRAM
IN THE GRAPELAND PUBLIC SCHOOLS

A THESIS

Approved: 

Committee

Approved: 

Dean of the College

AN EVALUATION OF THE PHYSICAL EDUCATION PROGRAM
IN THE GRAPELAND PUBLIC SCHOOLS

A THESIS

Submitted to the Faculty of
Sam Houston State Teachers College
in Partial Fulfillment of the Requirements

for the Degree

MASTER OF ARTS

by

James Curtis Look

Huntsville, Texas

July, 1954

ESTILL LIBRARY

89930

TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
I. INTRODUCTION TO THE STUDY	1
Purpose of the Study	2
Need of the Study	3
Method and Procedures	5
II. PRESENT PHYSICAL EDUCATION PROGRAM IN THE GRAPELAND PUBLIC SCHOOLS	6
Organizational Administration of Personnel	6
Budget and Finance	6
Facilities	7
Equipment	9
Content and Conduct of Program	11
Evaluation of Present Program in the Grapeland Schools	12
III. ADMINISTRATION OF PERSONNEL AND BUDGET AND FINANCE	18
Certification of Personnel	18
Physical Abilities of Personnel	20
Men Teachers for Boys and Women Teachers for Girls	21
Professional Qualifications of Teachers	22
Professional Improvement of Teachers	22
Budget and Finance	24
Control of Finances	26
Purchasing Policies	26
IV. FACILITIES AND EQUIPMENT	28
Gymnasiums	28
Activity Areas	32
Equipment	36
V. PROGRAM	46
Intramurals	66
Intramural Activities	68
Athletics	71
VI. SUMMARY AND RECOMMENDATIONS	76
Summary	76
Recommendations	80
BIBLIOGRAPHY	85

LIST OF TABLES

<u>Table</u>	<u>Page</u>
I. SEMESTER HOURS IN PHYSICAL EDUCATION OF GRAPELAND TEACHERS	7
II. SECONDARY SCHOOL STANDARDS RATING SCALE	13
III. EVALUATION OF THE GRAPELAND PUBLIC SCHOOLS PHYSICAL EDUCATION PROGRAM	14
IV. DIMENSIONS AND SPACE REQUIREMENTS FOR ACTIVITIES AND NUMBER OF PLAYERS FOR EACH	34
V. GYMNASIUM SIZES FOR TWO HUNDRED AND SIXTY NINE JUNIOR AND SENIOR HIGH SCHOOLS WITH OPINIONS OF ADEQUACY	35
VI. ESSENTIAL AND DESIRED SUPPLIES AND EQUIPMENT FOR ELEMENTARY SCHOOLS	37
VII. RECOMMENDED AMOUNT OF SUPPLIES FOR SECONDARY SCHOOLS BASED ON INSTRUCTIONAL NEEDS FOR CLASS OF FORTY STUDENTS	42
VIII. ACTIVITIES REQUESTED BY STUDENTS IN THE UPPER SEVEN GRADES OF THE GRAPELAND PUBLIC SCHOOLS	59

CHAPTER I

INTRODUCTION TO THE STUDY

The physical education program in the Grapeland Public Schools is one of doubtful adequacy. The Superintendent of the Grapeland Independent School District, Mr. J. O. McKenzie, and other members of the staff, including the present writer, who serves as coach and athletic director, have long recognized that the program now offered is lacking something and that, because of the lack of an acceptable program, students are being deprived of the kind of physical education instruction which is now deemed necessary for the proper growth and development (physical, emotional, and social) of public school children.

The Texas Education Agency¹ requires that all Texas Public Schools provide instruction and school time for each student to participate in physical education. Each student physically able is supposed to register for and take part in a physical education class. A physician is the only one authorized to determine the physical ability of a student.

The facilities in Grapeland are not used to the best advantage. For instance, the gymnasium, which is probably more adequate than the average in the Grapeland area, is used only three-sevenths of the school hours. Of the 148 students in the senior high school, only 46 are scheduled for any type of physical activity during the school day. There are 31 boys and 15 girls now scheduled for physical education which is primarily the single phase athletics.

¹ Texas Education Agency, Handbook for Local School Officials, Bulletin 534, Austin, Texas, September, 1952, p. 35.

The Grapeland Public Schools do not use the facilities to best advantage because the schedule is constructed so as to eliminate the best use of the available facilities. There are no physical education classes offered until after the noon hour. In the elementary school the regular classroom teachers teach the physical education classes, which are no more than supervised play periods.

The gymnasium is used to a very limited degree by the patrons of the community. In the present school term of 1953-1954, it has been used on one occasion by a basketball team of ex-students for competition with another community.

Purpose of the Study

The purpose of this study is to present what the modern physical education program should include in the following phases:

1. Administration and Personnel
2. Budget and Finance
3. Facilities and Equipment
4. Conduct and content of the program.

After determining what an adequate physical education program is, the program of the Grapeland Public Schools will be compared to it.

This study is not made nor written for the professional worker in physical education. Rather, it is prepared for the members of the school board and school personnel of the Grapeland Independent School District.

It is hoped that this study will be valuable and purposeful from the following viewpoints:

1. That it will provide the general public with accurate information concerning the aims, objectives, and philosophies of physical

education in the modern school, so that a more understanding attitude may be effected and serious misconceptions concerning physical education may be corrected.

2. That it will reveal serious shortcomings in the physical education program of the Grapeland Independent Schools to the members of the general public which this school serves.

3. That it will incite an interest in the physical education program.

4. That it will result in the establishment of a more adequate physical education program in the Grapeland Public Schools.

The over-all or general purpose of this study is to provide data and information which, it is hoped, may incite interest in physical education and ultimately result in the establishment of an adequate physical education program for the Grapeland Public Schools.

Need of the Study

After the statement of the problem, the need of this study is evident. For any total educational program to be adequate, it is necessary that each department or phase of it be adequate. It appears that the physical education program in the Grapeland Public Schools is very inadequate when the fact is revealed that only approximately 31 per cent of the students in the upper four grades are scheduled for any type of physical activity.

James W. Long,² assistant physical education director of Wake

² Long, James W., Scholastic Coach, Vol. 21, October, 1951, p. 48.

Forest College, states that usually physical break down occurs in three distinct areas of the modern man or woman:

1. The abdominal area, which expands and weakens.
2. The feet, which weaken and cause pain to other parts of the body.
3. The upper trunk, shoulders, arms, and hands.

Physiologic benefits of physical education as James W. Long sees it are:

1. Benefits of strength.
2. Benefits of good posture.
3. Benefits of endurance.
4. Saving in energy.
5. Respiratory benefits.
6. Benefits to vital organs.
7. Benefits to endocrine glands.
8. Mental hygiene benefits.

Jackson R. Sharmon³ feels that there are several relatively permanent beneficial effects that come from regular participation in physical education. Among these persisting effects he lists:

1. An increase in the size and length of muscles, but not in the number of muscle fibers.
2. Better coordination between muscle groups that permit movements to be executed with less effort and more skill.
3. A development of the circulatory and respiratory systems that permits a given amount of work to be accomplished with the use of a minimum amount of oxygen.
4. A strong heart that results in a slower rate of beat and a larger volume output of blood at each stroke.
5. A slower and deeper way of breathing.
6. The ability to recover more quickly from fatigue after exercise.

He says also that the health and vitality of an individual depends on:

1. Good inheritance.
2. Proper nutrition.

³ Sharmon, Jackson R., Introduction to Health Education, New York: A. S. Barnes and Company, 1948, p. 224.

3. Protection from excessive strains and drains on the body.
4. Exercise.
5. Protection from enemy organisms.
6. The practice of good mental hygiene and the maintenance of a wholesome outlook on life.

Methods and Procedures

The methods and procedures followed in collecting and compiling the data in this thesis consist of:

1. Reviewing literature to determine the most commonly accepted standards and policies for the following four areas of the physical education program in the modern school:

- a. Administration of personnel.
- b. Equipment and facilities.
- c. Budget.
- d. Conduct and content of program.

2. Reviewing literature to determine the most commonly accepted ideas in regard to:

- a. General aims and objectives of physical education.
- b. Specific objectives of physical education.
- c. The general nature of physical education in the whole educational program.
- d. The physical education program in the modern school.

3. Making a survey of the physical education program as it now exists in the Grapeland Public Schools in regard to the phases previously mentioned.

4. Formulating and stating recommendations by which these areas of the physical education program of the Grapeland Public Schools can be improved and brought more nearly in line with the standards with which they are compared.

5. Evaluation of the proposed program by a sampling of the population of the Grapeland School District.

CHAPTER II

PRESENT PHYSICAL EDUCATION PROGRAM IN THE GRAPELAND PUBLIC SCHOOLS

Organizational Administration of Personnel

The Grapeland Public School system does not have a physical education department. Such a physical education program as is offered is under the direction of the superintendent and of the elementary and high school principals. There is no director of physical education. Interscholastic athletics in the secondary school are under the direction of one coach and one assistant coach, both of whom are responsible to the superintendent. It can be seen that the situation does not meet recognized policies and standards for the organizational administration of physical education as will be outlined in succeeding chapters.

In the elementary grades, the classroom teachers supervise the physical education activity periods, which constitute the only program. In the high school, there are no physical education classes, except for the one phase of physical education--athletics. Three men teachers serve as coaches in high school; one coach and one assistant coach instruct the boys in athletics, and the superintendent coaches the girls in their Interscholastic League Athletics. The qualifications of all the teachers in the Grapeland Public Schools for the teaching of physical education are shown in TABLE I.

Budget and Finance

A separate physical education budget in the Grapeland Public Schools

TABLE I

SEMESTER HOURS IN PHYSICAL EDUCATION OF GRAPELAND TEACHERS

Number of Teachers	Semester Hours of College Credit in Physical Education
3	0
1	3
7	4
3	6
2	7
3	10
1	30
1	34
1	46

does not exist. The physical education program in high school consists of athletics only. Equipment for physical education in the elementary school is purchased from the athletic fund by the superintendent of schools upon individual requests from teachers. Footballs and basketballs are supplied from varsity athletic equipment or by individual students.

FacilitiesThe Gymnasium

The gymnasium has a cafeteria situated in its basement floor which seats 120 persons. It has one water cooler, two dressing rooms, two shower rooms, two offices, two storage rooms, and restroom facilities for both boys and girls. The dressing rooms are 12 x 36 feet, the shower rooms are 12 x 14 feet, the offices are 8 x 8 feet, and the storage rooms are 8 x 14 feet.

The playing floor is 50 x 90 feet and contains six goals, two backboards of which are rectangular and four that are fan type. There is an

out-of-bounds area around the playing court four feet wide. The gymnasium is equipped with a combination scoreboard and clock. The stands have a seating capacity of seven hundred. There is a drinking fountain situated on either side of the playing floor at the main entrances. The stands are separated from the playing floor by banisters four feet high.

On the north end of the gymnasium is a stage with dressing rooms on either side. One of these dressing rooms is used as a kitchen for the cafeteria below (an elevator provides passage-way between the kitchen and cafeteria) and the other is used for private piano lessons.

At the south, or front, of the gymnasium are situated three offices. One is a ticket office, one is used as a business and tax office for the school district, and the other is used for private piano lessons. Immediately above these offices is one large athletic room used by the athletic director as an office and lecture room. The athletic room is equipped with one office desk and chair, six straight chairs, sixteen arm chairs, ten sleeping bunk pads, and two storage rooms 6 x 8 feet in size.

The Football Stadium

The football stadium will seat a capacity crowd of two thousand. The fieldhouse is adequate for the home team. The visiting teams dress in one of the dressing rooms in the gymnasium. Physical education facilities in the athletic phase including football, basketball, and baseball are about sufficient.

The Playground Area

The Grapeland Public Schools are in need of more playground area. It now has less than five acres of campus space. There are eleven

buildings and several trees on the small space which makes up the total play space.

Equipment

The following list shows the kind and amount of playing equipment available at the Grapeland Public Schools during 1953-54:

Gymnastic Equipment

None

Football Equipment

Footballs	8
Uniforms	62
Blocking machine	1
Down marker	1
Down chain	1
Knee braces	3
Ankle supports	8
Nose guards	4
Parkas	15
Playing field	1

Basketball Equipment

Basketballs	14
Goals	6
Uniforms (boys)	37
Uniforms (girls)	24
Playing courts	2

Baseball Equipment

Baseballs	43
Bats	19
Gloves	2
Uniforms	20
Protectors (catcher)	2
Playing areas	1 (borrowed)

ESTILL LIBRARY

84430

Track and Field Equipment

Track	0
Vaulting pole	0
Jumping pit	0
Discus	1
Shot put	1
Shoes	6 pair

Softball Equipment

Softballs	14
Bats	14
Gloves	0
Protectors (catcher)	0
Playing areas	0 (Use football field)

Volleyball Equipment

Volleyballs	4
Nets	1
Playing courts	1

Tennis Equipment

Tennis balls	0
Racquets	0
Nets	1
Playing courts	0

Badminton Equipment

None

Soccer Equipment

Soccer balls	1
Playing areas	1

Miscellaneous Equipment

Merry-go-round	1
Swings	4
Slides	1
Horizontal bars	0
Playground balls	6

Content and Conduct of Program

The physical education program in the Grapeland Public Schools consists of supervised and free play in the elementary grades and inter-school athletics in the junior and senior high schools.

In the elementary grades, children participate in supervised play periods under the direction of the classroom teachers. No instruction in physical education is given. It is supervised play. All the play periods in the elementary school are co-educational in nature.

In the high school, physical education classes for the boys and girls are not scheduled. Daily periods of athletics are offered to boys and girls and these periods are of the same length as periods for the regular academic subjects--one hour each. The girls are supervised by a qualified physical education instructor who is a man, and the boys by a qualified physical education instructor.

These periods of play are periods of athletics. No grade is given since no instruction in physical education is given. Among the various activities played by the boys in the course of a school year are football, basketball, baseball and track. The girls participate in basketball and volleyball. There is no intramural program in the school system.

The interschool athletic program of the Grapeland Independent School District consists of competition in the athletic program of the University of Texas Interscholastic League. As a member of Conference 19 A, Grapeland competes with schools of 125-225 enrollment in football, basketball, baseball, and track and field events. The girls, in the same conference, compete in basketball and volleyball. Grapeland became a

member of Conference A at the beginning of the present University of Texas Interscholastic League organization.

The only students in the Grapeland Public Schools who receive medical examinations as a preliminary to participation in athletics are the varsity girl athletes. These are given at the beginning of the school year.

When the program of the Grapeland Public Schools is compared with those policies and standards presented in succeeding chapters, it can be acknowledged readily that the present program can be improved. Athletic participation cannot substitute for a physical education program, because the students who need most to participate are eliminated. Actual instruction, and well-planned and integrated programs with definite objectives for all grades are needed.

Evaluation of Present Program in the Grapeland Schools

In making the evaluation of the Grapeland Schools, some materials are taken from the Cooperative Study of Secondary School Standards.¹ The evaluations represent the best judgment of the writer after all evidence has been considered. They were made by means of the rating scale presented as TABLE II on page 13. In the opinion of the writer, the rating scale provides sufficient range for the rating of the Grapeland Public Schools, ranging from "Excellent", which indicates that the provisions or conditions rated are extensive and are functioning excellently, to "Missing", which indicates that the provisions and conditions are

1 Section D-13 of Evaluative Criteria, Cooperative Study of Secondary-School Standards, Washington 6, D.C., 1950.

TABLE II
SECONDARY SCHOOL STANDARDS RATING SCALE

Rating	Explanation of Rating
5 Excellent	The provisions or conditions are extensive and are functioning excellently.
4 Very Good	a. The provisions or conditions are extensive and are functioning well, or b. The provisions or conditions are moderately extensive but are functioning excellently.
3 Good	The provisions or conditions are moderately extensive and are functioning well.
2 Fair	a. The provisions or conditions are moderately extensive but are functioning poorly, or b. The Provisions or conditions are limited but are functioning well.
1 Poor	The provisions or conditions are limited in extent and are functioning poorly.
M Missing	The provisions or conditions are missing and needed; if present, they would make a contribution to the educational needs of the youth in this community.

totally lacking, but if present, would make a definite contribution to the educational needs of the youth of the community.

TABLE III, on the following pages, presents the points of evaluation applied against the Secondary School Standards Rating Scale on behalf of the Grapeland Public Schools, with the evaluative ratings given by the writer.

TABLE III
EVALUATION OF THE GRAPELAND PUBLIC SCHOOLS
PHYSICAL EDUCATION PROGRAM

Item No.	Evaluation	Provision or Condition Rated
1.	1	To what degree are physical education activities provided for students?
2.	2b	Do time allotments of the program meet instructional needs satisfactorily?
3.	2b	How adequate is the variety of experiences to meet the physical education needs of all students?
4.	2b	How adequate is the content of experiences to meet the physical education needs of all students?
5.	1	How satisfactorily do experiences provide for the development of skills and abilities having practicable carry-over to adult physical recreational activities?
6.	1	How adequately does the program provide for a desirable balance of activities according to individual physical education needs?
7.	1	How extensive is the area provided for outdoor physical education activities?
8.	2b	How adequate are the facilities for outdoor physical education activities?
9.	4a	How extensive is the space provided for indoor physical education activities?
10.	1	How adequate is the quantity of permanent equipment for physical education?
11.	2b	How adequate is the quality of permanent equipment for physical education?
12.	2a	How adequate are the provisions for health and sanitation for those participating in the program?

TABLE III
(Continued)

EVALUATION OF THE GRAPELAND PUBLIC SCHOOLS
PHYSICAL EDUCATION PROGRAM

Item No.	Evaluation	Provision or Condition Rated
13.	2a	How adequate is the preparation of the staff for teaching physical education?
14.	4a	How adequate is the preparation of the staff to conduct a balanced intramural and interscholastic program?
15.	2a	How adequate is the preparation of the staff to conduct school and community recreational activities?
16.	3	How adequate is the planning and preparation for instructional activities?
17.	1	How adequate are the physical and medical examinations?
18.	M	To what degree are instructional activities adapted to the needs of individual pupils?
19.	3	To what degree are activities conducted with regard for pupil health and safety?
20.	2b	To what extent do the activities provide opportunity for desirable social and emotional developments?
21.	2b	How effective are the methods of teaching?
22.	M	How adequate are the reading and reference materials?
23.	2b	How adequate is the quantity of instructional equipment?
24.	2a	How adequate is the quality of instructional equipment?

TABLE III
(Continued)

EVALUATION OF THE GRAPELAND PUBLIC SCHOOLS
PHYSICAL EDUCATION PROGRAM

Item No.	Evaluation	Provision or Condition Rated
25.	1	How adequate are the instructional aids, i.e., films, charts, models, etc.?
26.	1	How effectively are pupils guided in the use of the equipment and materials?
27.	2a	How comprehensive are evaluation procedures in physical education?
28.	M	How well do teachers use methods of evaluation analyzing the effectiveness of their teaching?
29.	M	How well do evaluation procedures help pupils understand the nature of their progress?
30.	M	To what extent do evaluation procedures identify pupils of unusual promise in the field of physical education?
31.	1	To what degree are students developing knowledge and understanding concerning a variety of physical education activities?
32.	2b	To what extent are students developing skills in body mechanics and physical education activities?
33.	1	To what extent do students carry over their physical education activities into after-school and leisure experiences?
34.	1	To what degree are students developing interests and skills having practicable carry-over value to adult life?
35.	1	To what extent are students developing habits of physical activity of value in daily living?

TABLE III
(Continued)

EVALUATION OF THE GRAPELAND PUBLIC SCHOOLS
PHYSICAL EDUCATION PROGRAM

Item No.	Evaluation	Provision or Condition Rated
36.	2b	To what extent are students developing desirable habits of cleanliness?
37.	4b	To what extent do students exhibit desirable social and emotional behavior in the physical education activities?
38.	2b	To what extent are students developing physically strong, healthy, well-coordinated bodies?

In this evaluation, no ratings of excellent were given. Very good was rated three times, while good was rated twice. Sixteen times the rating of fair was given, and poor rated twelve times. Five times the rating of missing was given. If the rating of missing is given a value of zero, the average rating would be between fair and poor, with a number rating of 1.58. This evaluation clearly points out that there is a need for reorganization in the Grapeland Public Schools physical education program in order to meet secondary school standards.

CHAPTER III

ADMINISTRATION OF PERSONNEL AND BUDGET AND FINANCE

The most generally accepted procedure of administration has the superintendent at the head of all school affairs. Next in the chain of authority comes the principals of the schools in the system. Immediately subordinate to the principals are the heads or directors of departments. The teaching personnel in the departments is the end of the administrative chain.

The smaller high schools with limited personnel will ordinarily follow this same administrative organization, except that the head of the department is all the department personnel. In some instances, it is necessary to overlap duties. For example, the principal may also be head of the science department.

The consolidation of rural schools throughout the state is a result of the effort to give children better trained teachers. The increased emphasis on a greater variety of educational offerings has resulted naturally in specialization of personnel. This specialization has at times assumed such limitations that the different departments have failed to grasp the conception of unity of the child and of educating the whole child. The personnel is sometimes guilty of concerning itself with only the activities of its own narrow field.

Certification of Personnel

Some state departments of education have established regulations

governing the certification of personnel in health and physical education. For the most part such certification is based upon professional preparation in an approved teacher training institution. Except for elementary classroom teachers, permission to teach, supervise, or direct programs of health and physical education is granted to those persons who have fulfilled requirements for the major or minor in normal schools, teachers colleges, or graduate schools appearing on the state's approved list.

Clifford Lee Brownell¹ and E. Patricia Hagman state that most states do not differentiate between requirements for teachers and those certified as directors or supervisors. A few states make a distinction for the director or supervisor based upon successful teaching and additional graduate study.

In brief, the average teacher of physical education who obtains a state certificate must have graduated from a 4-year college with the baccalaureate degree, and have completed from 10-60 semester hours of work (depending upon the state) in his chosen field. He may receive at first a "limited" or "temporary" certificate, with the opportunity to convert the "temporary" certificate into a "regular" or "permanent" certificate after 2 or 3 years of satisfactory experience. A few states now require, or plan to require, 5 years of professional preparation as a basis for initial certification.

The Athletic Journal² has prepared an article on the state requirements for physical education teachers and coaches. The information was gathered from state education agencies.

1 Brownell, Clifford Lee and E. Patricia Hagman, Physical Education Foundations and Principles, New York: McGraw-Hill Book Co., 1951, pp. 299-300.

2 Athletic Journal, Vol. 30, April, 1950, p. 17.

The Texas requirements are as follows:

Full-time teachers must have 24 semester hours of college credit in physical and health education. Part-time teachers must have 12 semester hours' training. (Two physical education classes per day constitute a sufficient teaching load to classify a person as a part-time teacher of physical education. If a teacher is coaching team sports, the equivalent of two classes per day, and not more than six semester hours of the twelve required for a part-time teacher may be in coaching sports.) The permanent high school certificate requires a degree and 24 hours in education and a course in Texas and Federal Government.

Coaches who teach other academic subjects are considered part-time teachers and must have 12 semester hours' training.

Even though the Texas Education Agency requires only 24 hours in physical education, many of the colleges and universities require thirty or more hours for a degree. For example, Sam Houston State Teachers College³ requires six hours work in physical education each of the first two years for a physical education major and nine hours each of the last two years; all of the work in the last two years must be advanced.

Physical Abilities of Personnel

Physical fitness and physical abilities of physical education personnel is very pertinent to the teaching of physical education. For a beginner in an activity to grasp the technique of performing well and comprehending quickly, it is helpful to see the activity demonstrated correctly. It is necessary, according to Elwood C. Davis⁴ and John D.

³ Sam Houston State Teachers College, Bulletin, Huntsville, Texas, 1953-1954, p. 186.

⁴ Davis, Elwood C., and John D. Lawther, Successful Teaching in Physical Education, New York: Prentice-Hall, Inc., 1948, pp. 44-45.

Lawther for the instructor to be able to demonstrate difficult activities in order to provide the most effective instruction.

Men Teachers for Boys and Women Teachers for Girls

In many instances, men are teaching girls athletics in small secondary schools. The reasons for this situation probably differ with different schools. Some of the most prominent reasons for this situation in the Grapeland region are unavailability of qualified women teachers, limited funds, and the desire to win.

There are several reasons why men teachers should teach boys and women teach girls. Perhaps the most important reason is to provide supervision of the dressing room and shower. Also, the problem concerning menstrual periods, which is always present where men teachers must instruct classes of girls in physical education activities, definitely could be eliminated by employing women teachers to replace the men. The problem can be handled fairly satisfactorily where men must teach girls by selecting a competent girl manager to keep a current file on class participants' menstrual periods. This procedure is far from ideal, but it will suffice where men must teach girls.

Jay B. Nash⁵ and others say, "It is very important for effectiveness of program on the secondary level that girls be taught by qualified women teachers and boys by qualified men teachers".

⁵ Nash, Jay B., Francis J. Moench, and Jeannette B. Saurborn, Physical Education: Organization and Administration, New York: A. S. Barnes and Company, 1951, p. 387.

Professional Qualifications of Teachers

It is proposed by Evans⁶ and Gans that the following four major areas be considered in the selection of teachers of physical education:

1. Teacher preparation.
2. Teaching experience.
3. Personal qualifications.
4. Professional competence.

These four major areas appear to agree with what the Texas Education Agency requires. Teacher preparation is definitely included when the specification of 24 semester hours is required by the department. The teaching experience is gained to a limited extent by the course in practice teaching required by the Texas Education Agency⁷ as written in Bulletin 534. This practice teaching course is required for a permanent high school certificate. Personal qualifications and professional competence might be predicted from preparational record.

Professional Improvement of Teachers

The basic factors underlying any program of professional improvement of prime importance are the demands made upon each teacher. Local supervisory conditions demand particular types of professional improvement. The following areas, according to Evans⁸ and Gans, are those which seem to be of general importance:

1. Concern for the individual.
2. Research in physical education.

6 Evans, Ruth, and Leo Gans, Supervision of Physical Education, New York: McGraw-Hill Book Company, Inc., 1950, pp. 31-34.

7 Bulletin 534, Handbook for Local School Officials, Austin, Texas, September, 1952, p. 41.

8 Evans, op. cit., pp. 116-127.

3. Directed readings.
4. Study groups.
5. Refresher course.
6. Graduate and summer-session study.
7. Membership in professional organizations.
8. Writing for publications.
9. Participation in policy making and curriculum revision.
10. Participation in community affairs.
11. Working conferences.

At Grapeland, an in-service training program is presently in progress. Each teacher, upon request from the administration and Board of Education, is participating. The program is in the form of an evaluation. It carries three hours advanced or graduate credit for each semester. In this evaluation or study, emphasis is given to research in various fields, concern for the needs of individual students, directed readings, study in small groups or work conferences, publication of the findings, participation in policy making and curriculum revision by teachers, participation in community affairs, and membership in professional organizations.

Brownell⁹ and Hagman believe that the qualities of effective leadership in physical education may be summarized into twelve interrelated principles, which seem to be the consensus of several authorities.

1. Know subject thoroughly with respect to its techniques, its contributions to the avowed purposes of general education, and its unique qualities.
2. Establish relationships with students that are cordial, democratic, and helpful.
3. A teacher of students, first of all, rather than as a specialist in a given subject.

⁹ Brownell, Clifford Lee and E. Patricia Hagman, Physical Education: Foundations and Principles, New York: McGraw-Hill Book Company, Inc., 1951, p. 298.

4. High ideals of professional behavior, including emotional stability and social maturity.
5. Broad view of problems confronting education, instead of a narrow, personal, or departmental view.
6. Understand, and utilize in teaching, the problems confronting the students in the home, school and community.
7. Help students to formulate their own ideas, and develop their own skills, and to express their ideas and skills with clarity, efficiency and sincerity.
8. Encourage students to participate in, and to take responsibility for, the evaluation or appraisal of their own acts and progress.
9. Give careful attention to long-range planning and to preparation for the work of each day.
10. Provide intelligent guidance to students who may enter the teaching profession.
11. Participate in the affairs of the school and community as a responsible citizen.
12. Appreciate the magnitude of the profession; cherish the profound conviction that successful teaching benefits society as a whole through the responsible leadership of individual youths during their formative years.

Budget and Finance

In most schools, the usual practice of financing the required physical education program is from the institutional budget. Making a budget, when finances are involved, is necessary. From the budget of the preceding year, the finances for the ensuing year are budgeted. Without some plan

like this, it would be very difficult for a person to assume the duties in a new situation.

Nash,¹⁰ Moersch, and Saurborn have this to say about a budget:

A budget should be a cooperative venture on the part of the administration, teachers, children, and community. It should be planned not for a period of one year, but several years. Children should know the cost of equipment and how money is spent. Careful account of the budget should be kept--income and expenditures--but this responsibility should rest with the one person or persons directly in charge of the program.

The athletic program of most schools is financed totally or in part by the gate receipts. This practice of expecting interscholastics to be totally or largely self-supporting has caused much trouble. For instance, a losing team gets very little money from admission to games, and is unable to be self-supporting. When this situation arises, many schools or patrons put pressure on the coach to win. Many wholesome teaching possibilities are lost when this happens. Only when athletics are treated financially as other school activities is the best instruction provided.

Interscholastic athletics are supported chiefly by gate receipts, but some other sources of income are donations, entertainments and special efforts, magazine subscriptions, and candy sales. The board of education, in many instances, finances athletic activities or supplements their self-supporting efforts.

Jay B. Nash¹¹ and others advocate the following concerning budget

¹⁰ Nash, Jay B., Francis J. Moersch, and Jeannette B. Saurborn, Physical Education: Organization and Administration, New York: A. S. Barnes and Company, 1951, p. 249.

¹¹ Ibid., pp. 151-152.

making. The director of Physical Education should be responsible for making the budget. A budget computed on a minimum should have added fifty cents to seventy-five cents per capita in the grades and ninety cents to one dollar and twenty five cents in high schools. This is usually considered sufficient. If principals are allocated a certain amount of budget money for spending, careful planning is made possible and a master list from the preceding year is made available for a guide.

Each year master lists should be prepared, indicating the type and exact cost of individual items. These master lists serve as guides for principals or purchasing agents. Estimates of needs for the ensuing year should be prepared accurately by the principal and physical education director. This should be done through use of the master lists and budget.

Control of Finances

In the early days of interscholastic athletics, the control of finances resided in the coach or some manager that was not under control of the school. These individuals were rarely called upon to give a financial report. Today the control of the finances rests with some school authority selected by the board of education. This might be the superintendent, principal, physical education director, or the school business manager.

Purchasing Policies

When the needs have been determined, the purchaser is ready to buy, but the purchasing of goods means more than just spending the limit of the budget. Every coach and director is anxious to receive the best service and the longest life for each dollar spent on equipment. There

are some recognized policies of buying which might be followed in order to attain this objective. There are fundamental situations, even though the different schools have different problems. Some of these policies are:

1. Buy standard equipment.
2. Buy quality merchandise.
3. Buy early.
4. Buy within range of ability to pay.
5. Purchase from reputable concerns.
6. Know the sales representative.
7. Take advantage of legitimate discounts.
8. Purchase official equipment.

Jay B. Nash¹² and others agree that contracts may be used or even required for the purchase of equipment and supplies. Many times the lowest bid will be for inferior quality merchandise. In most governmental agencies, the rules and regulations allow a choice based upon the most for the money. When in this situation, the physical education director will do well to consult his group of associates in order to eliminate the possibility of being accused of favoritism.

In conclusion, it can be said that efforts are being made by all concerned to provide better instruction. This is attempted by providing qualified personnel and improved aids through proper administration, budgeting, and financing.

12 Ibid.

CHAPTER IV

FACILITIES AND EQUIPMENT

Just as painters wish to select their own brushes, so technical experts have their preference for tools. But just as all painters use brushes, all teachers in physical education will require mats, stools, mirrors, balls, bats, playing fields, and some means for recording the conditions and growth of individuals.

In recent years the far-sighted administrator is giving, as a matter of sound business policy, more attention than formally to problems of gymnasium construction, provisions for playground and athletic space, equipment, and maintenance. Only recently are boards of education becoming convinced that the gymnasium bears the same relationship to physical education as the laboratory does to physics and chemistry. The day has passed, if it ever existed, when satisfactory programs of physical education can be conducted in classrooms, corridors, or in unused basements.

Gymnasiums

Location

According to Nash¹ and others, a direct southern exposure for gymnasiums is desirable, even though it is undesirable for classrooms, because of the greater amount of sunshine which may be obtained.

The best place for the gymnasium is in a wing of the building,

1 Nash, Jay B., Francis J. Moersch, and Jeannette B. Saurborn, Physical Education: Organization and Administration, New York: A. S. Barnes and Company, 1951, p. 361.

according to Brownell² and Hagman, or away from the classroom building and connected with a covered walk. It should be on the ground floor. Modern principles of school architecture provide for the addition of classrooms as the need arises. Since it is difficult to enlarge a gymnasium and maintain the proper relationship between length and width, care must be taken in the original plans to provide for normal growth in school enrollment. Of the gymnasiums which are ample in size at the beginning, many become inadequate a few years later because of the increased numbers which are to be accommodated.

Location of the gymnasium in a wing of the building facilitates the passing of classes to and from the area. This plan enables the gymnasium to be used for evening performances or for community functions without interfering with other parts of the school.

Locker Rooms

Some authorities recommend placing the locker room beneath the gymnasium, while others favor the plan of locating the dressing room adjacent to the activity area. In any event, direct passage should be maintained between these two rooms.

Nash³ and others approve placing the locker room adjacent to the main floor of the gymnasium. The locker room should be accessible to indoor and outdoor activity.

Showers

The bath is one of the most valuable health measures at the disposal

2 Brownell, Clifford Lee and E. Patricia Hagman, Physical Education: Foundations and Principles, New York: McGraw-Hill Book Company, Inc., 1951, p. 330.

3 Nash, op. cit., p. 230.

of the physical educator. The need for bathing in the public schools is so great that some provision should be made to secure a minimum requirement. It seems that all physical education classes can be arranged to permit and require all the students to bathe after a physical education period. The advantages are very great and the opportunity to develop health habits in this respect should not be lost. The provision of a period for the use of the shower may be easily made by arranging for a double period and by using part of this time also for instruction in health hygiene.

Brownell⁴ and Hagman say that a very fitting conclusion to the gymnasium period is provided by the showerbath, and a change of clothing for the class period contributes much to the aesthetic values of physical education.

The school, under the best conditions, furnishes towels and uniforms and has them laundered after each use, according to Brownell⁵ and Hagman. A small fee is charged by some schools to pay the operating expense. There are hygienic and psychological values of clean, attractive uniforms for all directly concerned; all should wear uniforms that are appropriate for physical education classes. Brownell⁶ and Hagman say, "Locker and shower facilities, including a complete change of clothing for exercise and an invigorating bath at the end of the period, are an essential part of a satisfactory physical education program."

4 Brownell, op. cit., p. 331.

5 Ibid., p. 331.

6 Ibid., p. 331.

Nash⁷ and others agree on the following points concerning showers. The necessary space for the shower room depends upon the number of shower heads needed to accomodate the peak load of students and the amount of floor space for showering and traffic. The problem of providing essential facilities to meet the time-needs of students in classes of instruction is more acute for shower space than for drying and dressing facilities.

"Gang showers of the individual and walk-around type are recommended for boys," confirms Nash and others. Some claim that space may be reduced by one-third and that time required per student shower may be reduced considerably by use of the walk-around type shower. Most authorities agree that the trend for girls' showers is toward the gang type with provision for from two to four special shower-dressing cubicles extra. The recommended ratio of pupils per shower, according to authorities, is: boys 3:1 and girls 2.5:1.

The following procedures for arriving at the minimum space-needs for shower rooms when gang or group showers are used:

1. Determine the number of students to be accomodated at the peak-period load.
2. Determine the number of shower heads needed to accomodate peak-period load.

Boys -- 30 per cent of peak-period load.
Girls -- 40 per cent of peak-period load.

3. Determine the amount of shower and traffic space.

Boys -- Number of shower heads times 14 square feet.
Girls -- Number of shower heads times 14 square feet,
 plus number of additional shower-dressing
 cubicles times 9 square feet.

⁷ Nash, op. cit., pp. 357, 362, 367, and 371.

Floor

The floor of the gymnasium should be smooth and nonskid, with an evenly resilient surface. Authorities do not agree on any material as best for the activity floor. More than one type of material has proved satisfactory. The size of the playing floor, according to Nash and others, should be about 70 feet by 90 feet.

Classroom and Office Space

Physical education authorities suggest that one standard classroom be located near the physical education unit to meet the need for physical education and health discussion. In schools the size of the Grapeland school, the need for special rooms for tumbling, wrestling and other activities is not too severe. The main playing floor will suffice for all these activities provided the class schedule is properly arranged.

The physical education offices should have the same treatment and design as the modern, livable school instructional office. A shower-dressing unit, clothes storage, and toilet facilities should be added to the physical education office.

Activity Areas

The Athletic Journal⁸ ran a survey in 1949 regarding state laws and regulations for the construction of stadiums and bleachers with 35 states responding. The following is part of the findings:

The first question was "Are there laws in your state concerning the erection of portable bleachers?" Only nine states

⁸ Athletic Journal, Vol. 30, November, 1949, p. 48.

have specific laws. Seven states do not have laws which specifically apply to portable bleachers but have statutes which apply to general buildings. Nineteen states have no laws in this connection: Alabama, Arizona, Florida, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri, Nebraska, New Hampshire, New Jersey, Oklahoma, Oregon, Rhode Island, South Carolina, and South Dakota.

The schools should provide those facilities that will contribute most to the highest degree of development for each child. Situations differ, and "Adequate" in one area might be "Inadequate" or "Extravagant" in another. George D. Butler⁹ gives the information found in TABLE IV, which is pertinent in organizing and operating a worthy physical education program at Grapeland, as based on the results of the survey given in Chapter V.

In the column of "dimensions of game areas" is given the actual required space for the activity. The "space required" column gives the area required to provide for out-of-bound activity and safety purposes of spectators, and the column "number of players" gives the number of players that might participate at one time.

Outdoor Areas

Outdoor areas for secondary schools require careful planning to provide the best use for school and community. The site should be level and well drained. Some factors to be considered in functional planning, according to Nash¹⁰ and others, are location and arrangement, utility, supervision, and safety.

9 Butler, George D., Recreation Areas, Their Design and Equipment, New York: A. S. Barnes and Company, 1947, pp. 96-97.

10 Nash, op. cit., pp. 371-373.

TABLE IV
DIMENSIONS AND SPACE REQUIREMENTS FOR ACTIVITIES
AND NUMBER OF PLAYERS FOR EACH

Name of Activity	Dimensions of Game Areas	Space Required (Square Feet)		Number of Players
Archery	90 x 300 length Targets 15' apart	Min.	8,750	2 or more
		Max.	20,000	
Badminton	17 x 44 (singles)		1,500	2
	20 x 44 (doubles)		1,800	4
Baseball	90' diamond		122,500 160,000	18
Basketball (Men)	50 x 94 Maximum 42 x 74 Minimum		6,000	10
Basketball (Women)	45 x 90		5,500	12
Football	160 x 360		79,800	22
Handball	20 x 34		1,350	2 or more
Shuffleboard	6 x 52		600	2 or more
Softball (Men)	55' diamond		75,625	18
Softball (Women)	55' diamond		62,500	18
Table Tennis	5 x 9		240	2 or 4
Tennis	27 x 78 (singles)		6,000	2
	36 x 78 (doubles)		7,200	4
Volleyball	30 x 60		3,600	12 - 16

Joshep A. Guerra,¹¹ instructor at the Academy and Central School, Baldwinsville, New York, conducted a survey with 269 junior and senior schools responding. From the survey, the information in TABLE V was

¹¹ Guerra, Joshep A., Scholastic Coach, Vol. 22, January, 1953, p. 26.

TABLE V
 GYMNASIUM SIZES FOR TWO HUNDRED AND SIXTY NINE
 JUNIOR AND SENIOR HIGH SCHOOLS
 WITH OPINIONS OF ADEQUACY

Student Enrollment	No. of Cases	Gymnasium Sizes				Adequacy Opinions	
		Range	Width	Length	Height		
0-200	6	Minimum	35'	50'	20'	Yes	2
		Maximum	66'	80'	22'	No	4
201-400	43	Minimum	29'	30'	12'	Yes	14
		Maximum	66'	80'	22'	No	29
401-600	66	Minimum	30'	48'	14'	Yes	18
		Maximum	72'	94'	30'	No	48
601-800	57	Minimum	30'	55'	14'	Yes	11
		Maximum	80'	100'	30'	No	46
801-1000	35	Minimum	40'	60'	14'	Yes	9
		Maximum	80'	108'	30'	No	26
1001-3500	39	Minimum	40'	60'	19'	Yes	14
		Maximum	95'	110'	30'	No	25

gathered. In the "Student Enrollment" column is given the size range of the schools being described. The "Number of Cases" column gives the number of replies. In the "Gymnasium Size (Range)" column is given the minimum and maximum widths, lengths, and heights of the gymnasiums reported. In the column "Adequacy Opinions", the "Yes" answers represent the number of reporting officials who felt that their gymnasiums were sufficient. The "No" answers represent officials who felt their gymnasiums should be improved.

There are many common errors that may be committed in constructing physical education, recreational, and athletic areas. Many authorities

agree while some disagree as to the reasons for committing these errors. The following list mentions some of the most agreed upon reasons why facilities are constructed and designed inadequately, according to Fred E. Howell:¹²

1. The failure of designers and program specialists to work together and pool their interests.
2. The absence or ignorance of desirable standards.
3. Policies of false economy.
4. Too often we imitate the facilities of others and repeat the same mistakes over and over again.
5. Both indoor and outdoor facilities are often not planned for a variety of activities, or they are too small to provide seating and playing space for even a fraction of the student enrollment. For example, few institutions provide a sufficient number of tennis courts.
6. Planning a building for outside appearance rather than for inside functional arrangement.
7. Failure to provide for possible needed remodeling, additions, and extensions.
8. Misplaced emphasis on the accommodation of spectators, rather than on the multiple functional requirements of instruction and recreation.
9. Failure to plan for a sufficient amount of spectator seating where it is needed.
10. Failure to plan for efficient traffic flow through congested areas; for isolation of the gymnasiums and pool wing; for isolation of the auditorium, music, craft, arts room, shops, etc., and for foyers including toilets for public use in connection with athletics and dramatics.

Equipment

Nash¹³ and others agree that there should be on file policies

¹² Howell, Fred E., "Common Errors in Planning Facilities," Athletic Journal, Vol. 32, April, 1952, pp. 46-50.

¹³ Nash, op. cit., p. 150.

which determine types of standard equipment needed for the gymnasium and auxiliary rooms, and that these policies should be approved by the superintendent of schools and the building department. The contract for a new building should include these items, and a record of standard equipment for all yards, service rooms, and first aid and health center should be kept.

Authorities agree that certain equipment and supplies are just as essential for elementary schools as are equipment and supplies for high school students. They have the same need and right for a sound fundamental physical education program. In TABLE VI, Nash¹⁴ and others agree on the included essential and desired supplies and equipment.

TABLE VI

ESSENTIAL AND DESIRED SUPPLIES AND EQUIPMENT FOR ELEMENTARY SCHOOLS

Item	Amount
<u>Supplies - Essential:</u>	
Balls	
Footballs (Junior)	8 for every class group ^{**} and 1 in every classroom of the tens and elevens.

14 Ibid., pp. 236-238.

* Supplies: that which needs replacing or repairs frequently. If there are two teaching stations in use continually, some of the essential supplies should be increased by about 50 per cent, e.g., rubber balls and jump ropes.

** Class group is defined as a group of twenty-five. However, when two tether ball poles or two tennis nets are listed for a class group, this does not mean the entire group will be doing that activity. Equipment designated for each class is not to be multiplied by the number of classes.

TABLE VI
(Continued)

ESSENTIAL AND DESIRED SUPPLIES AND EQUIPMENT FOR ELEMENTARY SCHOOLS

Item	Amount
Rubber Balls	
4 inches	6 for class group
6 inches	6 for class group
8 inches	1 for every child in the class and at least 3 in every classroom of the fives to nines.
10 inches	4 for class group and 1 for every classroom of the fives to eights.
24 inches	1 for class group.
Soccer Balls	8 for class group and 1 in every classroom of the nines to twelves.
Softballs (12 inches inseam)	15 for class group and 1 in every classroom of the nines to twelves and 2 in classrooms of the sevens and eights.
Volleyballs	8 for class group and available for classroom use.
Bases	2 sets for class group.
Bats	12 for class group, 1 in every classroom of the nines to twelves and 2 in the classrooms of the sevens and eights.
Bean Bags	4 to a class group. These have been used as substitutes for rubber balls, and this practice should be discouraged.
Crossbars (Bamboo)	2 to a class group.
Jump Ropes	
Short - 7 feet	1 for every child in the class group and 6 in the classrooms of the sixes, sevens, and eights.
Long - 15 to 18 feet	4 for every class group and 1 in each classroom of the sixes, sevens and eights

TABLE VI
(Continued)

ESSENTIAL AND DESIRED SUPPLIES AND EQUIPMENT FOR ELEMENTARY SCHOOLS

Item	Amount
Pinnies (12 to a set)	2 sets (different colors) for class group.
Pump	1 for office
Stilts (can be homemade)	6 pairs for class group and at least 1 pair in each classroom of the sixes, sevens, and eights.
Stop watch	1 for office.
Volleyball Net	2 for class group.
<u>Supplies - Desirable:</u>	
Arrows	Archery should be one of the last activities to be added to an elementary school program because of its lack of vigorousness, cost, and danger element. One should not teach 25 children archery at the same time, so the amount of equipment depends on the number one plans to teach at a time. At least 4-6 arrows are needed for each individual.
Bows	1 bow for each individual or 1 for 2 individuals.
Birds (for aerial dart tennis or similar activity)	1 for every two in class group.
Horseshoes	1 set for class group.
Indian Clubs	12 for class group for games.
Paddles (for aerial dart tennis or similar activity)	8 for class group. (Not all in class would be doing this activity.)

TABLE VI
(Continued)

ESSENTIAL AND DESIRED SUPPLIES AND EQUIPMENT FOR ELEMENTARY SCHOOLS

Item	Amount
Table Tennis Paddles	8 for class group.
Tennis Balls (Table)	8 for class group.
Tennis Nets	2 for class group.
Tennis Rackets	1 for each child in class group.
<u>Equipment*** - Essential:</u>	
Backstops	1 for each diamond.
Balance Beam	1 for class group.
Chinning Bars (5'6", 6', 7'6")	1 set for each apparatus area and 1 adjustable for gymnasium.
Drum	1 for class group.
Flying Rings	1 set for gymnasium.
Horizontal ladder (metal)	1 for each apparatus area.
Jump Standards	2 sets for class group.
Jungle Gym	1 for each apparatus area.
Mats	6 for gymnasium (more for class- room use).
Phonograph	1 for gymnasium.
Piano	1 for gymnasium.
Ropes (Climbing)	4-6 in gymnasium.

*** Equipment: that which is not frequently replaced, and is most often stationary in nature.

TABLE VI
(Continued)

ESSENTIAL AND DESIRED SUPPLIES AND EQUIPMENT FOR ELEMENTARY SCHOOLS

Item	Amount
Sandbox	1 for each apparatus area used for fives, sixes, sevens, and eights.
Soccer Goals	1 set for each field.
Swings	Unit of 4 in each apparatus area.
Traveling Rings	1 set in gymnasium.
Volleyball Standards or Posts	2 sets for class group.
<u>Equipment - Desirable:</u>	
Table Tennis	1 for class group.
See-saws	2 for each apparatus area for fives, sixes, and sevens.
Tennis Nets	2 for class group.
Tetherball Poles	2 (at least) for class group.

In TABLE VII, Nash¹⁵ and others agree that there is a minimum number of items necessary to carry on an effective and efficient physical education program in secondary schools. The desirable number is also listed. The number of suggested items of supplies does not include those in reserve for replacement purposes, nor does it allow for breakage. Therefore, this list should not be used as a guide to the amount needed for a season of participation or yearly allotment.

¹⁵ Ibid., p. 380.

TABLE VII
RECOMMENDED AMOUNT OF SUPPLIES FOR SECONDARY SCHOOLS
BASED ON INSTRUCTIONAL NEEDS FOR CLASS OF FORTY STUDENTS

Items	Minimum	Number of Items Desirable
Basketballs	4	8-10
Footballs	4	8-10
Volleyballs	4	6- 8
Softballs	6	10-12
Baseballs	6	10-12
Soccer Balls	4	8-10
Softball Bats	5	8-10
Baseball Bats (variety of sizes)	6-8	10-12
Tennis Rackets (variety of weights and grips)	20	40
Tennis Balls	20	40
Badminton Rackets	20	40
Shuttlecocks	20	40
Lacrosse Balls	6	12
Field Hockey Balls	6	12
Field Hockey Clubs	22	40
Field Hockey Shinguards	22 pair	40 pair
Archery Bows (Variety of poundage)	6	10-12
Archery Targets	4	8-10
Golf Clubs (variety)	20	40
Golf Balls (practice)	20	40
(regular)	20	40
Golf Nets	1	2

"Football coaches who would like to have a new set of attractive, safe sideline markers for their football field can have them for between \$10.00 and \$20.00," says Jerry D. Hooper,¹⁶ assistant football coach at Scottsbluff High School, Nebraska. At Scottsbluff, Hooper designed a set of markers that are safe, attractive, and visible from all angles.

With the idea of safety, economy, and practicality in mind, a junk

¹⁶ Hooper, Jerry D., "Build Your Own", Athletic Journal, Vol. 33, September, 1950, p. 54.

tire provided a trial model. By cutting the tire through in one place, and turning the tire inside out, the side walls become flatter and stand erect. After turning the tire inside out, holes were drilled in the tire and then it was bolted back together.

During the painting process, the idea of putting numbers on four sides appeared. This is one of the best features of this marker, since the numbers can be seen from any angle.

The outcome of the trial model was a complete set of markers at a cost of \$10.00. The junk tires were procured at no cost to the school. Two dollars were spent for stove bolts, and \$8.00 for paint.

Small high schools find it difficult to buy all of their athletic equipment, especially track equipment, since there is relatively little income from gate receipts. Two of the items in track equipment, where economies may be practiced, according to Donald Clark,¹⁷ are the high jump and pole vault standards. Regulation equipment may be replaced by homemade products.

Clark says that making these standards is a simple matter for anyone who has had welding experience and lists the following materials and dimensions to be used:

High jump standards. Two 19 or 21 inch wire spoke car wheels. Two pieces of $1\frac{1}{2}$ inch pipe four feet long. Two pieces of 1 inch pipe 5 feet long.

Pole vault standards. Two 19 or 21 inch wire spoke car wheels. Two pieces of $1\frac{1}{2}$ inch pipe 6 feet long. Two pieces of 1 inch pipe 8 feet long.

If additional height is desired, the length of the pipe may be increased accordingly.

¹⁷ Clark, Donald, Athletic Journal, Vol. XXXIV, No. 7, March, 1954, p. 18.

Storage and Care of Equipment

A great deal of thought, care, and attention are required for storing inflatable balls, because idleness ruins a ball quicker than anything else. A ball must be stored properly to be of much value during the next season. Balls that are stored for the off season should be cleaned thoroughly with a good ball cleaner, and slightly deflated. Frank J. Murray,¹⁸ instructor of Physical Education at the University of Florida, says "A ball should never be deflated more than one-fourth its normal playing pressure." Balls with bladders that are folded or crushed may develop dry rot, because the moisture in the bladder will cause it to stick together. Every effort should be made to store balls between seasons in the same containers in which they were shipped. This prevents their coming into contact with each other. "Leather should not be exposed to high temperatures; balls should not be over-inflated or under-inflated and should be stored in separate containers."

All clothing, according to Charles E. Forsythe,¹⁹ should be cleaned as soon as it is no longer needed for the season. It should be cleaned or laundered before mold or mildew, which results from perspiration, has had an opportunity to do any lasting damage. After this clothing is thoroughly cleaned, it should be stored in tightly sealed boxes, and made moth, roach, and rat proof.

Facilities and equipment make up nearly the total cost of physical

¹⁸ Murray, Frank J., Athletic Journal, Vol. 30, January, 1950, p. 16.

¹⁹ Forsythe, Charles E., The Administration of High School Athletics, New York: Prentice-Hall, Inc., 1948, p. 222.

education; therefore, there is much need for careful planning in constructing buildings and in the buying of equipment. There should be proper cleaning and storing of all equipment, and all facilities should be properly cared for and protected.

CHAPTER V

PROGRAM

The conduct and content of a well balanced physical education program is considered and discussed in this chapter. A suggested program of physical education as agreed on by authorities in the field is presented here.

Much thought is necessary before a program of physical education can be satisfactorily installed and efficiently operated. A group of activities that is suitable for one school or locality may not be at all appropriate for another. There are many factors involved in the selection of activities that meet the requirements of an efficient program. Nixon¹ and Cozens agree on the following facts and give thirteen factors they consider highly important in selecting activities for a physical education program.

1. The inherent interests and characteristics of children at various stages of development.
2. The level in fundamental skills in the group under consideration.
3. The physical conditions of the individuals being considered.
4. The personnel of the group with which has to be dealt.
5. Sex must be taken into account, especially after about the tenth year.

¹ Nixon, Eugene W., and Frederick W. Cozens, An Introduction to Physical Education, Philadelphia: W. B. Saunders Company, 1948, pp. 87-89, 98-100, 150, 172.

6. Values desired.
7. The teacher load.
8. Hygienic considerations.
9. Size of play space available.
10. The equipment available.
11. The time allotment.
12. Geographical and climatic conditions.
13. The ability of the teacher to develop student leadership.

A traditional feeling among professional workers prior to about 1930 was that boys and girls should be separated for physical education activities at about the age of ten. Since 1930, the trend of thought has changed and these authorities state, "Since boys and girls must play and work together, not only in adolescence, but throughout life, it is quite natural and logical that the opportunity for such training should be given them in recreational activities during the adolescent period." They also give ten principles relating to the organization and conduct of co-recreational activities.

1. The program of co-recreational activities should be only one phase of the entire program.
2. Participation in co-recreational activities should not be compulsory.
3. The opportunity for co-recreational activities should be available at a variety of times, so as to accomodate all who wish to participate.
4. The activities should be adapted to both sexes equally well.

A list of these activities may include:

Archery	Paddle Tennis
Badminton	Ping-pong
Basketball, various modified forms	Shuffle Board
Dart games	Social Dancing
Deck Tennis	Swimming
Folk Dancing	Table games of all sorts
Golf	Tennis
Handball	Tetherball
Modified ball games of all sorts	Volleyball

5. Activities should be selected which can be readily organized and played in out-of-school hours, otherwise, one of the purposes of co-recreational activities is lost.

6. Costumes should be appropriate to the activity.

7. Sex distribution according to growth and development is desirable.

8. An equal numerical distribution according to sex is desirable.

9. The teaching of co-recreational activities is a cooperative undertaking, requiring both men and women teachers.

10. The assistance of student leaders is helpful in organization.

In the United States, with the working hours per week getting fewer and fewer, hours for leisure are increasing. This free time which people have can be a benefit only if it is properly used. Some people can use their free time in reading, writing, and studying, if they are predominantly intellectual. If they are predominantly social or artistic they might, according to authorities, use their free time in conversation, welfare work, politics, arts, literature, music, and carving, but if their abilities are predominantly physical their time will probably be

spent in manual arts, hunting, fishing, hiking, outing, and individual and group sports and athletics. Because a select group of people are predominant in one of these classifications does not mean that they will not have some interest in the others; therefore, everyone will need to develop skills, at least to a limited extent, in physical education.

There are many reasons given now why certain students should be allowed to substitute some other activity for physical education; for instance, at Grapeland the band students have never been required to take physical education. At the present time, no student is required to take part in a physical educational class, which accounts for the fact that only about 31 per cent of the high school pupils actually take part in any type of physical activity during the school day.

Nixon and Cozens say, "No student who is physically fit to attend school regularly and to carry a normal program of academic work should be permitted to evade the physical education requirement." An objective of every school for physical education should be to have one hundred per cent participation.

In 1918, the Seven Cardinal Principles of Education were developed. In 1938, the Educational Policies Commission made another survey. In both studies, health is listed as the first in importance to education. This fact is re-emphasized today in every statement of goals and objectives, and apparently is integral part of our American philosophy of education.

In 1948, a group of graduate students made a study and developed a set of basic beliefs or principles to be observed in organizing and conducting a school program of health. The main points of this study,

according to C. O. Jackson,² professor at the University of Illinois,
are:

1. The organization and administration of a school health program should be controlled by a single, executive department.
2. A separate department of public relations in health education should be created and developed.
3. The school board and the administration must provide and maintain a well-located school plant equipped with adequate facilities and materials of learning to carry on an effective program of health education.
4. The school day should be arranged so that the pupil has sufficient time to eat, rest, play, and study to the end that his learning will be most efficient.
5. An active, functioning health council, representing the school, community agencies, parents, teachers, and pupils should be part of any plan of health education.
6. Every school should plan for an adequate health examination of all pupils, the frequency and type to depend on the needs of the individual school and community.
7. Each school should have a qualified nurse or nurses available at all times.
8. All schools should provide in every possible way for the atypical child.
9. Every school should have an educationally sound, well-thought out, and carefully planned program of health instruction, offered for credit toward graduation.
10. Such an instructional program should be administered by emotionally adjusted, mature persons who have had adequate professional training.
11. All pupils should be enrolled in the planned health instruction program during the elementary and secondary school years.
12. There should be a health instruction laboratory or class room complete with the necessary health teaching materials and resources.

² Jackson, C. O., Scholastic Coach, Vol. 20, September, 1950, pp. 54, 55, 56, and 75.

13. Health instruction should not be limited to a course or courses, but must be integrated and correlated with all subject-matter fields and other areas of emphasis under the direction of the school.
14. A daily program of physical education should be an important part of any school program in health education.

J. E. Gargan,³ physical education director at Hartford, Connecticut, gives his physical education plan as one he considers ideal for junior high varsity basketball. Prior to 1947, Hartford had subscribed to the policy of "No interscholastic athletics below the senior high school level." There had been an intramural program in every junior high school, but competition between schools was forbidden.

The intramural program seemed adequate. Each school had its own gymnasium with a trained physical education teacher on a full-time basis. The coaches did everything possible, according to the author, to provide a good, sound program and to encourage the boys to participate in it.

That was not enough. The boys wanted competition more extensive and intensive than the intramural program could provide. As a result, many boys dropped out of the program to play with outside teams sponsored by the City Recreation Department, the C.Y.O., Church leagues, and other independent organizations.

It seemed obvious that if Hartford continued to withhold the type of competition the boys wanted, other agencies--not nearly as well-equipped professionally or otherwise as the schools were--would take the initiative right out of their hands.

³ Gargan, J. E., Scholastic Coach, Vol. 22, November, 1952, p. 36.

Upon carefully re-evaluating their policy, they decided to revise their program and give the boys the competition they wanted--and apparently needed--under the most wholesome of educational conditions.

The intramural program at Hartford is still operating at each school, but it is set up so that time is allowed for the practice and play by the school team.

Each team is provided men of high moral standards and experienced physical education specialists to coach. In addition to good coaching, it is felt that the chief reason for the success of the program lies in the cooperation of the principals and coaches in setting up and carefully enforcing sound regulations.

These controls consist of:

1. Limitation of number of games.
2. Physical examination of players.
3. Limitation of spectators.
4. Refreshments immediately after games.
5. Provision made for qualified officials.
6. Rules governing conduct of participants.

A Suggested Program of Physical Education

The program of physical education described here by Evans⁴ and Gans is intended as a foundation upon which an enriched program might easily be built. The activities included typify those fundamentals which contribute to the all-round development of boys and girls. They may be taught in limited space and with modest facilities. A serious problem of many young teachers of physical education concerns insufficient facilities. The program described here takes into consideration the problems

⁴ Evans, Ruth, and Leo Gans, Supervision of Physical Education, New York: McGraw-Hill Book Company, Inc., 1950, pp. 175-181.

of limited facilities.

I. Elementary Schools--Lower Grades--Activities Classified.

A. Play Activities

1. Games for small groups.

- a. Callball
- b. Corner spry
- c. Find me
- d. Jump-rope activities
- e. Ring toss
- f. Two deep
- g. Eraser in the ring
- h. Ball bouncing

2. Games for large groups.

- a. Simple relays
- b. Cat and mice
- c. Squirrels in trees
- d. Streets and alleys
- e. Slap jack
- f. Circle stoop
- g. Musical chairs

B. Self-testing activities

1. Stunts

- a. Log roll
- b. Forward roll
- c. Sit up
- d. Seal walk

2. Play on apparatus

- a. Rope climbing
- b. Swinging on rings and swings
- c. Playing on the jungle gym
- d. Chinning the bar
- e. Traveling on the horizontal ladder
- f. Walking on the balance beam

C. Rhythmic activities

1. Fundamental rhythms

- a. Walking
- b. Running
- c. Skipping

- d. Sliding
- e. Hopping
- f. Galloping

2. Classified rhythms

- a. Animal and type interpretations
- b. Play rhythms
- c. Character rhythms
- d. Ball bouncing
- e. Rope jumping

3. Folk dances and swinging games

- a. I wish I had a windmill
- b. Punchinello
- c. Mulberry bush
- d. Farmer in the dell
- e. Looby Loo
- f. Broom dance
- g. Seven steps
- h. Push the business on
- i. Pop goes the weasel

4. Original patterns

- a. Interpretations of popular songs
- b. Movement patterns to poems and songs

II. Elementary Schools--Upper Grades--Activities Classified

A. Play activities

1. Team games

- a. Dodge ball
- b. Soccer baseball
- c. Newcombe
- d. Line soccer
- e. Soft ball

2. Large-group games

- a. Stride ball
- b. Four all around
- c. Bombardment
- d. Crows and cranes
- e. Touch

3. Small-group games

- a. Bowling
- b. Shuffleboard

- c. Hopscotch
- d. Pavement ball
- e. Knock out three man dodge

4. Track and field activities

- a. Dashes
- b. Relay races
- c. Broad jump and high jump (for boys)

B. Self-testing activities

1. Stunts

- a. Jump the stick
- b. Chinese get up
- c. Cock fight
- d. Forward roll
- e. Head stand

2. Play on apparatus

- a. Rope climbing
- b. Swinging on rings
- c. Horizontal ladder
- d. Giant stride
- e. Jungle gym

C. Rhythmic Activities

1. Fundamental rhythms

- a. Walking
- b. Running
- c. Skipping
- d. Sliding
- e. Hopping
- f. Galloping
- g. Dance steps, such as the polka, the schottische, and the mazurka

2. Metrics

- a. Moving in response to quarter notes, half notes, and whole notes
- b. Phrasing music in movement

3. Folk dances and singing games

- a. First two ladies
- b. Skip to my Lou
- c. Rye Waltz

- d. Captain Jinks
- e. Portland Fancy
- f. Serbian Kolas

4. Original patterns

- a. Dance patterns to music suggested by children
- b. Other dance patterns to music

III. Junior and Senior High Schools--Activities Classified

A. Play activities

1. Team games

Boys

- a. Soccer
- b. Touch football
- c. Volleyball
- d. Softball
- e. Baseball
- f. Basketball

Girls

- a. Field hockey
- b. Volleyball
- c. Soccer
- d. Speedball
- e. Softball
- f. Basketball

2. Small-group games

Boys

- a. Tennis
- b. Badminton
- c. Handball
- d. Golf

Girls

- a. Tennis
- b. Badminton
- c. Golf

B. Self-testing skills

1. Stunts

Boys

- a. Tumbling
- b. Indian wrestle

Girls

- a. Tumbling
- b. Jump and reach

2. Play on apparatus

Boys

- a. Rope climbing
- b. Swing on rings
- c. High bar
- d. Buck
- e. Horse

Girls

- a. Rope climbing
- b. Swing on rings
- c. Swedish box
- d. Horizontal ladder

C. Rhythmic activities

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <u>Boys</u> <ol style="list-style-type: none"> a. Marching b. Running c. Walking 2. Folk dances and singing games <ol style="list-style-type: none"> a. American country dances b. Play party games 3. Modern dance <ol style="list-style-type: none"> a. Fundamentals of movement and music b. Simple composition. | <ol style="list-style-type: none"> 1. <u>Girls</u> <ol style="list-style-type: none"> a. Marching b. Running c. Walking d. Skipping |
|--|---|

The child comes into the lower grades directly from the home. Even after he has entered school he does his out-of-school playing in his immediate neighborhood, where his association is, for the most part, with a few children. This young child needs a selection of games for use in or out of school.

Children during their first few years of school have very few opportunities to play in large groups, therefore, the school should provide such opportunity. Games for these large groups provide valuable social experience for young children, as well as the opportunity to develop skills peculiar to games played by large groups.

Children take wholesome pleasure in doing stunts. Much of this pleasure stems from the fact that in this form of activity children have opportunity to show other children what they are able to do and to measure their own progress. This type of activity provides young children with the opportunity to develop muscular strength, especially in those muscles which influence posture. They also stimulate the development of courage

and self confidence as well as strength, agility, and neuromuscular coordination.

Rhythm activities should provide real enjoyment for young children, help to release tension, provide wholesome social experience, and at the same time develop skill in response to musical rhythm.

Team games provide children with the opportunity to develop skills and knowledge relating to the general sports program. They encourage, also, the establishment of attitudes favorable to good sportsmanship and team play.

In this part of the chapter, activities will be discussed that make up the phase of physical education that is pertinent to the largest group of the student body. A survey was made through the upper seven grades at Grapeland, concerning activities which are not offered, but are desired.

Of 225 students questioned, only 111 are scheduled for any type of physical activity, leaving 114 students without any type of scheduled physical education. Of the group surveyed, 147 feel that they are receiving no training that has carry-over value into adult life that can be used as a physical activity for leisurely enjoyment. TABLE VIII, on the following page, lists the various activities requested by the boys and girls, showing the number of requests for each activity.

A few of the activities requested are offered by the present program, but classes are scheduled so as to prevent participation by some students due to conflicts. The children of the Grapeland Public Schools are not receiving, in too many instances, teaching in enough carry-over physical activities, and many are receiving no physical training at all.

TABLE VIII
ACTIVITIES REQUESTED BY STUDENTS IN THE UPPER SEVEN GRADES
OF THE GRAPELAND PUBLIC SCHOOLS

Requested by Girls		Requested by Boys	
Activity Requested	Number	Activity Requested	Number
Swimming	92	Swimming	69
Tennis	80	Riflery	53
Horseback Riding	40	Tennis	44
Dancing	30	Archery	32
Skating	17	Boxing	19
Golf	13	Horseback Riding	19
Archery	10	Golf	16
Ping-Pong	7	Casting (fish)	16
Badminton	6	Gymnastics	12
Volleyball	5	Wrestling	10
Gymnastics	4	Track	9
Softball	4	Soccer	6
Miniature Golf	3	Basketball	3
Riflery	2	Pool	3
Basketball	2	Badminton	1
Casting (fish)	1	Skating	1
Bowling	1	Rowing	1
		Volleyball	1
		Did not want any	1

D. C. Seaton⁵ and others discuss the following physical education activities, showing their values in the modern physical education program:

Swimming

Even though swimming is a seasonal sport, as far as outdoor swimming is concerned, it is fast becoming a year-round activity with the increasing number of indoor pools. Indoor pools are recognized as standard equipment in schools which have financial budgets that will allow for pool construction.

⁵ Seaton, Don Cash, Irene A Claton, Howard C. Liebee, and Lloyd Messersmith, Physical Education Handbook, New York: Prentice-Hall, Inc., 1951, pp. 161, 174, 74, 107, 35, 42, 205, 121, 145.

Swimming allows one to express himself in a multitude of activities, which have as their background certain fundamental water skills. Swimming is an activity that can be participated in and enjoyed by any age group. When the basic skills of swimming have been mastered, the individual has many outlets for expressing himself, plus a means of life saving. Swimming is frequently recognized as an activity which is excellent for all-around development of the body.

Tennis

Tennis is a game that appeals to the young and old of both sexes. As considered by many, it is one of the best forms of co-recreational sports. The game can be played by participants at the speed to fit their ability. Tennis may be played as a mild form of exercise, or as a game so fast that it taxes one's endurance and strength to the very limit. To play a good game of tennis, one needs to develop speed, agility, coordination and endurance.

Tennis can be played either outside or indoors, but it is mostly played in the open air. The surfaces of courts vary from clay and dirt to lawn, composition, or cement.

Horseback Riding

Horseback riding is a sport that can be participated in by a wide range of both sexes. The activity is safe, provided the horses used are sufficiently gentled. Those participating in wild horse riding for spectator enjoyment need to have very good coordination, agility, endurance and strength. Wild horse riding is not generally advocated by physical education authorities.

Dancing

Dancing in some form has existed since primitive times. The dance was probably originated and originally used as an expression of war or combat. It has now come to give expression to individuals in many different ways. As a social recreation, dancing is probably one of the leading activities. Most dances either are, or lead to, co-recreational activity on a social level. There were thirty girls who asked for dance in the Grapeland High School.

Golf

Probably the greatest advantage to the game is the wide range in which enthusiasts can participate. Golf is one of the activities with the greatest carry-over into adult life and into old age. On many courses, men in their seventies can be found, and playing the game without a great loss of skill as is the case in many sports.

Archery

Archery is a sport primarily of shooting at a target with arrows. It is a healthful sport because it is usually practiced out of doors and is not strenuous, which allows persons of all ages and sexes to participate. Archery need not be an expensive sport, because most of the equipment can be made by the enthusiast.

Ping-pong

Ping-pong is tennis in miniature, being played on a table with paddles and a small ball designed for table tennis. The table tennis requires much less space and is scored differently from tennis. It can be played in singles and doubles.

Badminton

Badminton game equipment requires only three items--the net and its supports, the rackets, and the shuttlecock or bird. Sometimes the court is laid out temporarily with tapes, which requires a fourth item. The equipment for badminton is not built especially strong, and care should be taken in maintaining the equipment.

Volleyball

Volleyball can be played as a co-recreation, but it is designed to be played separately by different sexes. For boys the net is eight feet high, while for girls it is seven feet six inches high. It is permissible for eight to play on a side in girls' games, but under the University of Texas Interscholastic League, it is played with six players to the side for both boys and girls.

Gymnastics

Gymnastics is an individual sport that makes for good recreational use. The swings, slides, rings, teeter-totters, and jungle gyms that are so prevalent in community recreational areas are the most elementary forms of gymnastics. It necessitates such equipment as trampolines, high bars, mats, parallel bars, side horses, and flying rings. Gymnastics is especially helpful in building stronger muscles and better postures.

Softball

Softball is a game played on an outdoor diamond small enough to be accommodated to most playgrounds. The bases are much closer than in regulation baseball, and the outfield area is much smaller. The ball is larger and the bat is smaller; therefore, it is impossible to knock the

softball as far as the regulation baseball can be knocked. The large ball is not as dangerous as the baseball and is more adaptable for play-ground use. The game can be played on a high level of skill, or it can be played without a great deal of practice.

Miniature Golf

Miniature golf is a game that can be played by one or several at a time in the same group. The age range for participants is very wide. The game is simple enough for a child to skillfully play it. Because of the nature of the activity, it can be played in the daylight hours or after darkness. Artificial light can be easily provided to sufficiently light a miniature golf course.

Riflery

Riflery is probably too dangerous to be offered in the public school systems. Providing for a rifle range and purchasing rifles is rather expensive. Authorities in the physical education field do not recommend riflery as an activity for public school children.

Basketball

Basketball is played on an area called a court. Five players compose a boys team, while the girls team consists of six players. Girls' rules differ from boys' rules, in that the girls play on only one half of the court. This eliminates some of the physical hazard for girls that playing on the whole court would incur.

The nature of the game causes it to have very little carry-over value into adult life, but authorities agree that it is a good activity for boys while they are developing. Authorities are not in agreement as

to the validity of the game for girls. For this reason, the game is modified from that of the boys and continuously under discussion.

Casting

Casting is a sport that is not difficult to learn, but because most people do not have skilled guidance, very few become masters of it.

The objectives of this sport are considered to be:

1. To master the skill of casting.
2. To learn to select and care for proper equipment.
3. To study the habits of fish and how to catch them.
4. To become a part of the conservation movement.

Casting can be learned as a child, but usually attracts the adult more than it does youths. It can be practiced by practically any age person.

Bowling

Bowling is a modern game of ten-pins, and is played on indoor wooden alleys, sixty feet in length from foul line to the number one pin, and forty one or forty two inches in width. The pins are located in triangular formation on pin spots twelve inches apart. Pins are fifteen inches high and two and one-fourth inches in diameter at the base. Balls may not exceed twenty seven inches in circumference, and must weigh at least ten pounds and not more than sixteen.

Bowling is an excellent recreational activity because of the small amount of energy required to participate in it. It allows both sexes to freely take part and may be played for years after more strenuous activities have been abandoned. Since bowling requires special permanent alleys and special equipment, it is considered rather expensive for the average small high school.

Boxing

Boxing is one of the most highly combative and competitive of all sports. It meets many recreational needs, and it develops many necessary psychological and physiological attributes for the adjustment to modern competitive society. It has carry-over values of courage, self-confidence, aggressiveness, and faith in one's ability to meet crises. Boxing will develop endurance, agility, speed and coordination of bodily movements. Boxing probably develops in the individual the ability to lose graciously and win humbly better than any other sport.

Wrestling

Wrestling is primarily a developmental sport and not one usually thought of as a recreation. It is not usually practiced in adult life, but professional wrestlers sometimes wrestle for many years. If it is properly practiced, it is one of the best developmental sports for boys. The purposes of wrestling might be stated as:

1. Developing physical fitness and strength.
2. Developing protective skills.
3. Developing self-confidence.

Track and Field

Track and field offers such a variety of events that call for walking, running, jumping, throwing, and climbing that practically every type of individual has an opportunity to successfully participate. The purposes of track and field in general are:

1. To develop speed, agility, and endurance in running, jumping, and throwing.
2. To develop skill in the various events that may lead to successful participation in class, intramural and varsity participation.
3. To develop and appreciate the place of track and field in the world of sports.

Soccer

Soccer can be played on a football field, since its regulation specifications vary from one hundred to one hundred and thirty yards in length and from forty to one hundred yards in width for boys' games and from eighty to one hundred yards in length and from forty to sixty yards in width for girls' games.

A team is made up of eleven players for both boys and girls. In play, the hands and arms are not used. The ball is put into play from the center of the field by a place kick. Skill of the feet are developed to a great extent in this game because they are used to control the ball.

Pool

Pool is an activity that requires a developing of skill in arm movement and in judgment of angles and distances. It is played indoors. This activity can be participated in by all ages of both sexes.

Intramurals

One of the biggest administrative problems in administering a sufficient physical education program is the planning of time for the intramural phase of the total program. Some of the times that can be used to provide intramural competition, as Louis E Means⁶ sees it, are discussed. It must be acknowledged and remembered that no one particular time period alone can be set aside for intramurals and a successful program result. All phases of the total program must be carefully coordinated by

⁶ Means, Louis E., The Organization and Administration of Intramural Sports, St. Louis: The C. V. Mosby Company, 1949, pp. 79-90.

the director. The director should consider the local situation, the year's calendar of events, and each day's potential time area when deciding when to conduct intramural activities.

1. Late afternoons--The hours from three to six in the afternoon are undoubtedly the most ideal time for intramurals. More of the students can be reached at this time than any other. Because it follows the crowded academic day and its accumulation of mental fatigue, it is a very appropriate time for recreation. Parents of the students in public schools favor the late afternoon period.

2. Twilight hours--Many schools that lack sufficient playing space are coming more and more to utilize the time just before darkness. Since the days are longer in the spring, it is this season of the school year that is best fitted to this type of planning.

3. The evening period--While there are some objections to intramurals in the evenings, there are arguments for them. If the school day is filled with other activities, nights should be used since intramurals are recognized as justified.

4. Saturdays--The best time for high schools and junior high schools to schedule intramural games might be on Saturdays, because there will be fewer conflicts and interruptions from other school activities at this time.

5. Before school in the mornings--Probably the least used period in school intramurals is in the mornings just before school. It is not uncommon to see students ganged or grouped up on the campus or in town several minutes before school in the mornings. Undesirable habits, such as smoking, gambling, and profanity might be supplanted by scheduling games occasionally for this period.

6. During school hours--Intramurals many times are not the most effective during the school day because of the conflicts in schedules. The time is too short, and the problem of proper employment of out-of-school leisure time is not adequately solved. This time is used sometimes because directors in some schools rationalize that the only available time for them to conduct intramurals is during the regular school day.

7. Vacation periods--Almost every school has groups of students that have nothing to do except wander aimlessly about and long for a place to play during their vacation periods. The problem can be solved by conducting recreational periods and intramural leagues during the vacation periods. By rotating the supervision duties among the different members of the physical education staff, who usually receive extra pay for some summer work, no one will be overtaxed with duty.

8. Special sports day--Many school administrators are beginning to permit one-half day to be used once or twice a year in which practically all the student body can participate wholesale in intramural and organized recreation. Enjoyment and appreciation have reflected in renewed school spirit and academic progress.

Intramural Activities

A school must modify any given program of activities to fit the local conditions. Schools in the north will have different programs from those in the south. Facilities will determine to a great extent the activities a school can offer. Although Louis E. Means⁷ agrees to the fact that many directors with very limited facilities are operating definitely

7 Ibid., pp. 91-125.

successful and comprehensive programs, and that many activities might be adjusted to local conditions.

1. Touch football--The most popular sport in the fall of the year is some form of touch football. Touch football contributes more to the number of intramural injuries than any other activity in the program. Most schools are attempting to make the game safer by modifying it to what is called flag football. The flag is put in the runner's belt, with sixteen inches left hanging out. When the flag is pulled, the runner is down.

2. Football specialties contests--The feature of many intramural programs is specialties in football. Students in the fall season are attracted to events such as the following:

- Shuttle relays
- Forward pass for distance
- Forward pass for accuracy
- Punt for distance
- Punt for accuracy
- Drop and/or place kicks for goals
- Maze running for time with football through or around obstacles

A point system can be arranged to determine a winner of the group of activities.

3. Speedball--The University of Michigan introduced speedball in 1921. It combines the skills and pleasures of soccer, basketball, and football. The combination of overhead and ground play along with the possibility to do more scoring makes the game appeal to players.

4. Tennis--Tennis is a game that many schools use as part of their program in the fall and again in the spring. It can be a co-recreational sport. At Grapeland, no instruction is being given in tennis, and

consequently there is no participation in the sport. Tennis can add much to the interest of the total intramural program.

5. Basketball--For intramural participation, basketball outranks all others everywhere in interest. It is played in many types of leagues and tournaments. At Grapeland, one afternoon and night is given for the purpose of a basketball tournament for all high school grades. The freshman and sophomore classes furnish one team each, while the junior and senior classes each furnish two teams.

6. Basketball free throw--A tournament in basketball free throws is easily organized. Teams can be organized to compete against each other, or individuals can participate independently.

7. Wrestling--The intramural programs of more and more schools are including wrestling. Pairings should be carefully selected. Junior and senior high schools can modify the weight divisions so as to insure a good spread of competitors in the various classes.

8. Boxing--A period of daily preparation for at least three weeks should be preliminary to a contestant's entrance into the ring. Conditioning and instruction are a very important step in preparation. Many directors frown upon boxing, but when properly supervised it can be an important part of the total program.

9. Volleyball--A good, wholesome team sport that has a good carry-over value is volleyball. It should be included in every program. In it is a good opportunity for co-recreational activity.

10. Handball--There are very few schools without a suitable gymnasium wall where one-wall courts can be marked off. It is wrong to assume that handball must have four-wall official courts to be effectively organized and played.

11. Badminton--The popularity of this sport is increasing rapidly. It can be played in singles or doubles. In the south, economy can be practiced by playing badminton outside.

12. Table Tennis--Because of the small amount of space required, it is easy to provide for table tennis. Folding tables may be used to conserve space. Very little supervision is essential.

13. Gymnastics--After proper instruction in physical education classes, gymnastic meets are easy to organize. Best results can usually be obtained by having an all-school tournament with team and individual recognition possible.

14. Softball--The number one spring sport over the nation is softball. The expense of the game is very little, and the players do not have to be specialists. Practices are easy to arrange, and less space is required than for regulation baseball. These factors make for its popularity.

15. Horseshoes--This is a sport that can be played in any size school. It is easy to organize and requires very little space and equipment. Horseshoes should especially be a part of the program in small schools with limited finances.

16. Shuffleboard--Schools can improvise courts for shuffleboard on gymnasium floors, hallways, lobbies and sidewalks, or by constructing outside concrete courts. This is a very good noon-hour activity.

Athletics

In general, four sports--football, basketball, baseball, and track and field--are considered to make up the athletic program. These sports are all administered by the Texas University Interscholastic League.

Athletics provide activities that are competitive in nature. They provide entertainment for the people of the community. There is agreement that athletics build more courage, endurance, and stronger bodies in its participants than most any of the other activities although, as on most issues, there is disagreement. Charles E. Forsythe⁸ gives the following conclusions concerning athletics:

The school's athletic policy will vary with its locality. However, there are some common matters in establishing athletic programs and policies which school administrators may well give consideration.

1. The relation and division of available facilities and personnel between intramural and interscholastic athletics.
2. The number of sports activities in which the school can offer (a) proper teaching and coaching, (b) adequate equipment, and (c) satisfactory playing facilities.
3. Educationally justifiable athletic schedules--length of them and frequency of games.
4. Methods of financing the athletic program.
5. Determining whether girls' interscholastic athletics should be a part of the program.
6. The place of junior high school athletics in the general athletic program.
7. The student and faculty relation in the organization for the control of athletics.
8. Understanding the relation of the local schools to their league and state athletic association.
9. The policy of the school in the care of, and payment for, athletic injuries.
10. Delegation of authority to coaches and faculty managers in matters pertaining to contracts, eligibility, equipment, schedules, officials, and the like.

8 Charles E. Forsythe, The Administration of High School Athletics, New York: Prentice-Hall, Inc., 1948, pp. 147, 148, 251, 260, and 273.

In the division of responsibility in the athletic program in the local school the superintendent is responsible for the total program. It is his duty to keep before the community the fact that athletics are one of the component parts of the educational program. The high school principal has a more definite and detailed relation to the athletic program in most instances than does the superintendent. Athletics are a part of the curriculum which should be considered a subject to be taught and one from which educational experiences can be gained, both by contestants and student spectators. The responsibility of the coach to athletics is the same as the English teacher to the English class. He should have preparation similar to other teachers in the system, including a valid teaching certificate. He should have a clear understanding of the athletic policy of the school.

In order that athletics may be taught properly, the coach should be one who is well trained and experienced in athletics. If a school cannot provide a coach who is properly trained to teach the sport desired, that sport should not be a part of the athletic program. Generally, the members of better instructed and better trained teams receive fewer injuries than those participating on teams improperly instructed and trained.

An athletic budget is merely an estimate of probable income and expenditures. All the probable factors involved in the athletic program must be anticipated by those in charge in order for the budget to have value. The need of a budget does not vary with the size of the budget. It is equally important that all athletic programs operate on a budget. The budget need not be in great detail, and should be flexible enough to allow for necessary changes. The approximate per cent to be given each

of the major four sports of the total athletic budget should be as follows:

1. Football	46
2. Basketball	35
3. Baseball	9
4. Track	10

In making a budget for one activity in the athletic program, one has to consider all the activities and not just that one activity itself. The funds of the total athletic program must be properly proportioned. No general rule can be formulated for the preparation of an athletic budget that will be applicable to the different size schools.

The facilities for athletics should be constructed with safety in mind for the groups to use it. The football field should extend north and south to eliminate receivers from having to face the sun. A gravel subsoil is the best base to facilitate best drainage of the field. There should be from eight to twelve inches of sodded loam topsoil. The center of the field should be about a foot higher than the sidelines.

Gymnasiums should be constructed larger than minimum rules-book recommendations to accommodate spectators. Care should be taken to eliminate all hazards. Floors should be kept clean and non-slippery. Temporary bleachers should be inspected regularly to insure the safety of spectators, and they should be kept clean and as far as possible from side and end lines.

The baseball field should be drained virtually the same as the football field. The diamond laid out where the batter faces the southwest will facilitate a minimum of players to face the sun. The home plate should be flush with the ground, but that area should be slightly higher

than the surrounding area. The pitcher's box may be as much as fifteen inches higher than the base-line levels and must be on a sloping mound. Distances of three hundred feet are recommended as minimum to any obstruction down first-base and third-base lines.

In track and field facilities certain regulations must be adhered to for the safety of the participants. A twenty-five to thirty-five foot width track should be constructed and kept by rolling and sprinkling regularly. The high-jump and pole-vault pit ought to be fourteen to sixteen feet square and be filled with shavings, saw-dust, or a mixture of saw-dust and sand. The broad-jump pit should be twenty-five feet long and six to eight feet wide, and be filled with a good grade beach sand.

The program which has been discussed considers physical education to include all physical activities offered in the school. It is a definite part of the school curriculum and should be accepted and treated as such.

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

Summary

The problem at the Grapeland Public Schools, as has been stated, is the inefficiency of the physical education program. This is pointed out by the fact that the facilities are not used to the best advantage. The small number of students who actually take part in the activities that are offered add to the conclusion that the program is not functioning to its best potential.

The purpose of this study is to present what the modern physical education program should include in the following phases:

1. Administration of Personnel
2. Budget and Finance
3. Facilities and Equipment
4. Content and Conduct of Program

The need for this study is evident when the percentage of participants is pointed out. Only about 31 per cent of the students in the upper four grades are scheduled for any type of physical activity.

The method and procedure followed in collecting and compiling the data in this thesis consisted of:

1. Reviewing literature to determine the most commonly accepted standards and policies for the four areas of the physical education program in the modern school as previously mentioned.

2. Reviewing literature to determine the most commonly accepted ideas in regard to:

- a. General aims and objectives of physical education
- b. Specific objectives of physical education

- c. The general nature of physical education in the whole program
- d. The physical education program in the modern school.

The present physical education program consists primarily of Interscholastic League Athletics. In the elementary grades the classroom teachers supervise the physical education periods. In the high school, there are no physical education classes, except for the one phase of physical education--athletics. Three qualified men physical education instructors serve as coaches in the high school; one coach and one assistant coach teach the boys athletics, and the superintendent is the girls' coach in their Interscholastic League Athletics. These three instructors are the only ones in the entire system that are qualified to teach physical education.

There is no separate budget for physical education in the Grapeland Public Schools. Equipment for physical education is purchased from the fund by the superintendent upon individual requests from teachers.

The facilities leave much to be desired, although some of the facilities are not being used to produce the best results which they could provide. The gymnasium is larger and better equipped than the average in the Grapeland area. The football stadium will seat a capacity crowd of two thousand. The fieldhouse provides appropriately for the home team. The visiting teams dress in one of the dressing rooms of the gymnasium. The playground space is the least sufficient of all facilities. There are less than five acres in the whole campus, while it is suggested that a school the size of the Grapeland Public Schools have at least seventeen acres.

There is plenty of equipment for the activities now offered in the

physical education program. The big weakness lies in the fact that there is not nearly a wide enough variety of activities offered.

The content and conduct of the physical education program in the Grapeland Public Schools consists of a very limited number of activities and supervised and free play in the elementary grades and interscholastic athletics in the junior and senior high schools. The evaluation of the present physical education program shows that it is weak in too many aspects to measure up to a desired program.

The most generally accepted procedure of administration has the superintendent at the head of all school affairs. Next in the chain of authority comes the principals of the schools in the system. Immediately subordinate to the principals are the heads of departments. This is the plan followed at Grapeland.

Qualified men teachers do all the coaching of athletics, including the coaching of girls. There have been several reasons pointed out why it is not the best policy for men to be in charge of a group of girls in their physical activity period. When men teachers must coach girls, suggestions have been made that will suffice.

In recent years the far-sighted administrator is giving, as a matter of sound business policy, more attention than formally to problems of gymnasium construction, provisions for playground and athletic space, equipment, and maintenance. Boards of education are now becoming aware of the fact that the gymnasium and playground bear the same relationship to physical education as the laboratory does to science. The day has passed, if it ever existed, when satisfactory programs of physical education can be conducted in classrooms, corridors, or unused basements.

The gymnasium has many specifications which must be met if the best results are to be obtained from its use. It should have a direct southern exposure and be located in a wing of the building. The locker rooms should be located so that direct passage may be maintained between the locker rooms and the activity area. It should be accessible to both outdoor and indoor activity.

The bath is one of the most valuable health measures at the disposal of the physical educator. A very fitting conclusion to the gymnasium period is provided by the shower bath, and a change of clothing for the class period contributes much to the aesthetic values of physical education. The recommended ratio of pupils per shower is 3:1 for the boys and 2.5:1 for the girls.

Following is a procedure for arriving at the minimum space needs for gang showers:

1. Determine the number of students to be accommodated at the peak-period load.
2. Determine the number of shower heads needed to accommodate the peak-period load.

Boys -- 30 per cent of the peak-period load.

Girls -- 40 per cent of the peak-period load.

3. Determine the amount of shower and traffic space.

Boys -- Number of shower heads x 14 square feet.

Girls -- Number of shower heads x 14 square feet, plus the number of additional shower-dressing cubicles x 9 square feet.

The floor of the gymnasium should be smooth, nonskid, and with an evenly resilient surface. The physical education offices should have the same treatment and design as the modern, livable instructional office. A

shower-dressing unit, clothes storage, and toilet facilities should be added to the physical education office.

Outdoor areas for secondary schools require careful planning to provide the best use for school and community. The site should be level and well drained. Some of the factors to be considered in functional planning are location, arrangement, utility, supervision, and safety.

There should be on file policies which determine types of standard equipment needed for the gymnasium, and auxiliary rooms should be approved by the superintendent of schools. The contract for a new building should include these items, and a record of standard equipment for all yards, service rooms, and first aid and health center should be kept.

In preparing a program, one should keep in mind that boys and girls should not be totally separated at the approximate age of ten, but should be afforded the opportunity to participate in some activities together throughout their school life. For the physical development phase of the program, there should be a separation of the sexes, but from the social aspect there should be some co-curricular activity at all times to be participated in on an optional basis.

Recommendations for the Grapeland School's Physical Education Program

After a careful review of subject matter and a study of the Grapeland School situation, the following recommendations are made:

I. Administration of personnel

- A. There should be a Department of Physical Education set up with one person designated as the director.
- B. The qualified physical education teachers in the system should be utilized more as physical education instructors.

- C. A qualified woman physical education teacher should be employed for the girls.

II. Budget and finance

- A. There should be budgeted \$500.00 for the purpose of physical education in the upper six grades for the school year 1954-1955. Thereafter, the budget should be based on \$1.50 per student per year.
- B. There should be budgeted \$300.00 for the lower six grades for 1954-1955. Thereafter, the budget should be based on \$1.00 per student per year.

III. Facilities and equipment

- A. Twelve more acres of playground space should be provided. This problem is in the process of being corrected, since thirteen acres of land are being added to the campus during the present building program.
- B. All trees that obstruct the play space should be removed.

IV. Content and Conduct of program

- A. All students should be required to take physical education.
- B. Physical education should be provided more for carry-over and developmental purposes.
- C. For the lower elementary grades, this sample should be included:
 - 1. Games for small groups to play, such as jump-rope activities.
 - 2. Games for large groups, such as simple relays.
 - 3. Stunts, such as forward rolls.
 - 4. Rhythmic activities, such as movement patterns to poems and songs.
- D. For the upper elementary grades, this sample should be included:
 - 1. Team games, such as softball.
 - 2. Group games, such as relays.
 - 3. Self-testing activities, such as tumbling.
 - 4. Rhythmic activities, such as hopping or skipping.
 - 5. Separate activities for boys and girls after about the age of ten.
 - 6. Women teachers for girls and men teachers for boys.
- E. The fall program in the junior and senior high schools at Grapeland should include for boys and girls the following sample:

BoysGirls

- | | |
|--------------------------|--------------------------|
| 1. Carry-over Activities | 1. Carry-over Activities |
| a. Swimming (September) | a. Swimming (September) |
| b. Golf | b. Golf |
| 2. Team Sports | 2. Team Sports |
| a. Soccer | a. Soccer |
| b. Touch football | b. Softball |
| c. Softball | |
| d. Baseball | |
| | 3. Rhythmic Activities |
| | a. Modern dance |
| | b. Marching |
| | c. Polkas |

F. The winter program in the junior and senior high schools of Grapeland should include these activities for boys and girls.

BoysGirls

- | | |
|--|--------------------------|
| 1. Carry-over Activities | 1. Carry-over Activities |
| a. Handball | a. Skating |
| b. Skating | b. Archery |
| c. Archery | c. Casting |
| d. Casting | d. Badminton |
| e. Badminton | |
| 2. Team Sports | 2. Team Sports |
| a. Volleyball | a. Volleyball |
| b. Basketball | b. Basketball |
| 3. Big Muscle Activities | 3. Rhythmic Activities |
| a. Tumbling | a. Modern dance |
| b. Wrestling | b. Marching |
| c. Boxing | c. Polkas |
| d. Gymnastics | |
| 4. Joint Activities | |
| a. American country dances | |
| b. Play party games | |
| c. Fundamentals of movement and music. | |

- G. The spring program in the junior and senior high schools at Grapeland should include these activities:

<u>Boys</u>	<u>Girls</u>
1. Team Sports	1. Team Sports
a. Baseball	a. Softball
b. Softball	b. Volleyball
2. Carry-over Activities	2. Carry-over Activities
a. Tennis	a. Tennis
b. Golf	b. Golf
c. Swimming (May)	c. Swimming (May)
3. Big Muscle Activities	3. Rhythmic Activities
a. Track	a. Modern dance
b. Wrestling	b. Marching

In order to be re-assured that the best physical education program has been recommended, a sampling of Grapeland people read and evaluated it. This group consisted of one high school teacher, one elementary teacher, one administrator, and the heads of two families. The consensus of this group was that the recommended program would meet the needs of the Grapeland children from the standpoint of the aims and objectives of a well-rounded physical education program.

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

Brownell, Clifford Lee and E. Patricia Hagman, Physical Education Foundations and Principles, New York: McGraw-Hill Book Company, 1951

Davis, Elwood C. and John D. Lawther, Successful Teaching in Physical Education, New York: Prentice-Hall, Inc., 1948.

Evans, Ruth and Leo Gans, Supervision of Physical Education, New York: McGraw-Hill Book Company, Inc., 1950.

Forsythe, Charles E., The Administration of High School Athletics, New York: Prentice-Hall, Inc., 1948.

Nash, Jay B., Francis J. Moorch, and Jeannette B. Saurborn, Physical Education: Organization and Administration, New York: A. S. Barnes and Company, 1951.

Nixon, Eugene W. and Frederick W. Cozens, An Introduction to Physical Education, Philadelphia: W. B. Saunders Company, 1948.

Seaton, Don Cash, Irene A. Claton, Howard C. Liebee, and Lloyd Messersmith, Physical Education Handbook, New York: Prentice-Hall, Inc., 1951.

Periodicals

Athletic Journal, Vol. 30, April, 1950.

Athletic Journal, Vol. 30, November, 1949.

Clark, Donald, Athletic Journal, Vol. XXXIV, No. 7., March, 1954.

Gargan, J. E., Scholastic Coach, Vol. 22, November, 1952.

Guerrea, Joshep A., Scholastic Coach, Vol. 22, January, 1953.

Hooper, Jerry D., "Build Your Own", Athletic Journal, Vol. 33, September 1950.

Howell, Fred E., "Common Errors in Planning Facilities," Athletic Journal, Vol. 32, April, 1952.

Jackson, C. O., Scholastic Coach, Vol. 20, September, 1950.

Long, James W., Scholastic Coach, Vol. 21, October, 1951.

Murray, Frank J., Athletic Journal, Vol. 30, January, 1950.

Bulletins

Bulletin 534, Handbook for Local School Officials, Austin, Texas, 1952.

Bulletin, Sam Houston State Teachers College, 1953-1954, Huntsville, Texas.

Section D-13 of Evaluative Criteria, Cooperative Study of Secondary School Standards, Washington 6, D.C., 1950.