

AN EVALUATION OF THE PHYSICAL EDUCATION PROGRAM
OF THE TUCSON ELEMENTARY SCHOOLS

by

Winnifred Kelly Mills
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A Thesis

submitted to the faculty of the

Department of Education

in partial fulfillment of the requirements for the degree of

Master of Arts

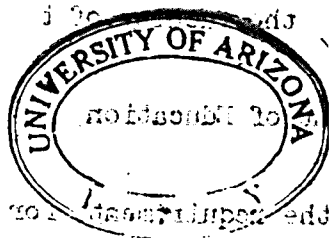
in the Graduate College

University of Arizona

1950

Approved: Emil B. Larson,
Director of Thesis

May 20, 1950
Date



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ACKNOWLEDGEMENTS

The writer wishes to acknowledge her gratitude to Mr. Robert Morrow, Superintendent of the Tucson Public Schools and Miss Frances Moore, Secretary to the Superintendent of Schools for their help and cooperation in this study.

The writer wishes to thank Mr. Frances A. Vesey, Superintendent of Buildings and Grounds, his assistant, Mr. Lawrence Bogott, and Miss Hazel French, Secretary to the Superintendent of Buildings and Grounds. Without their cooperation it would have been impossible to secure essential data necessary for this study.

The writer wishes to express her appreciation to Mr. Ralph King, the school business manager for furnishing information regarding the school budget.

The writer wishes to thank Mr. Wray Marbach, the school plumber, for furnishing information regarding facilities.

The writer wishes to thank Dr. Elizabeth Laidlaw, the school physician, for furnishing certain information regarding the health program.

The writer wishes to thank the principals and teachers of the twenty-three elementary schools for their wholehearted cooperation.

The writer wishes to acknowledge her gratitude to Miss Marguerite Chesney, of the women's physical education department, and the four members of the survey staff who provided much of the information used in this study.

ACKNOWLEDGMENTS (Continued)

The writer wishes to express her appreciation to Mr. Loveless N. Gardner, City Recreation Director, Mr. Gilbert Ray, County Recreation Director, Mr. Everett W. Palmer, Boy Scout Work Secretary, Miss Virginia Law, Girl Scout Field Director, and Mr. Joseph M. Detwiler, Boy Scout Field executive. These individuals helped greatly by supplying information regarding their various organizations.

The writer wishes to express her sincere gratitude to Dr. Emil L. Larson for his assistance and direction in this study.

CHAPTER I

THE IMPORTANCE OF PHYSICAL EDUCATION TO THE WORLD

The importance of physical education to the world becomes apparent by an examination of its effect on the history of several different civilizations. This history may be understood by a consideration of two primary topics. The first of these is the relationship between physical education and the degree of civilization attained by different nations, and the second is the importance of physical education in times of war.

The earliest record of an organized program of physical education is traceable to the Greeks, who were the first peoples to attain a high degree of civilization. Physical excellence was held as a very important prerequisite to effective living. A wide variety of activities was included in their program. Organized training of physical education was begun at the age of six or seven.

The warlike Romans also regarded physical training as a necessary part of their existence. The growth of luxury, the demand for intellectual training, and the establishment of professional armies, however, tended to destroy the favor which the Roman masses had shown for physical education. Soon after these changes had occurred, their civilization began to decline.

During the Dark Ages there was no organized program of physical education. With the coming of the Renaissance, however, the records of

life in Greece and Rome were studied; and, as a result, the emphasis was again shifted from esthetic to more biologically natural activities.

China, India, and Persia had very little physical education in their early history. First, they had no fear of foreign invasion; and second, repression of individuality is exactly opposed to physical education. The degree of civilization attained by these countries was, and still remains, very low.

Thus, it may be seen that physical education maintains a prominent position in highly civilized countries. This is not to say that a high degree of civilization develops as a result of physical education, but that there is a relationship between the amount of physical education provided, and the degree of civilization attained.

The second effect of physical education on history is its importance in times of war. The most powerful nations were those whose armies were given the largest amount of physical education, and history shows that the strong nations have always conquered the weak. It is reasonable to believe that the ultimate defeat of those countries that stressed physical education was due to the philosophy behind the training, rather than an insufficient amount of training.

Definition, Aim, and Objectives of Physical Education

"Physical education is the sum of man's physical activities, selected as to kind, and conducted as to outcomes." ¹ "Selected as to kind" implies that there are many activities, and the selection must

1. Williams and Brownell, "The Administration of Health and Physical Education, W. B. Saunders Company, 1946, Philadelphia, p. 20.

be made according to their worth. "Conducted as to outcomes" indicates that attitudes, interest, and appreciations, as well as habits, should occur along with the skills.

"Physical education should aim to provide skilled leadership and adequate facilities which will afford an opportunity for the individual or group to act in situations which are physically wholesome, mentally stimulating and satisfying, and socially sound."²

The general objectives of physical education are as follows:³

1. The development of fundamental skills in aquatic, gymnastic, rhythmic, and athletic activities for immediate educational purposes—physical, mental, and social.
2. The development of useful and desirable skills in activities suitable as vocational interests for use during leisure time.
3. The development of essential safety skills and the ability to handle the body skillfully in a variety of situations for the protection of self and of others.
4. The development of a comprehensive knowledge of rules, techniques, and strategies in the above activities suitably adapted to various age levels.
5. The development of acceptable social standards, appreciations and attitudes as the result of intensive participation in these activities in a good environment and under capable and inspired leadership.
6. The development of powers of observation, analysis, judgment, and decision through the medium of complex physical situations.
7. The development of the power of self-expression and reasonable self-confidence, (physical and mental poise); by mastery of difficult physical-mental-social problems in supervised activities.
8. The development of leadership capacity by having each student within the limits of his ability, assume actual responsibility

2. Jesse F. Williams, "Principles of Physical Education", p. 250.

3. LaPorte, William R., The Ten Major Objectives of Health and Physical Education, Health and Recreation Journal, January 1936, p. 6.

for certain activities under careful supervision.

9. The elimination of remedial defects and the improvement of postural mechanics insofar as these can be influenced by muscular activities and health advice, based on adequate physical and health diagnosis.
10. The development of essential health habits, health knowledge and health attitudes as the result of specific instruction in health principles and careful supervision of health situations.

The specific objectives for physical education are:

1. To develop wholesome urges for play and attitudes of fair play.
2. To provide opportunities for creative expression.
3. To fulfill the need for self-expression.
4. To develop the interests and abilities of the individual.
5. To give practice in the behavior methods of sound democratic citizenship.

The Relationship between Health and Physical Education

Health and physical education are closely related fields. They hold a unique position in the school, in that these subjects are the only ones which deal with all the children all the time. The physical education program is composed primarily of activities of a vigorous nature since endurance and strength, which are essential factors in health, can be developed best through properly selected exercise.

The primary aim of physical education is to promote health, and it is an integral part of the program to help the child understand the relationship of physical education to the over-all objectives of health.

A significant phase of the physical education program is remedial work, which consists of exercises for the correction or modification of certain defects.

4. State Department of Education, "Course of Study for Elementary Schools of Arizona", Bulletin number nine, 1946, p. 110.

It should be recognized further that physical education is a continuous program of disease prevention, since physical education activities build strength, and thus resistance, to disease.

The Importance of Evaluating the Elementary School Program

The importance of physical education in the growth and development of the child has been reiterated by teachers, supervisors, and administrators. With the impetus given to physical education after the First and Second World Wars, very definite strides have been made. Opportunities for health, citizenship, and education for leisure time, are furthered by a more well-rounded program. Unfortunately more emphasis is placed on physical education in the high school than in the elementary school where there is the greatest need for it. In many cases the program lags behind the thinking. There may be inadequate instruction time, limited supplies, poor equipment, insufficient playground space, or ineffectual teacher training. Much remains to be done. However in the absence of the requisites necessary to an ideal program, the responsibility for attaining desirable outcomes lies directly upon the elementary school teacher. The teacher can modify this deficiency to a large extent by ingenuity, enthusiasm, and an understanding of the needs of the child.

The Problem of This Study

In this study an attempt is made to obtain certain information regarding the physical education facilities, the program, the teacher qualifications, and the out-of-school recreational provisions made for elementary school children. This information is then evaluated on the

basis of approved standards, with the objective of suggesting remedial procedures when and if such improvements seem necessary.

The Limitations of This Study

This study includes only those items which contribute to a well-rounded physical education and recreation program. No attempt has been made to evaluate the health program of the elementary schools, though the close relationship between the two subjects is recognized; and reference is made to it only as it relates to the physical education program. Only the lower and intermediate elementary grades, one through six, are included in this study. The upper elementary grades, seven and eight, are located in the junior high school buildings, where the program and facilities are entirely different. This evaluation deals with the twenty-three elementary schools of the current Tucson public school system.

Procedure

Much of the information used in this thesis was obtained from a survey made in November 1949 by the Women's Physical Education Department of the University of Arizona. This study was conducted as a part of the work in Physical Education 82. These data were supplemented whenever it was necessary.

Data regarding out-of-school recreation provisions and elementary school teachers were obtained by interview.

Related Studies

Since 1933 there have been a number of studies dealing with high

school physical education programs.⁵ As indicated by the titles, many also deal with health education. One study deals directly with health education in the high school.⁶ Since 1933 no studies have been made that deal either with health or physical education in the elementary schools.

The deficiency of studies made in health and physical education in the elementary schools suggests that a better understanding of their needs could be fostered by more research.

Topics for further investigations that would be of immediate value in this respect include the following: The Integration of Health and Physical Education with Other Subjects in the Elementary Schools; and the Carry-over Value of Elementary School Physical Education to Out-of-School Recreational Activities. A follow-up study on an evaluation of the physical education and recreation program made a few years from now would be of interest.

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5. Burt, M. S., A Critical Evaluation of the Status of Physical Education in the High Schools.
 Vialo, M. S., A Course of Study in Health and Physical for the Junior High Schools in the State of Arizona.
 Doolen, B. C., A Course of Study in Health and Physical Education for Boys.
 Hotchkiss, M. C., Physical Education as Training for the Use of Leisure Time.
 Greer, J. W., A Suggested Program of Boys' Health and Physical Education for Tucson Senior High School.
 Morse, M. B., The Contributions of the High School Physical Education Department to the Objectives of Education.
6. Reed, I. S., Functional Course of Study in Health Education for High School Girls.

CHAPTER II

FACILITIES

"Physical education should aim to provide skilled leadership and adequate facilities which will afford an opportunity for the individual or group to act in situations which are physically wholesome, mentally stimulating and satisfying, and socially sound."¹

From this aim of physical education it is apparent that no comprehensive program of physical education is possible without proper facilities. Facilities condition what can be accomplished, and they can limit or make possible the realization of objectives.

School Premises

Dimensions of Tucson Elementary School Premises. An examination of the school grounds reveals that the average school premises contains 146,773 square feet, and that the average area is 311 square feet per child. As indicated by the chart, this total ranges from 31,000 square feet at Richey School with 163 square feet per child, to 266,087 square feet at Rose School with 415 square feet per child. The largest number of square feet per child is 782 at Safford School which has a total area of 240,000 square feet.

Standards for School Premises Based on Program of Activities.

Various estimates of the space necessary range all the way from thirty to two or three hundred square feet per child. These estimates

1. Williams, Jesse F., "Principles of Physical Education", p. 250.

do not take into consideration the fact that a minimum sized yard is necessary for any school. A game of softball in a small school requires just as much space as at a large school. At the estimate of two hundred square feet per child, an attendance of one hundred would yield only twenty thousand square feet, which is not sufficient even for a small school.

In order that the playground area available for the school may be utilized to the greatest extent possible, the school building should be located close to the entrance of the grounds.

The space necessary should be determined on the basis of the largest estimated school population that will be in attendance. The area provided for the playground should be large enough to include all the desirable features of a well-rounded physical education and recreation program, as well as additional allowances for landscaping and clearance.

Strayer and Engelhardt² estimate that four to six acres should be provided for elementary schools and a minimum of 100 square feet per child for the playground area. This is exclusive of lawns and gardens.

School playgrounds should provide for the educational experiences of students during the day and serve the neighborhood outside of school hours.

2. Strayer and Engelhardt, Standards for Elementary School Buildings, p. 10.

TABLE I

SPACE REQUIREMENTS FOR ELEMENTARY SCHOOL PREMISES

Facility and Area

	Sq. Ft. Required	Child Capacity
<u>Apparatus</u>		
Climbing Tree.....	100	6
Slide.....	450	6
Horizontal Bars (3).....	500	12
Parazontal Bars.....	600	12
Horizontal Ladder (2).....	750	16
Stationary Traveling Rings.....	625	6
Giant Stride.....	1,225	6
Junglegym.....	<u>500</u>	<u>20</u>
Total.....	4,750	84
<u>Miscellaneous Areas and Equipment</u>		
Plot for Stunts and Tumbling.....	800	10
Handcraft and Quiet Game Area.....	2,000	30
Sand Boxes (2).....	600	30
Ramada.....	2,500	30
Building Block Platform.....	<u>400</u>	<u>20</u>
Total.....	6,300	120
<u>Space Required for Games</u>		
Ring Games.....	625	30
Tag Games.....	1,400	30
Dodge Ball.....	2,000	30
Captain Ball.....	2,275	20
Playground Ball.....	4,900	20
Hopscotch.....	160	6
Unassigned.....	<u>3,000</u>	<u>30</u>
Total.....	14,360	166
<u>Areas for Games and Sports</u>		
Soccer Field.....	30,000	22
Touch Football Field.....	39,200	22
Softball (2).....	44,125	40
Volley Ball Court.....	2,800	20
Basketball Court.....	3,750	16
Jumping Pits.....	1,200	12
Paddle Tennis Courts (2).....	3,600	8
Handball Courts (2).....	2,100	8
Tennis Courts (2).....	15,000	8
Horseshoe Courts (2).....	1,200	8
Tether Tennis Courts (2).....	800	4
Straightaway Track.....	<u>7,200</u>	<u>10</u>
Total.....	150,975	178

TABLE I (Continued)

Facility and Area	Sq. Ft. Required	Child Capacity
School Building.....	25,000	
Clearance.....	7,000	
Landscaping.....	<u>10,000</u> 42,000	
Grand Total.....	218,385	548

TABLE II

APPROXIMATE NUMBER OF SQUARE FEET PER PUPIL
IN THE TUCSON ELEMENTARY SCHOOLS

School	Total footage of School Premises	Present Daily Enrollment	Square feet per pupil
Rose	266,087	641	415
Government Heights.....	250,000	656	381
Miles.....	244,000	792	308
Safford.....	240,000	307	782
El Rio.....	237,600	640	371
Davidson.....	225,000	685	328
Blenman.....	210,000	752	279
Fort Lowell.....	166,250	453	367
Sam Hughes.....	160,000	792	202
Davis.....	140,600	467	301
Menlo Park.....	132,325	284	465
University Heights.....	127,575	363	351
Roosevelt.....	126,400	279	453
Jefferson Park.....	126,000	382	330
Mission View.....	123,425	619	199
Roskruge.....	117,612	223	527
Ochoa.....	100,000	435	230
Drachman.....	98,208	567	173
Carrillo.....	85,200	337	253
Elizabeth Borton.....	85,000	444	191
Davis-Monthan.....	47,500	178	267
Dunbar Annex.....	36,000	383	94
Richey.....	31,000	190	163
	<u>3,375,782</u>	<u>10,870</u>	—

Average number of square feet per pupil is 311

Needs. The playground was regarded years ago as a place where children spent their time during recess periods, and before and after school. As a result of the newer concepts of education recognizing the importance of the child's interest in the learning process, it has evolved to a place where a well planned program of activities may be carried on. For this reason the modern playground and the classroom deserve the same attention, with respect to construction, equipment, and use. The need in the Tucson elementary schools is for larger play areas. This fact has been recognized by the school administration at this time, and ten acres are provided for in the planning of all new elementary schools.

Conclusions. The average school premises of 146,773 square feet are too small for an effective program of physical education. Out of the twenty-three schools surveyed, only six surpass the minimum requirement of 217,000 square feet. These schools are: (1) Rose, (2) Government Heights, (3) Miles, (4) Safford, (5) El Rio, and (6) Davidson. Premises range in size from 266,087 to 31,000 square feet. The grounds of the remaining schools are less than five acres in size.

Recommendations. Planning for new elementary schools should provide a minimum of five acres. Wherever possible the playground of those schools with insufficient space should be enlarged. Schools with small playgrounds should utilize the space available to the greatest extent possible. This can be done by letting different groups that are on the playground at the same time share equally in the different playing areas by taking turns using them, so that no area will be monopolized by any particular group.

Surfacing

Type of Surfacing Used in the Elementary Schools. With the exception of Rose, Davis-Monthan, Ochoa, and Safford schools, dirt-gravel is the type of surfacing used on the recreation areas, with hard surface areas ranging from none to one-third of the entire playground. There are no hard surface areas at Elizabeth Borton, Davis-Monthan, Dunbar Annex, or Richey schools. There are two hard surface playing courts maintained at Government Heights School. The play area at Rose School contains a plot which has been planted with Bermuda grass. The remainder of the area is dirt-gravel with one asphalt court. Davis-Monthan School has deep gravel around the barrack classrooms, and the play areas are of dirt-gravel. A portion of the playgrounds at Ochoa and Safford schools are surfaced with dirt. The place occupied by Davis-Monthan and Dunbar Annex in the Tucson School System should be mentioned here. At Davis-Monthan academic supplies and teachers are supplied by the school system. All other facilities and equipment are furnished by the Army Air Forces. The school is under the supervision of the education officer at the air base. Dunbar Annex is a rented building which provides temporary housing for the lower elementary grades, pending completion of Dunbar Junior High School, which will house grades one through eight.

Budget for Improvement to Grounds. Under capital outlay in the 1949-1950 Tucson elementary school budget, \$14,000 have been allotted for Improvement to Grounds. If this were for the elementary schools proper, the amount would come to approximately \$609 per school. However, the budget for the elementary schools includes the upper elementary grades, seven and eight, which are housed in the junior high school.

buildings. Thus a portion of the money is spent on the six junior high school grounds.

Estimated Cost of Landscaping. A bid of \$16,000 was made for the landscaping of Rose School. At present costs this amount seemed reasonable, but inasmuch as the school budget did not allow for this expenditure, the grounds were not landscaped. If this amount were to be spent on each of the twenty-two elementary schools, not considering Davis-Monahan, the total cost would be \$352,000.

Types of Surfacing Available. Physical characteristics of various geographical sections of the country determine the type of surfacing that is best suited to the particular section. Each surface now available has advantages and disadvantages.

Turf is recommended by many authorities as the best surfacing material. It is clean and dustless and well adapted to games where there is liable to be falling and tumbling. Its disadvantages are: (1) the initial cost of application and upkeep; and (2) its tendency to retain moisture. It will last for approximately ten years.

Concrete surface gives satisfactory service for playgrounds in constant use. It provides a smooth, hard play area under all weather conditions, permits drainage control, and has a durability of about thirty years. The disadvantages are, (1) the initial cost of installation, and (2) the numerous skin injuries which occur.

Sandy loam makes a good surface and has many of the advantages of turf. It is cheaper than turf to install and maintain, and may be used sooner after a rain. It has the disadvantage of not affording dust control. Daily sprinkling or applications of calcium chloride once or

twice a year will modify the dust. It will last for about ten years.

Clay, sand-clay, and crushed stone may be used to advantage in a mild climate. Their life spans are ten, eight, and ten years respectively. The drainage facilities must be good to use any of these surfaces. The climate in Tucson indicates that they would not be too good here.

Bituminous or anthracite materials are recommended for extensively used play areas. The advantages of using these materials are availability at any time of the year, low maintenance cost, lessening of the dust problem, and ease of keeping such an area clean.

"In general terms, a playground surface should be: (1) porous enough to permit rapid drainage; (2) compact enough to withstand hard use; (3) free from mud in wet weather; and (4) free from dust in dry weather."⁴

Program in Tucson. Experimentation is in its infancy in Tucson, although some headway is being made. Experimentation is being carried on with a dirt-sand combination. The turf at Rose School is also experimental, and it has not yet been established that it will be able to withstand hard use. Keeping a dirt-gravel combination surface smooth by raking has been attempted, but, at best, it is only a temporary relief because the gravel works to the surface again in a short time. Part of the grounds at Ochoa and Safford are surfaced with dirt, which has proven more satisfactory.

Need for Surfacing. A major problem in this area is that of dust

4. Williams and Brownell, "The Administration of Health and Physical Education", p. 309.

control. Surfacing the playground would greatly reduce this undesirable element. A dusty playground may be detrimental to the health of the child using it as well as hard on children's clothing. Surfacing would further add to the attractiveness of the grounds, and provide a safer playing area.

Conclusions. The playground surfaces in Tucson are largely of dirt-gravel, which is unsatisfactory for play areas. Hard surface areas have been provided at all schools except Elizabeth Borton, Dunbar Annex, Davis-Monthan, and Richey. The estimated cost of \$16,000 for landscaping Rose School could not be met by the school budget, for that school or any other elementary school. Experimentation with different types of surfaces is of value.

Recommendations. All permanent elementary schools should have hard surface areas so that a uniform standard can be maintained. Experimentation with different surfaces should be continued. Surfacing would pay dividends in child health, and should be provided for as soon as funds are available.

Shade Facilities

Trees and Ramadas. Out of the twenty-three schools surveyed there was found to be a deficiency of trees at most of the schools. At Sam Hughes School there are forty-two shade trees around the playground. At Government Heights, Elenman, Davis-Monthan, and Dunbar Annex there are no trees. Many other schools have one or two trees that are of little value since they are improperly located. Eleven schools have a ramada and twelve do not.

Need for Shade. Properly placed trees and ramadas add to the attractiveness of playgrounds, without interfering with the primary purpose of the area. Shaded plots make ideal playgrounds for small children, and they provide some measure of dust control. Ramadas furnished with tables and benches can be used for outdoor classes in handicraft, nature study, and art. They also provide a satisfactory place for class picnics.

Location of Trees and Ramadas. Ramadas should be easily accessible to the building, but not near enough to disturb class activities; nor close enough to the game areas to interfere with play. Trees should border the playground and may be planted along the walks and in corners to eliminate the drab unattractive aspect of the playgrounds. Trees should not be planted too near the softball field since they may interfere with play. Also, they should not border along the western boundary of game courts because the shadows they cast in the late afternoon are annoying to players.

Conclusions. The distribution of trees and ramadas among the schools is not equal. Trees are needed on the elementary school grounds for shade, beautification of grounds, and for aid in dust control.

Recommendations. More trees should be planted on the elementary school grounds. Here again the budget for trees comes under the \$14,000 set aside for improvement to grounds in the elementary and junior high schools. The estimated cost of planting and upkeep on one tree is thirty dollars, which is a large financial consideration. However, because of Tucson's warm climate, the planting of pleasant and attractive shade trees is desirable. Ramadas should be provided whenever possible at

those schools that do not have them.

Fencing

Fencing at the Various Schools. Out of the twenty-three schools surveyed, fifteen have fences and eight do not. The schools without fences are El Rio, Elizabeth Borton, Ochoa, Richey, Roosevelt, Sam Hughes, University Heights, and Menlo Park. Wire mesh cyclone fences with tubular frame work are used. Fences are five feet or more in height.

Need for Fences. Increase in automotive traffic certainly suggests the need for enclosing play areas. Not only does fencing serve as a safety precaution, but it also facilitates adequate control of activities; decreases the possibility of injury to passers-by from batted balls; affords some degree of protection from vandalism; minimizes the problem of discipline; lessens outside distractions; and provides opportunities for attractive landscaping.

Conclusions. Eight of the twenty-three schools surveyed have no fences and from the standpoint of child safety this situation should not exist. The height and type of fences used meet the recommended standards. Fences are necessary for many reasons, the most important of which is keeping the child from running heedlessly into the street.

Recommendations. Fences should be erected around elementary schools that do not now have them.

Drinking Fountains

Number of Drinking Fountains on the School grounds. As indicated by the chart, there are a total of 134 drinking fountains on the

elementary school playgrounds. There is an average of approximately six drinking fountains on each play area, with thirty-eight students per drinking fountain. Davis-Monthan and Dunbar Annex Schools have no drinking fountains on the school grounds. Miles, El Rio, and Fort Lowell schools each has twelve drinking fountains on its play area..

The maximum playground load as indicated by the chart was obtained by taking fifty per cent of the total number of pupils, which is in most cases the greatest number of children that will be on the playground at any one time.

Types of Drinking Fountains. The drinking fountains used are of enameled metal, twenty-six inches from the ground and they are hand controlled. A guard around the nozzle prevents the user's lips from touching the jet. The water comes out at an angle of approximately forty-five degrees. Tap water is used. For purposes of economy fountains are placed fairly close to the buildings.

Standards for Drinking Fountains. There should be one drinking fountain for every fifty to sixty pupils. The drinking fountains should be made of vitreous china and the bowl should be so constructed that the lips of the user cannot touch the outlet. They should not be more than twenty-six or twenty-seven inches from the ground. Drinking fountains should be placed near game courts and at the entrances to buildings.

Conclusions. The average number of drinking fountains is sufficient. The exceptions are: Davis-Monthan and Dunbar Annex, which have no fountains; and Roosevelt and Menlo Park schools, which have seventy and seventy-one pupils, respectively, for each drinking fountain. This leaves a total of nineteen schools with a ratio of less than sixty pupils for each drinking

TABLE III

NUMBER OF STUDENTS PER DRINKING FOUNTAIN ON THE TUCSON
ELEMENTARY SCHOOL PLAYGROUNDS

School	Maximum Playground Load	Drinking Fountains on Playground	Number of students per Drinking Fountain
Sam Hughes.....	397	7	57
Miles.....	396	12	33
Elerman.....	376	8	47
Davidson.....	342	6	57
Government Heights.	328	6	55
Rose.....	320	6	53
El Rio.....	320	12	27
Mission View.....	309	7	44
Drachman.....	283	6	47
Davis.....	233	6	39
Fort Lowell.....	227	12	19
Elizabeth Borton...	222	6	37
Ochoa.....	217	4	54
Jefferson Park.....	191	4	48
University Heights..	181	7	26
Carrillo.....	169	4	42
Safford.....	153	4	38
Roosevelt.....	140	2	70
Menlo Park.....	142	2	71
Roskruge.....	112	8	14
Richey.....	95	5	19
	<u>5,153</u>	<u>134</u>	
Dunbar Annex	191	0	--
Davis-Monthan	89	0	--
Average number of pupils per drinking fountain			38

fountain on the school ground. Roskruge has fourteen pupils for each drinking fountain, and Davis and Richey schools have nineteen. The fountains meet sanitary requirements and are the required height.

Recommendations. Menlo Park and Roosevelt schools should each have one more drinking fountain on their school grounds.

Provisions for Bad Weather

Facilities in Elementary Schools. Eleven schools have small ramadas. At no elementary school is there a gymnasium. The newer schools have a community room which is supposedly a combination gymnasium, auditorium, and class room. These rooms have a seating capacity of two hundred. When the weather is bad, the children stay in their home room and play quiet games.

Conclusions. The construction cost of a gymnasium is high. The ramadas are so limited in space that they can not be used for physical education activities. The community rooms are of little value in this respect, since they house the visual aids material, and are used for meetings and assemblies. The chairs in these rooms are rarely taken down.

Recommendations. Gymnasiums are desirable. However, in view of the high construction cost and the mild climate in Tucson it is recommended that, whenever possible, classes should meet outside and the program should be arranged so that the present facilities are completely utilized.

Permanent Playground Equipment

Permanent Playground Equipment on the Playgrounds. A few asphalt

basketball courts, and some dirt-gravel play courts for softball, basketball and volleyball are all the permanent playground equipment provided at any Tucson elementary school, with the exception of Davis-Monthan. As indicated earlier, the equipment, other than actual academic supplies, at Davis-Monthan is furnished by the education office at the Air Base. Davis-Monthan is completely outfitted with permanent playground equipment, including a Safety Climbing Tree, a Safety Platform Slide, Horizontal Ladders, a Junglegym, Horizontal Bars, a See-Saw, and other equipment.

Desirable Equipment. Appropriate playground equipment depends upon the program for which it is intended. Elementary school playgrounds should be equipped as follows: Safety Climbing Tree, Safety Platform Slide, Horizontal Bars, Parazontal Bars, Horizontal Ladder, Stationary Travel Rings, Giant Strides, Junglegym, and a sand box.

Need for Equipment. First place should be given to the dynamic influences of play because of its appeal to the developing child. There are three phases of normal development: nutritive, motor, and intellectual. In the motor stage, prominent from five to ten years of age, the child wishes to climb, slide, and run. The equipment listed above is very effective in this phase of development.

That the need for such equipment is recognized is evidenced by the fact that in December 1949, the principals held a meeting at which they discussed what type of permanent commercial equipment would be the most desirable, if, and when, they had the opportunity to obtain it.

Conclusions. The situation is paradoxical, for, while equipment is badly needed in the elementary schools, the only school with such

equipment, Davis-Monthan, provides 7,500 square feet for it, which is insufficient. The area is so filled with apparatus that its use endangers the safety of the children. The need for this equipment is recognized, but at no school is there a jumping pit or a sand box which are very desirable and not too expensive.

Recommendations. Permanent playground equipment should be obtained whenever possible. A jumping pit and a sand box are inexpensive, and should be provided at each elementary school.

Showers

Number of Showers in the Elementary Schools. The following schools have showers: Drachman, four; Elizabeth Borton, three; Ochoa, three; Roskruge, two; Carrillo, one; El Rio, one; Government Heights, one; Jefferson Park, one; Miles, one; Richey, one; Rose, one; Sam Hughes, one; University Heights, one. Some showers are located in the toilet rooms, and some in the nurses' rooms. They are not used in connection with the physical education program.

Value of Showers. The use of showers is an important factor in well-organized programs of physical education. The shower room represents one of the numerous instances where health education and physical education are closely associated. Wisely administered, a shower room provides one of the best laboratories for inculcating certain health practices of personal cleanliness. Single showers may be used by those children who do not have facilities at home.

Conclusions. There are not enough elementary schools with showers. Eleven schools have showers, ranging in number from one to four. They

are not used in connection with the physical education classes, since there are no locker rooms, and, in any case, the physical education period is not long enough to provide a sufficient amount of time for their use. Occasionally, they are used by those children who can benefit most by them.

Recommendations. New schools should provide for showers. Where only one shower is installed, it should be placed in the nurse's room so that it will be available for both boys and girls.

Rest Rooms

As used here, the term rest room refers to a room provided with cots where children can rest.

Provisions for Rest Rooms in the Elementary Schools. Richey is the only school with a room that is used exclusively as a rest room. At Davis-Monthan there is no rest room. At the remaining twenty-one elementary schools the nurse's office is equipped with one or two cots, and serves as a rest room.

Needs. There should be more than one or two cots provided for children who become ill, need rest, or who are injured. Ideally there should be two rest rooms, one for boys and one for girls, exclusive of the nurse's office. An alternative, however, is one rest room, provided with at least one cot for every fifty students. On the basis of the average number of pupils per school, 472, approximately ten cots should be provided for every school.

Conclusions. There is not a sufficient amount of space provided for rest rooms. The activity in the nurse's room, which serves as a

rest room, makes rest difficult if not impossible.

Recommendations. Future planning should provide for at least one rest room exclusive of the nurse's office in the elementary schools. This room should be close to the nurse's office and should be equipped with at least ten cots, a lavatory, a toilet, and running water.

CHAPTER III

PROGRAM

The school age child, still growing rapidly, is suddenly taken from his carefree world of imagination, play, and physical activity, to an environment of confined spaces, for which he may or may not be ready.

Physical education activities have health values which stimulate growth instead of retarding it. Sound practices indicate that the teaching progression should be from the known to the unknown, beginning with play, with which the child is familiar. It follows that the child will learn more and develop better under a well-integrated program of play activities. Physical education programs aid in determining the child's character. By setting the right ethical standards for his play with other children, the school may make a contribution to his moral training that cannot be overestimated.

Physical education is an important phase of child education, and, as such, is intimately bound up with general education. Few courses in school can compare with physical education as an educative force at once physical, social, and moral, and few courses can so readily stimulate the interest and endeavor of the pupils.

The Essentials of a Desirable Program

Health Examination. The criteria for the selection of physical education activities should be based on the needs of the child. The first step in the determination of these needs is the health examination.

This examination should be provided for and required of every pupil at least once in each school level. The health examination should be completed as early in the year as possible in order to facilitate program planning.

1

The examination should cover the following items:

Eyes	Weight	Orthopedic defects
Ears	Tonsils	Spine
Teeth	Hair	Speech
Throat	Glands	Feet
Nose	Nervous system	Chorea
Skin	Height	Digestion
Heart	Adenoids	Anemia
Lungs	Vaccination	Non-communicable diseases
Nutrition	Posture	Health habits
	Communicable diseases	

It is important that a cumulative health record of each child be kept on file, because it facilitates diagnosis of physical disorders, and, at times, aids in the interpretation of the child's behavior.

The following items are recommended as a minimum list for the cumulative health record:

2

1. Data from the environmental record.
2. Data from the disease record.
3. Data from the scholastic record.
4. Data from the adjustment record.
5. Data from the social record.
6. Data from the health practice record.

The examination makes possible the division of children into three groups:

- A. Those without defects whose participation in activities is unlimited.
- B. Those with temporary or permanent defects whose participation in activities is restricted.

1. Wood and Rowell, Health Supervision and Medical Inspection of Schools, Philadelphia, 1927, p. 167.
2. Williams and Brownell, The Administration of Health and Physical Education, Philadelphia, 1946, p. 125.

- C. Those with physical defects that can be corrected, wholly or partially, with the application of proper therapy.

The program should be arranged on the basis of the findings of the health examination and should provide modified activities for the restricted group, individualized attention for the remedial group, as well as a program for those who can participate in all activities without limitations.

School Nurses. The school nurse is a valuable member of the school staff. First aid, in its strict interpretation, should be the limit of the services offered by any teacher. The duties of a school nurse include the following services:

1. Be in charge of the nurse's office, and hence responsible for the management of emergencies.
2. Aid the physician in physical examinations, and actually conduct a part of the examination herself.
3. Advise the principal regarding school hygiene, and advise the teachers with reference to health problems of certain students.
4. Establish effective measures for the control of communicable diseases.
5. Inspect students after illnesses.
6. Visit homes to investigate illness, or to discuss plans for treatment.

The number of pupils to each school nurse varies greatly. Usually the nurse's load is heavier in towns with populations under 100,000. Rogers³ in his 1940 survey reported that 2,600 was the average number of pupils per school nurse in cities of 100,000 or more population.

Ideally, nurses should not be required to care for more than 2,000 pupils. A full-time nurse is required only in large schools. In the

3. Rogers, J. F., "Health Services in City Schools." Biennial Survey of Education in the United States, 1938-1940. U. S. Board of Education, Washington, 1942.

case of small schools, one nurse can care for two or three schools, budgeting her time between them.

Restricted Activities. Those students in medical classification "B", with temporary or permanent defects, should be urged to participate in those activities within the range of their capacity, as indicated by the physician's diagnosis. In some cases, fairly vigorous activities may be permitted; in others, milder forms of sports should be encouraged in place of excusing students or permitting them merely to rest; in still other cases, rest is specified by the physician. Those with temporary defects should receive periodic examinations until such time as they can participate in unlimited activities. If time allows, these groups can be handled as a separate group in each period. If the program and the teaching personnel are adequate, pupils with defects should be assigned to a separate period where special attention may be given to them.

Corrective Activities. The group of students classified as "C" should be given the opportunity for the correction or modification of functional or structural defects which are a handicap to them. To whom the responsibility of this work belongs is a subject of much disagreement. Properly, the parents should be responsible for the correction of defects as determined by the health examination, and should assume the cost of surgery, immunization, and general medical treatment. However, for financial reasons, many parents are unable to assume this responsibility. Other plans have been devised for the care of children with defects. Among these are: (1) a public clinic, (2) state funds, (3) public spirited organizations, and (4) private individuals.

Where the proper teaching personnel and equipment are provided, the best plan seems to be a balance of the responsibility between the school and the parents. Whenever necessary the cooperation of some organization, charitable or otherwise, might be enlisted.

Where there is not adequate personnel or equipment, a substitute procedure may be used in which a well-equipped, centrally located, corrective center is provided for the use of different schools. The problem, here, of course, is one of transportation.

Teachers need special training to instruct corrective physical education. In addition to academic preparation, the correctives teacher must possess abilities and skills peculiar to the types of defects for which the service is intended.

Corrective cases in the elementary school may be classified under the following headings: (1) nutrition, (2) posture, (3) weak and flat feet, (4) functional and organic heart conditions, (5) hernias, (6) infantile paralysis, rheumatic fever, and other crippling conditions, (7) nervous instability, (8) endocrine disorders, (9) visual defects, (10) speech defects and (11) hearing defects.

As indicated by the list above, the assistance of all the school departments is needed. The English department, the Health department, the Physical Education department, the Medical department, the School Lunch Program, as well as the entire teaching staff should cooperate in giving adequate attention to the correctives group.

The physical education department is concerned with those students who have postural conditions and foot conditions which may be eliminated or minimized through corrective activities. The

nature of corrective work indicates that the size of classes must be small. The maximum number should not exceed twenty pupils. Neither the elementary school teacher nor the physical education teacher is capable of handling these problems without special training. It should be stressed that no teacher without special training, nor one with inadequate training, should attempt to conduct corrective activities.

Corrective gymnasiums should be equipped with mats, stools, mirrors, apparatus for reclining, and apparatus for hanging.

The greatest emphasis on correctives should be in the elementary school where the child's body is most receptive to such correction.

Equipment. The type of physical education program offered will determine the amount of equipment necessary. In general, for a well-rounded program the following equipment is necessary:

Awl	Cord (100'—for marking)
Bean Bags	Softball Gloves
Soft Balls	Horseshoes
Basketballs	Repair Kit
Bounce Balls	Lime (for lines)
Hand Balls	Catcher's Mask
Health Balls	Paddle Tennis Nets
Playground Soft Balls	Tennis Nets
Playground Base Balls	Volley Ball Nets
Soft Rubber Balls	Air Pump
Soccer Balls	Quoits
Tennis Balls	Paddle Tennis Rackets
Paddle Tennis Balls	Tennis Rackets
Tether Balls	Jumping Ropes
Volley Balls	Tape (100' steel or cloth)
Cross Bars	Tape (25' steel or cloth)
Softball Bases	Hurdles
Hit pin Baseball Bases	Wands
Softball Bats	Stop Watches
Posture Charts	Playground Whistles
Age-Height-Weight Charts	Gymnasium Mat
Indian Clubs	Marbles
	Jacks

For purposes of economy and efficiency all equipment should be ordered through a central office. Equipment should be kept in repair and inspected at regular intervals. Some efficient method should be devised for checking out equipment during play periods.

Time Allotment. It is essential that an adequate amount of time be provided for physical education. Most states require a minimum of twenty minutes for class instruction for elementary schools. The Arizona Course of Study recommends one hundred fifty minutes per week, or thirty minutes a day, exclusive of recesses and noon hour, for the intermediate elementary grades. No specific time allotment is given for the lower elementary grades for class instruction, since the child at this age is more individual, and should receive more guided and supervised attention than instruction and direction. This is not to say that the lower elementary grades should receive no instruction in physical education, but that they require less than the intermediate elementary grades. The practice of dividing the instruction period into one or two periods a week and using a portion of this time for health instruction should be discouraged. Health instruction should be offered as an additional subject at some other period, and physical education activities should be offered five times per week. In addition to this, children should have periods of free play in order that permanent interests may be developed.

Size of Classes. For effective instruction relatively small classes are necessary. Activity instruction classes should not exceed thirty-five pupils.

Activity Program. The following activities should be included in the yearly program for both boys and girls in the lower and intermediate

elementary grades. The activities listed beside the classifications are a sampling of the group classification. Little, if any, modification of activities will be necessary for sex difference on these grade levels.

1. Story Plays -- Playground, Day in the Country, Sleeping Princess, Circus.
2. Rhythmical Activities -- The Camel, Cats and Rats, Did You Ever See a Lassie?, Farmer in the Dell.
3. Hunting Games -- Brownies and Fairies, Chase the Animal Around the Circle, Crossing the Brook, Jack Be Nimble.
4. Mimetics -- Rabbits, Birds, Ferry Boats, Cats.
5. Games of Low Organization -- Corner Ball, Soccer Dodge Ball, Tag Football, Long Ball.
6. Dual and Individual Sports, and Recreational Games -- Badminton, Hand Ball, Teniquoit, Broad Jump.
7. Group Games and Relays -- Submarine Relay, Red Rover, Hopping Relay, Bears and Cattle.
8. Stunts and Tumbling -- Elephant Walk, Indian Wrestle, Forward Roll, Stride Pyramid.
9. Track and Field -- Broad Jump, High Jump, Relay, Dash.

Provisions for Evaluation. Tests should be utilized for arranging programs to meet individual needs, and for measuring progress. Each activity taught has its specific achievement. After classification the abilities of students should be determined and their progress measured. Teachers may work out practical tests covering the activities included in the program. The best-known tests for achievement are the Neilson and Cozen's Achievement Test, and the Athletic Badge Tests for Boys and Girls. Among the capacity tests that have been developed and used successfully are the Rogers Strength Test, Brace's Motor Ability Test, and Cozen's Athletic Ability Test. Activities may be evaluated by observing students during their free play periods to see which are most frequently used.

The Program in the Tucson Elementary Schools

Health Examination. A health examination is required of every child in the first and fourth grades. Early in May the parents of pre-school children who are planning to enroll in school the following fall are given health examination forms for recording histories. Health examinations are then made by the family physician, who completes the form.

Any child whose parent can not afford the expense is given a health examination by the School physician, Dr. Elizabeth Laidlaw, between June first and June fifteenth. A more complete examination is given to these children in the fall. Those who expect to be in the fourth grade the following fall obtain their health examination at the same time and by the same procedure.

The examination covers the following items:

Nutrition	Abdomen
Eyes	Urine
Ears	Posture
Nose	Orthopedics
Throat	Developmental Defects
Tonsils	Nervous System
Gums and Teeth	Skin
Speech	Blood Pressure
Glands	Hernia
Heart	Weight
Lungs	Height

Immunization for diphtheria is given as boosters to all children in the first grade, and to those up to ten years of age in other grades who have been immunized in infancy. Immunizing doses are given to all those who have never been immunized. Smallpox vaccine is given to all students in grades one to six inclusive, who have not had a vaccination in five years.

The cumulative health record covers the following:

1. Past History
2. Behavior Problems
3. Physical Examinations
4. Immunizations and Tests
5. Family History
6. Height-Weight Record

On the physical examination form the status of the child for physical examination is indicated as regular, modified, or specified.

School Nurses. There are thirteen school nurses in the Tucson School System. Two nurses are employed full-time in the two high schools. The remaining eleven are divided among twenty-two elementary schools, excluding Davis-Monthan, and the six junior high schools. This is a total of twenty-eight schools for eleven nurses, or approximately two and a half schools per nurse. The total enrollment of the six junior high schools and the elementary schools, not including Davis-Monthan, was 14,457 in January 1950. On the basis of these figures each school nurse cares for approximately 1,314 students.

The duties of the school nurses in Tucson are as follows: inspections after long holidays or illness; referrals to private or school doctor when indicated; first aid that the teacher does not handle; supervision of weighing and measuring; conferences with teachers, parents, principals, and school doctors with reference to children referred to her; home visits at the request of principals to investigate illness, or at the request of the school doctor to discuss plans for treatment.

Restricted Activities. Students with temporary or permanent defects participate as far as possible in the regular physical education

activities. Others are permitted to rest as specified by the physician's recommendation. Medical treatment for those with temporary defects is continued until they can participate in unlimited activities. At no elementary school is there a separate period assigned for these cases, nor are they handled as a separate group in each period.

Corrective Activities. Whenever possible private doctors provide the medical care for school children. Those children who are dependent on outside help for medical care are referred to the County Hospital or to the Crippled Children services, if eligible. Otherwise, they are referred to the School Health Council, by means of a medical assistance blank filled out by the nurse after a home visit. The School Health Council performs a variety of services. Help is extended to those whose income does not exceed one hundred dollars a month exclusive of shelter and utilities for a couple with one child, and ten dollars for each additional child. The program is financed through the participation of the following voluntary groups: individual Parent-Teachers Associations; Crippled Children's Society Hearing Conservation program, borderline orthopedic cases aid, and help for cerebral palsy cases; Lions Club, provision of glasses; Soroptimist Club, financial support; Women's Medical Auxiliary, donations from a benefit sale; Junior League, volunteer service; Catalina Junior Women's Club, donations from a benefit; Pueblo Junior Women's Club, underwriting free lunches in one of the schools; Kiwanis Club, financial support; Tucson Medical Center and St. Mary's Hospital, free beds for elective surgery; St. Luke's Hospital, aid for boys over sixteen with certain types of tuberculosis. Additional service in this connection is given by local school or building health

committees. Faris, Hayden, and Present X-ray Laboratories provide fluoroscope screening of all children suspected of having heart disease.

At the present time there are no provisions for correctives in any of the elementary schools. The only near approach to the problem is an extension course at the University of Arizona in rhythmic gymnastics, which consists of the teaching of dancing as related to posture in the elementary schools.

At no school is there apparatus for corrective work.

Equipment. Loose playground equipment is unequally divided among the schools. At Sam Hughes School, loose equipment completely covers the recommended list, with the exception of tennis, paddle tennis, and hurdle equipment. Government Heights School is equally well provided, with other schools having varying degrees of equipment. Richey School and Dunbar-Annex were the most poorly equipped in this respect.

Equipment is obtained by requisition by the principals, directly to the business office at the city school Administration Building, where it is ordered. Most principals agree that all equipment within reason is provided.

Equipment is found to be in varying degrees of repair.

The same method of distributing equipment is used by all the elementary schools. At the beginning of the year, equipment is issued to each room where it is checked out by the children for physical education periods and during recesses.

Time Allotment. In the lower elementary grades the average amount of time given to physical education was found to be thirty-four

minutes per day. Free play time averages fifteen minutes with most schools using twenty minutes. Instruction periods average eighteen minutes, with most schools allowing twenty minutes. In the intermediate elementary grades the average total physical education time is thirty-six minutes, with most schools using thirty minutes. Free play time was found to average thirty-three minutes, with most schools using fifteen minutes. The average instruction time is nineteen minutes, with most schools using fifteen minutes. These periods are exclusive of recess and lunch hours.

The means and modes given here are not exact since some teachers reported only that the time given to instruction and free play varied.

Size of Classes. The average number of pupils under one instructor's supervision was thirty-one, with the intermediate elementary grades averaging slightly higher.

Activity Program. Many teachers did not respond to the inquiry on an outline of play and physical education activities. The following are the activities that are used the most. Listings beside headings are in the order of their popularity.

1. Story Plays — Cutting the Grass, Circus, Day in the Country.
2. Rhythmic Activities — Danish Dance; How Do You Do, My Partner; I See You.
3. Hunting Games — Brownies and Fairies, Fire Engine, Jack Be Nimble.
4. Mimetics — No report.
5. Games of Low Organization — Softball, Dodgeball, Volleyball, Soccer.
6. Dual and Individual Sports — Jump rope, Hopscotch, Marbles, Jacks, Foot races.

7. Group Games and Relays -- Red Rover, Squirrel in Trees, Jump the Shot, Hopping Relay.
8. Stunts and Tumbling -- Not included in program.
9. Track and Field -- Not included in program.

The following groupings are in order of the most frequent use:

(1) Games of Low Organization, (2) Dual and Individual Sports, (3) Group Games and Relays, (4) Rhythmic Activities, (5) Story Plays, and (6) Hunting Games.

Provisions for Evaluation. No tests or measurements are utilized by the teachers for evaluating the physical education program.

Summary

This evaluation of the Tucson elementary school program is based on the requirements of the desirable program.

Conclusions:

1. The health examination is not given often enough. It is completed early enough for adequate program planning in physical education. This examination is taken care of by the parents, except in cases where the parents are unable to assume the cost. The examination is fairly complete. It does not contain the following items included by Wood and Rowell: hair, adenoids, spine, feet, chorea, digestion, anemia, and non-communicable diseases. In addition to the list given, it includes abdomen, urine, developmental defects, blood pressure, and hernia. The cumulative health record does not contain the social record, and health practice record.
2. Each school nurse takes care of two and a half schools and approximately 1,314 students. This is not too great a load. However, they

are kept very busy by the large number of duties required of them. The nurse is available whenever needed, and her whereabouts are always known so that she can be readily contacted.

3. The teachers follow the doctor's orders regarding suggested rest. No allowance is made for modified activities in the classes, nor is there a separate period for restricted activities.

4. A number of agencies in Tucson provide worthwhile corrective services for those who can not afford to have the work done by their doctor. These agencies are the County Hospital, Crippled Children services, School Health Council, Parent-Teachers Associations, and Faris, Hayden & Present X-ray Laboratories. There are no provisions made for corrective physical education in any of the elementary schools.

5. Loose playground equipment differs at various schools, which is, in part, a result of lack of knowledge on the part of the principals. All equipment within reason may be obtained by requisition to the Business Office. Sam Hughes and Government Heights have the largest supply. Richey and Dunbar-Annex have very little equipment. The amount of equipment is unevenly distributed. Schools all issue equipment to each room, where it is kept during the year.

6. The average total class time for physical education is not sufficient. In the lower elementary grades the average class time given to physical education is thirty-four minutes a day. Class instruction averages twenty minutes, and free play averaged fifteen minutes. In the intermediate elementary grades the average total

class time was approximately thirty-six minutes. Class instruction averages nineteen minutes, and free play averages thirty-three minutes. This is seven minutes less than the thirty minutes recommended in the Arizona Course of Study in the Intermediate Elementary Grades, but it is adequate considering that the period averages only thirty-six minutes a day.

7. The average size of physical education classes is thirty-one which is under the maximum number desirable.

8. The physical education program does not include as many activities as it should. It includes the following activities: Story Plays, Rhythmic Activities, Hunting Games, Games of Low Organization, Group Games. It does not include Mimetics, Stunts and Tumbling, and Track and Field.

9. There is no program for evaluating the students' capacity or progress other than by observation.

Recommendations:

1. The physical examination should be given on each grade level, instead of only in the first and fourth grades. The scope of the examination should be broadened. The cumulative health record should be enlarged to include a more complete social record and a health practice record.

2. The school nurses should continue to maintain the high standard of service they perform at the present time.

3. Provisions are made for restricted activities as far as

possible by providing for games requiring a minimum of activity such as paddle tennis. If possible, provisions should be made for a special class. This could be accomplished by a rescheduling of classes and a different apportionment of pupils.

4. The work of the various organizations which provide corrective measures should be continued and, if possible, enlarged. Corrective physical education should be introduced in the elementary schools. With the cooperation of the teachers, the local Crippled Children's physio-therapist, the orthopedist, the nurses, and the school doctor, provisions can be made for a program for posture problems.

5. Equipment should be more equally divided among the different schools. In order to remedy the present situation each school should be put on an individual budget on a per pupil basis, and principals should be advised regarding the appropriate amount of equipment necessary to carry on a well-rounded program of physical education.

6. The physical education period should be increased to an hour in the lower and intermediate elementary grades. By so doing an adequate time allotment may be given both to instruction and free play. If the present time allotment continues, one class period a week should be given to free play in order that students may have the opportunity to practice the skills they have been taught at such time when the equipment is available for their use.

7. The classes should be kept at their present size, and should not be allowed to increase.

8. The physical education program should be enlarged to include all those activities for which space and supplies are provided. Stunts

and Tumbling, Mimetics, and Track and Field should be included in the program.

9. Tests should be utilized for the purpose of measuring the knowledge and native ability of pupils. Activities should be evaluated on the basis of pupil interest.

CHAPTER IV

ELEMENTARY SCHOOL TEACHERS

Requirements for an Arizona Elementary Certificate. Elementary certificates are granted on evidence of graduation with a Bachelor's Degree from the University of Arizona or the Arizona State Colleges, or from any other accredited university or college authorized to prepare elementary teachers. The requirements are a major of twenty-four semester hours in education and psychology appropriate to elementary school teaching, including instruction in psychology, educational psychology, the elementary school curriculum and techniques, educational measurements, and eight semester hours of directed practice teaching, five of which must have been in grades one to nine, inclusive, and three of which may be in any public school teaching field. Arizona Constitution is also required of all teachers.

Physical Education Requirements for Elementary Teachers in State Schools. A required part of the training for elementary school teachers at the University of Arizona is eight semester hours of physical education. These courses are: Physical Education 82, which is concerned with theories of play, methods of organization, administration, and management of playgrounds; and Physical Education 83, which consists of games of low organization, stunts, relays, and social games.

One physical education course carrying two hours of credit is the only requirement for graduation at Arizona State College at Tempe.

This course is Physical Education 200, Playground Leadership. It consists of a study of games and other activities, their organization, and administration.

At Arizona State College in Flagstaff no physical education courses are required of elementary school teachers.

Teacher Preparation in the Tucson Elementary Schools. There are 385 teachers in the elementary school buildings, 11 men and 374 women, or about 3% men, all of whom have an Arizona Elementary Certificate. As indicated earlier, the state requirements for an elementary certificate do not include courses in physical education. Out of the 385 teachers 224, or approximately two-thirds of them, have taken five or more hours at the University of Arizona. Over one-third of the elementary teachers are graduates of the University, which indicates that many of them have taken the eight hours of work in physical education required. Out-of-state teachers have had varying amounts of training in physical education depending on the requirements of the school from which they graduated. At no elementary school is there a special teacher of physical education.

Various Plans for the Administration of Physical Education. The number of special teachers of physical education in the elementary schools is comparatively small, due to the belief that education is best served when the classroom teacher coordinates the various school activities which surround the child. The principle is sound, but in many cases the program suffers if the teacher does not have adequate training to administer a sound program. Furthermore, the employment

of a special teacher of physical education in elementary schools is economically unsound.

A more economical plan involves the services of supervisors of physical education for the elementary schools. The primary function of a supervisor is the selection and organization of appropriate teaching materials, and the improvement of instructional methods to obtain the most effective learning results. From an administrative point of view, supervision includes the following activities.¹

1. Course of study preparation and revision.
2. Examination and evaluation of new technics and equipment.
3. Teacher visitation.
4. Teacher conferences associated with visitations, adaptation of new methods, demonstrations, and inter-visitations.
5. Preparation of instructional standards for evaluation of results.
6. Community relationships to maintain public interest in and support for the school program.

A third plan for administering physical education is simply that of permitting the regular classroom teachers to provide for their own program of physical education. As mentioned earlier, inadequate technical training in physical education sometimes results in a poor program.

The number of men in elementary education is very small. It is reasonable to believe that a better program could be offered to boys if more men were in the elementary field. A desirable combination of preparatory subjects in this instance would be a physical education major with a minor in academic courses.

Conclusions. The elementary school teachers in Tucson have had

1. Williams, J. F. and Brownell, C. L., The Administration of Health and Physical Education, p. 225.

varying degrees of training in physical education. A standard of eight semester hours in physical education is required for elementary teachers at the University of Arizona, but this requirement is not made by the State Board of Certification. This standard is not constant with all teaching personnel since many teachers are from out of state. Some teachers are doing an excellent job of teaching physical education. Others simply "get by" with a minimum expenditure of effort.

Recommendations. For elementary school teachers now employed who have not had training in physical education, in-service training should be obtained. This might be done through supervision, extension courses, carefully planned teachers' meetings, discussion and practice groups, directed reading, or through attending summer school. The best plan for obtaining a more well-rounded and meaningful program of physical education in all the elementary schools would be the addition of two supervisors of physical education, one for girls and one for boys.

The Arizona Course of Study for Elementary School Physical Education

Contents of the Course of Study. The Course of Study for the Elementary Schools of Arizona is an especially prepared teaching guide in health and physical education put out by the State Department of Education, which was last published in 1946. It contains in a rather complete form a health and physical education program for the lower, intermediate, and upper elementary grades.

Number of Teachers Using the Course of Study. Seventy teachers

report they use the state course of study for elementary schools; fifty-six teachers indicate they do not use it; and eight teachers that they use it occasionally. Some teachers say they have never seen this course of study.

Conclusions. A program and teaching guide is necessary for a well planned program. Over one-third of the elementary school teachers do not use the Arizona Course of Study. Other courses of study are available but the requirements differ and a knowledge of the state requirements is of value.

Recommendations. All teachers should have access to the Arizona Course of Study for Elementary Schools, in order that the best possible program may be offered, and so that the teacher may become acquainted with the state requirements.

Program Planning for Physical Education

Planned Programs of Elementary Teachers. A total of 105 teachers stated that they have a planned program; twenty-two, that the program was not planned; and seven teachers did not respond to the question.

Necessity of Planning Program. Since physical education has been established as an essential part of education, it can not be left to haphazard, extemporaneous methods. The teaching of academic subjects necessitates some preparation on the part of the teacher and so should the teaching of physical education.

Method of Planning Program. The first step in planning a program is to prepare a complete yearly program, indicating all important activities to be included and the amount of time to be devoted to each

one. Reference should be made to a prepared course of study, and the program should be arranged around those activities which time and facilities allow.

The second step is to arrange a detailed monthly, weekly, and daily schedule. This should not be inflexible, but approximate and suggestive, to insure the inclusion of all desired activities, with a reasonable time allotment to each.

The third and last step involves the preparation of detailed daily lesson plans for the various activities.

Conclusions. Approximately one-fifth of the elementary school teachers do not have a planned program of physical education. This is unfortunate since the child is receiving few of the beneficial results which may be expected, when the program is planned, and the major objectives are taken into consideration.

Recommendations. Here again the answer for this problem is supervisors for elementary school physical education. Good supervision would insist upon some systematic program, schedule, and lesson plan, which would result in superior results, providing the teachers and principals were cooperative, well trained, enthusiastic, and original in their handling of materials and children.

CHAPTER V

OUT-OF-SCHOOL RECREATIONAL PROVISIONS

Young Men's Christian Association

Activities. This organization provides a recreation club for fifth and sixth grade boys, known as "Gra-Y." Each year a tournament is sponsored in touch football, softball, basketball, swimming and track. The cost of one year's membership is six dollars.

Schools Participating. Out of the twenty-three elementary schools, eight have a Gra-Y club. These schools are Blenman, Davis, Dunbar, El Rio, Jefferson Park, Menlo Park, Roosevelt, Sam Hughes, and University Heights.

Leadership. These clubs are organized by Mr. Everett W. Palmer, Boys' Work Secretary. From him the leadership is given to a volunteer leader. Leaders are comprised of college boys, parents, and interested adults. The leaders direct all practices which are held two or three evenings a week and on Saturday mornings. They also coach their clubs at tournaments.

Meeting Places. The Gra-Y utilizes facilities wherever they can find them. Elementary school playgrounds, the basketball court at the Y. M. C. A., the polo grounds, and the high school grounds are all used for different activities. "Game Nights" are held at the Y. M. C. A. once a month.

Swimming. Each summer the Y. M. C. A. sponsors a "Learn to

Swim" campaign, which is open to all members in the fourth through the ninth grades. The swimming program consists of two series of classes of five lessons given for five successive days. When the series of classes is completed, a swimming meet is held.

Summer Program. Every summer a "Stay at Home" camp is offered to all Gra-Y members who are in the fourth grade and above. The camp runs for twelve weeks, five days a week, with outings planned for the week-ends. The activities offered are: organized games in the gymnasium; swimming and crafts; and outdoor sports such as baseball, track, archery, riding, stunts, tumbling, and trampoline work. The week-end activities include hiking, riding, and camping out. The cost of the "Stay at Home" camp is included in the six dollar membership fee. Extra charges are made for week-end trips. Charges vary with the length of the trip and the equipment used.

Another camp located six miles north of Oracle that is used as a summer camp by the Y. M. C. A. is the "Triangle Y." This camp runs for four ten day periods. Grouping in the four periods is made on the basis of age level. Activities included in the program are riflery, archery, crafts, swimming, stunts, mass games, wildlife hikes, softball, basketball, tetherball, box hockey, badminton, volleyball, horseshoes, boxing, wrestling, and horseback riding. In addition to these sports, there are mine exploration trips, cattle round-up rides, overnight pack trips, quiet game periods, and rock hound hikes. The cost of ten days of camping, including all expenses and transportation, is thirty dollars.

Conclusions. The Gra-Y program in the elementary schools

provides many recreational experiences for children not otherwise employed by any of the teaching staff. The swimming classes and the twelve week "Stay at Home" camp provide many valuable experiences for leisure time. The "Triangle Y" camp, which is located close to Oracle, provides a vacation away from home under skilled direction.

Recommendations. The staff and facilities of the Y. M. C. A. should be enlarged whenever possible in order that all elementary schools may derive the benefits offered by this organization.

A new Y. M. C. A. building is badly needed so that facilities may be increased.

Boy Scouts

Activities. The primary objective of the Boy Scout organization is to acquaint the child with scouting techniques. The amount of physical education offered varies within the different troops, but badge work takes up the largest part of the meetings. The cost of membership is one dollar per year. Boys are eligible for membership when they reach the age of eight.

Schools Participating. Seven of the twenty-three elementary schools have Boy Scout organizations. Fourteen do not. The schools that have organizations are Blenman, Jefferson Park, Davidson, Carrillo, Miles, Safford, and Sam Hughes.

Leadership. Boy Scout troops are organized by Mr. Joseph M. Detwiler, Boy Scout Field Executive. After the troop is formed a volunteer adult scout leader, who has had some previous scouting experience, takes charge of the troop.

Meeting Places. Weekly meetings are held in the school buildings after school. The location of activities other than the weekly meeting varies with the type of activity.

Summer Program. The Boy Scouts have three camps which are available to them. The overnight camp, Old Fort Lowell, is seven miles northeast of Tucson. Individual troops use this camp for only brief periods of time since facilities are limited. Camp Cowlshaw, located four miles from Patagonia, is used for short term trips. The regular summer camp of the Boy Scouts is Camp Lawton, located in the Catalina Mountains. Enrollments are for a seven day period at a cost of fifteen dollars per period. Scouts may enroll for one, two, or three periods. Physical education activities include hiking, tracking, and games of low organization.

Conclusions. Emphasis on badge work limits the amount of physical education activities offered by the Boy Scouts.

Swimming facilities would be a valuable addition to Camp Lawton. If the activities offered Boy Scouts were sufficiently interesting perhaps more schools would have troops.

Recommendations. The two-fold purpose of securing more scout troops and providing some physical education activities could be served by including sports and inter-troop competition as part of the scout program.

Girl Scouts

Activities. The Girl Scouts have one meeting a week. On the elementary level, at least half of this meeting consists of play

activities. Included are games of low organization, folk dancing, and team sports. At the weekly meetings, picnics, hikes, and other activities are planned. The emphasis is placed on the things the child likes to do, and interest is worked into the troop program. There is a minimum of emphasis on badge work. The cost of membership is one dollar per year. Girls are eligible from the second grade on.

Schools Participating. Fourteen of the twenty-three elementary schools have girl scout troops. These schools are Elenman, Davidson, Fort Lowell, Miles, Sam Hughes, Davis-Monthan, University Heights, Jefferson Park, Dunbar, Menlo Park, Safford, Carrillo, Drachman, Mission View, and Elizabeth Borton.

Leadership. Girl Scout troops are organized by the Field Director, and a volunteer adult leader with some experience in working with children takes charge of activities from that point on.

Meeting Places. The weekly meetings are held after school in the various elementary school buildings.

Summer Program. A summer day program is offered for those Scouts who remain in the city during the summer. It is open to all elementary school girls who are Scouts and in the second grade or above. The cost of this camp is \$2.75 which includes a milk fee, and a physical examination. The camp runs three days a week for four weeks. The facilities of the Latter Day Saints Church, the School for the Deaf and Blind, the new Elks Club building, and the Santa Rita park are all used for a portion of the time in the summer program. Activities include swimming, games of low organization, arts and crafts, and nature study.

The established summer camp of the Boy Scouts, Camp Lawton, is rented for a month in the summer by the Girl Scouts. Camp runs for two periods of two weeks each. The cost is thirty dollars. Activities include hiking, games of low organization, folk dancing, and scouting.

Conclusions. The physical education program offered by the Girl Scouts is limited. The recreational approach is used, however, and the emphasis fortunately is placed on the things the child likes to do. The Girl Scout city summer program provides many recreational opportunities for girls. Camp Lawton is rented from the Boy Scouts for a month during the summer, and some physical education is offered there.

Recommendations. In view of the fact that this organization alone provides a program of out-of-school recreation for elementary school girls, the Girl Scouts should attempt to encompass all the elementary schools. A more well-rounded program of physical education could be effected by placing mimeographed material containing appropriate recreational activities in the hands of the Girl Scout leaders.

City Recreation Department

Playgrounds and Recreation Centers in Operation During the Year.

At each of the following playgrounds and recreation centers a variety of recreation activities are carried on each day under the supervision of trained personnel. These activities include shuffleboard, ping pong, checkers, softball, basketball, volleyball, play on apparatus, and numerous social activities.

Carrillo — 400 S. Main Street

Armory Park — 200 S. Fifth Avenue

Ochoa -- Ochoa and Convent Streets

Oury Park -- West St. Mary's Road

Estevan -- 951 N. Twelfth Avenue

Santa Rita -- 400 E. Twenty-second Street

Mansfield Junior High School Center -- 1100 E. 6th Street
(Summers only)

Himmel Park -- 2500 E. Second Street

Menlo Park School Playground -- Melrose and Fresno
Streets (Mornings, Summer Only)

Elementary Schools After-School Program. Two or three evenings a week the City Recreation Department offers an after-school recreation program for boys at the following elementary schools: Jefferson Park, University Heights, Miles, and Sam Hughes. Activities include softball, hardball, touch football, games of low organization, and stunts and tumbling.

Swimming Pools. The following swimming pools, operated and staffed by the City Recreation Department are open during the summer months:

Himmel -- Tucson Boulevard and East Second Street

Santa Rita -- 400 East Twenty-second Street

Carrillo -- 400 South Main Street (free)

Estevan -- 951 North Twelfth Avenue (free)

Oury Park -- West St. Mary's Road (free)

Wading Pools. The following supervised wading pools are available to children under nine years of age:

Catalina -- North 4th Avenue and East Second Street

Estevan -- 951 North Twelfth Avenue

Himmel — Tucson Boulevard and East Second Street

Santa Rita — 400 East Twenty-second Street

Special Events and Activities. The special events program, as it refers to elementary school physical education activities, offers the following activities: baseball tournaments, swimming lessons, ping pong tournaments, leagues in all sports, swimming and diving meets, softball tournaments, marble tournaments, and shuffleboard tournaments.

Conclusions. The City Recreation department offers a variety of activities and provides facilities that otherwise would not be available to elementary school children. The northeast and east section of the city are deficient in recreation areas. For this reason four elementary school playgrounds are utilized for recreational purposes two or three evenings a week after school, and a program of physical education activities is made available to boys in those schools. The five swimming pools and four wading pools operated by the Recreation Department during the summer months are not enough to provide for the needs of Tucsonians. There is not enough playground apparatus at the parks. However, apparatus is varied and well selected. The program is so organized that the interest of the public is maintained.

Recommendations. The City Recreation Department should continue the excellent program of recreation they now offer. There is a need for a centrally located recreation building which should be constructed as soon as funds are available. Parks should be established in the east and northeast sections of the city. When funds are available additional swimming pools and apparatus should be provided. A program

of physical education should be offered to girls as well as boys.

County Recreation Department

Parks. The County Recreation Department maintains two parks which children in the Tucson elementary schools use. These parks are Mirasol and La Madera Miramonte. Each of these parks has a baseball field, softball field, horseshoe court, and volleyball court. There are no swimming pools.

School Program. Two Tucson city schools that are out of the city limits and some distance from parks are provided with an after school recreation program five days a week. Activities included in the programs are softball, volleyball, handball, touch football, and games of low organization for younger students. These schools are El Rio and Fort Lowell.

Summer Program. At the two schools mentioned above, the County Recreation Department sponsors a summer recreation program, which includes physical education as well as arts and crafts. All recreation areas are under supervision.

Conclusions. The County Recreation Department offers valuable services to the children in two city elementary schools. Physical education activities are limited by facilities, but facilities available are utilized to the greatest extent possible. Swimming pools are needed. As in the case of the city, the county's program is primarily for boys.

Recommendations. A swimming pool should be constructed for the use of those areas without parks. If possible, parks should be

made available for those areas without any recreation facilities.

Some recreation program should be planned for girls.

CHAPTER VI

GENERAL SUMMARY

Each chapter, with the exception of chapter I, contains conclusions and recommendations in which the major points are brought out. The following contains the major findings in a briefer form. Recommendations will not be made on chapter I since it is primarily background material.

Major Conclusions

I. Introduction

1. Physical education is important to the world because history shows that highly civilized countries have always placed a great deal of emphasis on it. It is important too in times of war, when the presence or lack of it, constitutes victory or defeat.

2. "Physical education should aim to provide skilled leadership and adequate facilities which will afford an opportunity for the individual or group to act in situations which are physically wholesome, mentally stimulating and satisfying, and socially sound."¹

3. Health and Physical Education are closely related fields. Physical education is composed primarily of activities of a vigorous nature, and endurance and strength can be developed best through properly selected exercise.

4. Physical education is important in the development and growth of the child. For this reason a well-rounded program should

1. Williams, Jesse F., "Principles of Physical Education", p. 250.

be made available to the child in the elementary school, where there is the greatest need and desire for motor activity.

5. An attempt is made in this study to obtain information regarding the recreation and physical education program available to elementary school children. Evaluation is made on the basis of approved standards. Suggestions are offered when and if improvements seem necessary.

6. This study is limited to only those items which contribute to a well-rounded program of physical education and recreation.

7. The procedure has been to utilize information obtained from a survey conducted by Women's Physical Education 82, to evaluate this material, and supplement it whenever necessary.

8. Since 1933 no studies have been made that deal with elementary school physical education, though many deal with the high school program.

II. Facilities

1. The average school premises of 146,773 square feet are too small for a well-balanced program of physical education and recreation. Premises range from 31,000 to 266,087 square feet.

2. Most of the playgrounds in the Tucson Elementary Schools are surfaced with dirt-gravel, which is an unsatisfactory playing surface and detrimental to the health of the child. There are four schools that do not have hard surface areas on the playground. Experimentation with different surfaces in Tucson indicates that the need for a satisfactory playing surface is recognized.

3. There are not enough trees or ramadas on most elementary school grounds to provide shade or landscaping.

4. Those schools without fences are taking unnecessary chances with the health and safety of the child, which is not in the best interest of all parties concerned.

5. The average number of students per drinking fountain on the school grounds of the elementary schools is 34. This indicates that there are, in general, sufficient drinking fountains for the number of pupils in attendance. There are too many students per drinking fountain at Menlo Park and Roosevelt Schools.

6. Gymnasiums are not needed in Tucson. However, the present facilities on the school grounds should be completely utilized. Community rooms and ramadas are of no definite value to the physical education program.

7. There is not enough permanent playground equipment on the elementary school grounds. Except at Davis-Monthan there is no apparatus for smaller children, which is not as it should be, considering the value of such equipment in child development. Sand boxes and jumping pits are inexpensive and within the budget of the individual schools.

8. Not all elementary schools have a sufficient number of showers.

9. The present arrangement made for rest rooms is unsatisfactory. Nurses' rooms are crowded and there are not enough cots to serve the needs of the children in the various schools.

III. Program

1. The health examination is not given often enough. The cumulative health record should include more information about the

child.

2. The school nurses are maintaining a high standard of service. It is through their efforts that corrective cases are brought to the attention of the proper authorities.

3. Restricted activities are not included in the physical education program for those children who are unable to participate in regular activities. Those children either rest or watch the other children play.

4. Many agencies contribute excellent corrective services to the school children. A Revolving Health Fund has been established for those children who need corrective service. Many of Tucson's civic groups participate in this. As far as is known this is the only group in the United States financed entirely by voluntary groups, rather than by state aid.

5. Some schools do not have a sufficient amount of equipment which is due partly to a lack of sufficient information on the part of the principals. Many schools do not take care of the equipment they have, and maximum use is not obtained.

6. The average physical education period is not long enough to provide an adequate amount of time for instruction and free play.

7. The average size of physical education classes is not too large for effective instruction and activity.

IV. Elementary School Teachers

1. Elementary school teachers have had varying amounts of preparation for teaching physical education since many have attended schools in other states where requirements vary. In some cases

inadequate training results in a poor program. The standard of eight semester hours of physical education required at the University of Arizona is met by over one-third of the teachers. The State Colleges at Tempe and Flagstaff do not require enough physical education for elementary school teachers.

A more balanced program could be provided for boys if more men, with a knowledge of physical education, taught in the elementary schools.

The deficiencies point to the need for supervisors of elementary school physical education.

2. More teachers should become acquainted with the Arizona Course of Study for Physical Education in the Elementary Schools, in order that they may be familiar with the state recommendations.

3. Not enough teachers have planned programs of physical education, a situation which is unfortunate for the child.

V. Out-of-School Recreational Provisions

1. The Gra-Y program in the elementary school provides many excellent recreational experiences not otherwise available. The summer program of camping and swimming in Tucson provides fine opportunities for the effective utilization of leisure time. The Triangle Y Camp offers a well planned recreation program.

2. The Boy Scout program provides insufficient recreational activities, which may account for the fact that only seven schools have organizations.

3. The recreation program offered by the Girl Scouts is limited. However, the emphasis is placed on what the child likes

to do rather than badge work. The summer program maintained in the city provides many recreational opportunities for girls. Camp Lawton, which is rented from the Boy Scouts for a month during the summer, offers recreational opportunities as far as facilities will allow.

4. The City Recreation Department offers a variety of activities and provides facilities that otherwise would not be available to elementary school children. This department does commendable work with the funds and facilities at their disposal. The northeast and east sections of the city are deficient in recreation areas. For this reason four elementary school grounds are utilized for recreational activities two or three evenings a week. This indicates thoughtful planning. There is not enough apparatus at the parks, nor is there a sufficient number of swimming pools.

5. The County Recreation Department offers valuable experiences to the children in two Tucson city schools by providing an after-school recreation program on those school grounds.

Major Recommendations

II. Facilities

1. Additional land should be purchased wherever possible for those schools that do not have enough space to carry on a well-rounded program of physical education. Future planning should provide for a minimum of five acres of land for each elementary school.

2. Experimentation with different surfaces should be continued. Whenever funds are available all elementary school school-grounds should be surfaced. Hard surface areas should be provided at those

schools that do not have them now.

3. Trees and ramadas should be provided for at those schools which do not have them.

4. Child safety should be considered first in all planning. For this reason fences should be erected around all the schools that do not now have them.

5. An additional drinking fountain should be provided at Menlo Park and at Roosevelt schools.

6. Greater use should be made of the various play areas on the school grounds since there are no gymnasiums. Whenever possible classes should meet outside.

7. Jumping pits and sand boxes should be constructed at all of the elementary schools. Permanent apparatus should be an aim for schools when funds become available.

8. Showers should be placed in those schools that do not have them.

9. Future planning should provide at least one rest room, exclusive of the nurse's office, for use by the children. If space can be found there should be a sufficient number of cots provided for children in each elementary school.

III. Program

1. A physical examination should be required or provided for all elementary school children at least once a year.

2. The school nurses should continue to maintain the high standard of service they render at the present time.

3. Provisions should be made for a special class in restricted

activities, if the program can be made flexible enough to allow for a rescheduling of classes. Otherwise, provisions should be made for special activities in the regular class period.

4. The work of the various organizations which provide corrective measures for school children should be continued, and if possible enlarged. Provisions for posture correction should be provided for by enlisting the aid of school and local groups.

5. In order that the uneven distribution of equipment may be remedied, each school should be put on a per pupil budget, and principals should be advised regarding the amount of equipment necessary to care for the needs of their schools.

6. The physical education class period should provide for a one hour period in order that a sufficient amount of time may be given for both instruction purposes and free play.

7. Physical education classes should remain at their present size.

8. The physical education program should be broadened to include all those activities for which space and facilities are provided. Stunts and tumbling, mimetics, and track and field should be incorporated in the program.

9. Teacher planning should include provisions for testing the pupils' abilities and skills, and for evaluating activities.

IV. Elementary School Teachers.

1. In-service-training should be obtained by teachers who do not have a sufficient background in physical education. Two supervisors of physical education should be added to the administrative

staff of the elementary school system, in order that a well-rounded program of physical education may be fostered by all elementary schools.

2. Teachers should have access to the Arizona State Course of Study for Physical Education so that a knowledge of activities and state requirements may be facilitated.

3. A planned program of physical education should be developed by each teacher.

V. Out-of-School Recreational Provisions.

1. The staff and facilities of the Y. M. C. A. should be enlarged in order that all elementary schools may be encompassed by their program of recreation.

2. Inter-troop competition should be made a part of the Boy Scout program, so that boys belonging to this organization may receive additional recreational experiences. The interest that would be fostered by such a program would undoubtedly increase the number of Boy Scout troops.

3. Since the Girl Scouts is the only organization that offers a program of recreation for elementary school girls, all elementary schools should make provisions for troops. A program of leader education regarding recreation activities would enrich the program.

4. The City Recreation Department should continue to provide a program of physical education wherever there is a deficiency of parks and recreation areas. More parks, swimming pools, and apparatus should be provided for as soon as practical.

5. The County Recreation Department should continue to serve the needs of those schools which are in the El Rio and Fort Lowell

areas. As soon as possible a park and swimming pool should be provided in the El Rio and Fort Lowell areas.

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