Physical Fitness and Physical Education Programs in Selected Schools of South Dakota

Joe Lockwood

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PHYSICAL FITNESS AND PHYSICAL EDUCATION PROGRAMS IN
SELECTED SCHOOLS OF SOUTH DAKOTA

By

Joe Boosley Lockwood

A thesis submitted
in partial fulfillment of the requirements for the
degree of Master of Science at South Dakota
State College of Agriculture
and Mechanic Arts

July, 1958

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This thesis is approved as a creditable, independent investigation by a candidate for the degree, Master of Science, and acceptable as meeting the thesis requirements for this degree; but without implying that the conclusions reached by the candidate are necessarily the conclusions of the major department.
ACKNOWLEDGEMENTS

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J. B. L.
To
Sondra
and
Mom and Dad
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CHAPTER I

INTRODUCTION

Physical fitness has been one of the goals of man from early days. This objective has been especially emphasized during our world wars but has often been neglected after the distress was over. Some of our leading physical educators have consistently been striving to bring this to the attention of the general public. Dr. Hans Kraus recently succeeded particularly in this purpose when he published his results of the Kraus-Weber Test of Minimum Muscular Fitness.\(^1\) Since that time increasing interest has been evident in articles published by many leading magazines.

National recognition was given the problem of physical fitness when President Eisenhower ordered the establishment of a Council on Youth Fitness.\(^2\) This council was established to promote the betterment of existing physical education programs and to create additional programs for improving the fitness of American youth. Thus, it was hoped that federal agencies would be combined with state agencies to improve the fitness of youth.


Numerous fitness testing activities are in progress in our public schools of the United States today. As a result of this testing many physical educators believe physical education programs should stress basic conditioning activities. Physical education can be better taught and promoted if knowledge of present status is obtained through testing. These testing programs also create interest in the fitness of youth.

Recently many conferences on the national, state, and local level have been held to promote physical fitness. These conferences have promoted national coordination of youth fitness. One of the important results is the American Association for Health, Physical Education and Recreation's sponsorship of a youth fitness test.

Statement of the Problem

The purpose of this study is to compare the physical fitness and the physical education programs of selected schools in South Dakota. Sub problems are as follows:

1. To evaluate the physical education programs of selected schools by application of the Health and Physical Education Score Card No. I and II. (Appendix A and B)

2. To administer the Kraus-Weber Test of Minimum Muscular Fitness* and the AAHPER Physical Fitness Test** to these schools.

*Henceforth this test will be referred to as simply the Kraus-Weber Test.

**This is the physical fitness test prepared under the sponsorship of the American Association for Health, Physical Education, and Recreation by Paul Hunsicker. Henceforth this will be referred to as the AAHPER's Fitness Test.
3. To compare the results of the Kraus-Weber Test in the selected schools with results obtained nationally.

4. To compare the selected schools with respect to the results of the above tests and the results of the Health and Physical Education Score Card No. I and II.

5. To present these results in such a manner as to furnish additional information upon which to base improved physical education programs.

Delimitation

This study is limited to four South Dakota schools, Mark Twain Elementary School, Sioux Falls; Hurley Public Schools, Hurley; Arlington Public Schools, Arlington; and Volga Public Schools, Volga. Mark Twain has a required physical education program which meets twice a week. The other schools have limited programs.
CHAPTER II

HISTORY OF RELATED LITERATURE

The problem of physical fitness has become one of increasing importance in the United States during the last few years. However, it is not a completely new problem, but has grown in importance because of emphasis placed upon it as a result of the Kraus-Weber Test of Minimum Muscular Fitness. The Kraus-Weber Test has brought much publicity to physical education since Dr. Hans Kraus and Ruth P. Hirschland released the report on their test of muscular fitness of American school children in northeastern urban and suburban communities. The test results have aroused many people who are interested in physical fitness in this country, Canada, and many European countries.

C. H. McCloy listed as prerequisites to physical fitness:

1. Improved inheritance through proper selection of mates;
2. Acquisition of good health habits; and
3. Avoidance of infections and other drains that impair the health.


Dr. Cureton, one of our leading physical educators, has defined physical fitness as, "The ability to handle the body well and the capacity to work hard over a long period of time without diminished efficiency." He added to this definition by saying, "Physical fitness is one phase of total fitness. It does not include all of the aspects of emotional, mental, or social fitness, but it is related to these other phases of fitness in addition to being important for itself."³

Steinhaus and associates define fitness as follows:

Fitness implies freedom from disease or significant deviations from normal structure and function; enough strength, speed, agility, endurance, and skill to accomplish the maximum tasks that the day may bring; and mental and emotional adjustment appropriate to the age of the individual. Such other things as suitable work, adequate nutrition, exercises, rest, relaxation, and the avoidance of excesses, including alcohol and tobacco, are all important in maintaining fitness.⁴

Probably the simplest definition of physical fitness is one presented by Karpovich when he defines physical fitness as "a fitness to perform some specified task requiring muscular effort."⁵ A universal definition of physical fitness has not

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⁵Peter V. Karpovich, Physiology of Muscular Activity (fourth edition; Philadelphia: W. B. Saunders Company, 1953).
been agreed upon by physical educators because they cannot agree as to whether to include all of the following: good health, strength, power, agility, flexibility, and speed. Recently, Paul Hunsicker said, "Physical fitness includes those qualities which permit an individual to perform life activities involving speed, strength, agility, power, and endurance and to engage in the various kinds of physical activities required of modern day living, including sports and athletics, and to be able to maintain his optimum amount of fitness." 6

In 1945 Hans Kraus and E. Eisenmenger-Weber reported a study on 200 posture cases (school children) who had been patients at the posture clinic of Columbia Presbyterian Medical Center. 7 The results reported in the above paper were evaluated and as a result the key tests, which are now known as the Kraus-Weber Tests of Minimum Muscular Fitness, were organized and adopted as basic tests in a low back clinic. This clinic was organized by Dr. Barbara Stimson at Columbia Presbyterian Hospital under the auspices of Dr. William Darrack


The Kraus-Weber Test battery was based on actual clinical experience over a period of eighteen years. The six tests selected for administration to the school children are purportedly the most valid out of a larger battery administered in clinical situations. One of the test items was designed to test flexibility. The other five items were designed to measure the strength of the upper and lower back, the abdominal muscles, and the flexor muscles of the hip joint. Failure on any one of these items, according to Kraus, indicated that the child was below minimum fitness for good health.

The problem of finding a valid test to determine physical fitness has not yet been fully solved. However, Dr. Frederick Rogers, the originator of the Roger's Physical Fitness Test has stated that, "Doctors Kraus and Weber have provided in their battery of six tests, far and away, the most valid and generally useful measure of physical fitness for children of elementary school age.

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Kraus and Hirschland recognized that the number of patients in the United States who were afflicted with low back disorders was on the increase. By putting children through a number of simple tests for muscle strength of trunk, back, and legs, they attempted to evaluate and grade deficiencies in this group in order to gauge the progress of their treatments and to attempt to establish levels of minimum muscular fitness. It was shown through clinical experiences that the majority of these disorders could have been prevented by maintaining a certain level of fitness.

Kraus and Hirschland later examined 4,264 American school children by means of the Kraus-Weber Tests. They felt that the examination of the back and abdominal strength and hamstring flexibility of school children might render some answers to the number of low back disorders. It was reported that 57.9 per cent of the American children between the ages of six through nineteen years failed to meet the minimum requirements for health as reported by the failures of the test items. Because of the large number of American failures, Kraus and Hirschland decided to examine European children for the purpose of comparison. The Kraus-Weber Test was administered to 2,870 Europeans who comprised children from Austria, Italy, and Switzerland. It was reported that only 8.1 per cent of the Europeans failed one or more items of the test. When Kraus and Hirschland, in this study, tried to determine the age at
which this muscle deficiency first became apparent, they were met with the distressing fact that the children going into the first grades of the school system were already seriously deficient. The children also left school in the same or worse condition than that in which they entered.

Kraus and Hirschland felt that the Americans were inferior in muscular fitness to the Europeans. They stated, "Weakness, as well as flexibility failures, show that at no time do American statistics approach the fitness levels of the Europeans." It is thought by some people that the poor American showing may be explained by the high degree of mechanization in America which has made physical activity almost unnecessary to our growing children and adults.\textsuperscript{12}

The above statement aroused many physical educators in the United States, and one A. T. Slater-Hammel commented by stating that some Americans detest exercise and activity of every sort, but so do some Europeans. He felt that the flimsy bases upon which Americans are charged with physical degeneracy should be questioned, and he stated, "Americans today are healthier, live longer, and break more athletic records than any generation of their ancestors."\textsuperscript{13} If and


when the actual facts are known, it may be found that American children and adults are physically equal to any people on earth.

Through the Kraus-Hirschland study physical educators were made more fully aware that physical education is in definite need of expansion not only in high school, but even more among elementary and pre-school groups. It was felt that lack of sufficient exercise constituted a serious deficiency which physical educators should strive to prevent. Many questions were also raised over the results of this test, the samples used, and the level of fitness tested.

Discussion arose as to whether the Kraus-Weber Tests were designed to determine optimum or minimum levels of muscular fitness. Kraus stated, "They were tests which indicated a level of strength and flexibility in certain key muscle groups below which functioning of the whole body as a healthy organism seemed to be endangered." He felt that people whose physical fitness level fell below these minimum requirements showed signs of emotional instability and appeared to be sick individuals who bore earmarks of constant strain.

The Kraus-Hirschland findings have led to further studies by physical educators who wished to gain additional

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information in regard to the fitness of youth in America and other countries of the world. A study by Fox and Atwood in Iowa furnished additional information of value.\textsuperscript{15}

In this study the Kraus-Weber Tests were given to 575 Iowa City school children representing the entire group in grades one through six in three non-public schools. Of this group, 66.1 per cent were considered deficient because they failed one or more items. This percentage is higher than the 57.6 per cent reported by Kraus. Also 59.9 per cent failed the flexibility item as compared to Kraus' 44.3 per cent.

Fox and Atwood raised the question as to whether the Kraus-Weber Tests were adequate. The results of the Kraus-Weber Test have been reported on a simple pass or fail basis, with no credit being given for a partial score. Also, three of the Kraus-Weber Tests demanded that a certain position be held for a ten-second interval to be passing in performance. Atwood and Fox wondered how the ten-second interval was arrived at as being indicative of "sufficient strength" for normal living. Kraus explained this by stating, "The Kraus-Weber Tests for Muscular Fitness are not designed to determine optimum levels of muscular fitness, but rather to determine whether or not the individual has sufficient strength and flexibility in

the parts of the body upon which demands are made in normal daily living."16

Since the Kraus-Weber Tests were supposed to measure muscular fitness, Fox and Atwood felt that the sample of muscle groups was inadequate because not enough of the muscle groups of the body were being tested. Two of the six tests involved strength of the abdominal muscles. Two tested the strength of back muscles and one tested hip joint flexor and abdominal muscle strength. They felt that if this was supposed to be a test of over-all muscular strength, other muscle groups, such as those of the arm and shoulder girdle, feet and legs, should not be overlooked.

A study by Phillips and her associates in the state of Indiana revealed many interesting results. Phillips' main purpose was to measure a city population of Indiana children in an attempt to determine how their muscular fitness scores compared with the scores of the children measured by Dr. Kraus and Mrs. Hirschland. Other purposes of the investigation were to determine the reliability of the Kraus-Weber Test, to compare these test results with the results of a test of dynamometric strength, and to analyze performances on each of the test items.

by age and by sex.17

A typical city of 26,000 was selected. Children who were not physically normal were excluded from the testing. The Kraus-Weber Test of Minimum Muscular Fitness was administered to 1,456 elementary school children. Only one member of this testing team of seven faculty members had been trained and certified by Dr. Kraus in the administration of the Kraus-Weber Test. In addition to the original administration, repeats of the tests were given in order to determine test reliability. Two hundred fifteen of the children were tested twice by some other tester than the one administering the original test. Also, 126 of the children were tested for grip strength after which the relationship between the grip strength and success on the Kraus-Weber Test was determined. Phillips reported that the reliability for the total Kraus-Weber battery and four of the individual test items resulted in coefficients exceeding .950 in all cases. Thus the tests were very reliable. No relationship was established between grip strength and the Kraus-Weber Test.18

The Indiana group was found to be somewhat superior to the Kraus-Hirschland sample in all failure comparisons and the


18Ibid., pp. 314-323.
girls were found to be more successful on the flexibility test than boys. The superiority of girls on the Kraus-Weber Test, according to H. Harrison Clarke, can be explained by comparing the number of flexibility failures of boys with that of girls.19

A recent study by Mathews, Shaw, and Bohnen has indicated a high degree of objectivity for the Kraus-Weber Test of flexibility. Sixty-six women were measured on three hip flexibility tests: an Adapted Kraus-Weber floor touch test, Wells Sit and Reach, and Leighton Flexometer. The purpose of the study was to determine the relationship between the three selected tests of hip flexibility in the antero-posterior plane and the following anthropometric measures: distance from greater trochanter to floor, standing reach, and standing height. Results indicated (1) no significant relationship between the flexibility of the hip joint in the antero-posterior plane and the length of body segments; (2) the Adapted Kraus-Weber is the most objective of three flexibility tests; and (3) the Wells Sit and Reach and the Adapted Kraus-Weber Test correlate .95.20

In the entire population of 1,456 children, there were only five failures on the upper-back test, six failures on the


lower back test, and none after nine years of age on either test. Phillips implied, for the Indiana group at least, that these items contributed little to the test and could be eliminated without noticeably affecting the results. "If back strength is to be measured, as part of a fitness test," stated Phillips, "other more discriminating items need to be substituted."21

In a study of 3,700 children in suburban and rural schools in India, where the Kraus-Weber Test was administered, the percentage failing one or more of the tests was 9.1. A very interesting contrast between American and Indian children on these tests was the small number (4.6 per cent) of Indian children who failed test number six, the back and hamstring flexibility test compared with the 44.2 per cent of the American children along the eastern coast.22

Because there has been considerable misunderstanding and misinterpretation of the meaning and implication of the Kraus-Weber Test, there have been many questions concerning its use. The most frequent of these have been (1) why was the Kraus-Weber Test truly a test of muscular fitness? (2) why was flexibility an important part of muscular fitness? (3) why are there not available norms for the Kraus-Weber Test as to age, sex, weight, and height groups? and (4) why don't the


Kraus-Weber Tests correlate with strength tests? Dr. Kraus answered these, hoping it would clear up some misunderstandings of the tests. Some of his answers were as follows: If a person had sugar in his urine, he could not be considered healthy even though all other clinical findings are normal. In a like manner, if a person failed one of a battery of minimum tests, he should be considered below minimum. Regarding flexibility, he stated that it was an important part of muscular fitness in that its absence reflects tension. In regard to the norms, he felt they were self correlating in that they test strength against body weight and size. As long as a person walks, he must manage his weight and his height with his key posture muscles. Dr. Kraus emphasized that they are the ones being tested, and therefore no norms were needed. In reply to the statement that there is no correlation between grip strength and the results of the Kraus-Weber Test, he stated, "The Kraus-Weber Tests are muscular tests for strength and flexibility. No direct correlation with sole strength tests can be expected. Grip strength alone is not correlated with strength of posture muscles. Moreover, grip strength only correlates about 25 percent with total strength."

Ford Hess reported additional results from a study using the Kraus-Weber Test on 5,131 children in four cities of the

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of Pennsylvania. The cities and the percentage of failures on at least one test item were: Butler, 52 per cent; Lancaster, 49 per cent; Erie, 67 per cent; and Lock Haven, 49 per cent.  

The following year Hess wrote to the editor of the *Journal of Health, Physical Education, and Recreation* and discussed the criticisms of the Kraus-Weber Tests of Minimum Muscular Fitness submitted by Dr. Fox. Hess disagreed with Fox and said, "We in physical education should accept the challenge inherent in the Kraus-Weber findings and take another searching look at the philosophy and/or objectives we have so generously 'donated' to education in which we seem to have forgotten the importance of vigor in our striving to gain variety. In many instances, we have substituted variety for vigor with the results now before us in the Kraus-Weber findings."  

Lawther raised a question as to the validity of the Kraus-Weber Test of Minimum Muscular Fitness. Lawther was very critical of the Kraus-Weber Test, especially the stress placed on flexibility, and he felt it was not a valid test of muscular fitness. He emphasized the fact that muscular fitness was a highly desirable objective of the physical

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education program. He challenged the great stress placed on a "specific flexibility" in interpretation of the whole Kraus-Weber score.

Lawther in this article raised four other points in regard to the weakness of Americans in comparison with Europeans. One was that the average Americans are taller, heavier, and live longer than at any preceding time in United States history. The second point was that particular types of stunts involved in the Kraus-Weber Tests, especially the flexibility aspect, approximate more nearly the movements of the formal and individual gymnastic programs which still form the base of physical education in much of Europe. The third point was that fitness was specific. To answer a question as to state of fitness one needs to ask, "Fitness for what?" Lawther states that we can develop in a few weeks a "minimum muscular fitness" to do the average task of life by "overload" exercise in doing that task. The final point was that physical performance, which is a unit reaction, cannot be measured by tests of isolated movements and still determine the functional efficiency of the whole organism.26

Noguchi tried to find out what results Japanese children would show on the Kraus-Weber Test. He tested 6,549 school children in Hokkaido, Osaka, Tokuoka, and Kagoshima. The test

results showed (1) there was no remarkable difference between failures in different regions of Japan, whether from rural or urban areas; (2) the percentage of failures in the flexibility test in Japan was only 3.3 per cent; (3) weakness failures in Japan were 77 per cent of all failures; (4) Japanese failures were especially found in younger children and decreased sharply as their age went up; and (5) tests 1, 2, and 4 were more difficult for Japanese children than for American or European children, but tests 3, 5, and 6 were too easy for testing muscular fitness of Japanese children.

Noguchi felt also that the fundamental motor ability of the races of the world obviously varied according to differences in their body constitution, in their school curriculum in physical education, and in their way of living. He also believed that the six tests were greatly affected positively or negatively by the index of the leg length/height. Therefore, it was very difficult to compare the test results of the different races with their different body constitutions.27

The main purpose of a recent study by Kirchner and Glines in Eugene, Oregon, was to extend the studies in the United States to include a northwestern geographical area. Kirchner and Glines tested 1,195 elementary school children between the ages of six and twelve in the Eugene, Oregon, area.

schools. The results indicated (1) there was 38.1 per cent total test failure; (2) the girls were substantially superior to the boys at all age levels; (This superiority resulted because of the greater failure of the boys on the flexibility item. Of 455 students who failed the Kraus-Weber Test, 78.7 per cent failed only one item.) (3) for both sexes, there was a decided decrease in strength failure as ages increased; and (4) good physical education programs appeared to reduce the percentage of Kraus-Weber failures.28

Doris Buxton extended the Kraus-Weber Tests of Minimum Muscular Fitness in order to provide more differentiating scores at all levels of ability. A pass or fail score, which could be determined from the continuous scoring system, was also obtained. Results indicated that the standards, even though considered minimal, would also vary with the different ages and sex groups. She stated, "Although the Kraus-Weber Test is reliable and easily administered, the empirically derived and nondifferentiating type of scoring is not valid for use in physical education."29

In an unpublished study of 3,992 children, kindergarten through the sixth grade, by Garde and Bork of Austin,


Minnesota, it was revealed that 20 per cent failed one or more of the test items.30

Logterman reported the following results from a study using the Kraus-Weber Test on 1,521 Sioux Indian children and Caucasian children ages six through twelve. Of the 767 Sioux Indian children tested, 41.6 per cent failed one or more test items, in comparison with the 32.9 per cent failed by the 754 Caucasian children.31

Doris Buxton, in a study of 1,057 Iowa school children between the ages of six and fifteen years, proposed a scoring system for the Buxton Revision of the Kraus-Weber Test. The purpose of this study was to determine the 75th, 50th, and 25th percentiles which could be used as standards for diagnostic purposes. Buxton suggested these levels of attainment would give physical educators more of a basis for diagnosing the muscular fitness of children in the age range six through fifteen than was available in the pass or fail scoring of the Kraus-Weber Test.32


A. T. Slater-Hamme stated:

No doubt many in physical education believe the publicity given to the Kraus-Hirschland evaluation of the muscular fitness of American children, whether the evaluation be right or wrong, is basically a good thing. They probably feel that public awareness of the need for muscular fitness might lead to a greater emphasis upon physical education, a greater time allotment for physical education classes, or better facilities.33

The interest in physical fitness, inspired by physical educators on the local and community level, has led to national concern. MacKenzie pointed out that on completion of the dedication ceremonies of the New United States Air Force Academy on July 11, 1955, at Denver, Colorado, 306 cadets began a four year program of physical education. When they graduate, they will complete the requirements equivalent to that of a Physical Education Minor of students of civilian institutions. The program of physical education at the Air Force Academy is geared to prepare future air commanders to maintain their personal fitness as well as to develop the leadership qualities necessary to insure that the Air Force maintains a high degree of physical and emotional fitness.34

In June of 1956 a Conference on Fitness was held at

the United States Naval Academy, Annapolis, Maryland. It was the first peacetime conference on fitness ever held under White House auspices. President Eisenhower called the conference because he felt that more should be done to help youth become physically fit and better qualified to face the requirements of modern life. He asked the advice of leading educators regarding how the Federal Government might assist in dealing with the problem of fitness of American youth—essentially a home and local community problem.

Oregon was the first state in the nation to respond with official action to President Eisenhower's concern for the physical fitness of American youth. A Central Physical Fitness Committee has been formed by the Oregon Association for Health, Physical Education, and Recreation. The purposes of the fitness committee are to develop an effective physical fitness program for Oregon schools and to take steps for its over-all adoption throughout the state.

Further national concern was shown when the American Association for Health, Physical Education, and Recreation held a Fitness Conference in September, 1956. The purposes


of the conference were (1) to prepare a statement outlining the consensus of knowledge and belief concerning fitness; and (2) to plan for implementing this statement through the physical education programs, a project of all physical educators of the United States.37

In September of 1957, Vice-President Richard Nixon presided over the first meeting of the Citizens' Advisory Committee of President Eisenhower's Council on Youth Fitness, held at the United States Military Academy, West Point, New York. He pointed out that in his travels of forty countries, he had observed the youth of other nations and he was certain that the youth of this country have better nutrition, better education, better clothing, and better health than any other country in the world. At this same time he stressed (1) the need for more and better physical education facilities; (2) the need for more well prepared and competent teachers and leaders, and programs of activities; and (3) his feeling that activities with carry-over value should not be neglected in our school programs.

In general, the conference highlighted physical education and recreation and charted a course for fitness of youth.38


A nation-wide survey of Physical Fitness of American Youth is now underway through the AAHPER's Youth Fitness Project. Its purpose is to investigate certain aspects of physical fitness omitting mental, social, or emotional fitness. It had its inception as a follow-up of the AAHPER Conference on Fitness, September of 1956. This meeting centered on four basic tasks: (1) to identify the major aspects of fitness; (2) to evaluate tests now available to measure those identified and, where no suitable tests exist, to develop valid, reliable, objective and economical tests; (3) to use the tests developed to establish norms for the sexes and different age levels for the various aspects of fitness; and (4) to give consideration to the formation of a fitness profile.

An AAHPER physical fitness test has been developed under the leadership of Paul A. Hunsicker. Boys and girls in grades five through twelve are being tested now for physical fitness to set up national norms. The Association has negotiated a $3,200.00 contract with the Survey Research Center of the University of Michigan where the data will be compiled.39

Hutchinson reviewed the progress reported on physical fitness in the United States. She felt public school systems were active in the pursuit of individual fitness. Early in

1958, directors and supervisors of fifty city systems representing all sections of the country, responded to an AAHPER request for information on changes in public school fitness activities. Their responses make possible the AAHPER's roundup of fitness. The report of fitness progress of these fifty systems provides convincing evidence for Hutchinson that fitness is far from lost as a major focus in public school physical education.40

One of the latest conventions with the major theme on youth fitness and how it can best be achieved was the sixth National Conference on Physicians and Schools, held October 30 to November 2, 1957. Dr. Bauer observed that the medical profession had always been aware of the problem of youth fitness. As for the future, Dr. Bauer called for a better understanding of fitness by everyone. The medical profession has and will continue to aid in the furtherance of this program.41

Ray Duncan stated that the theme for the 1958 AAHPER convention for Kansas City was "Forward with Fitness in '58." This goal could be achieved if everyone was willing to move forward as a total profession with a unity of purpose to serve children and youth through health, physical education, recreation,


and outdoor education.\textsuperscript{42}  

The Committee on Curriculum Research in the College Physical Education Association, headed by William R. LaPorte, made one of the first attempts on evaluation of the potential worth of physical education activities.\textsuperscript{43} LaPorte and the committee, among other things, devised the Health and Physical Education Score Card No. I and II for the purpose of evaluating the physical education program and the general health, recreation and safety provisions of an entire school. Two score cards were prepared, one for the elementary school and the other for the secondary school. The rating was to be made by the school principal, physical education instructor, or by some official representative approved by the principal.

The standards of the score cards were the results of the combined work of the College Physical Education Association based on twenty-three years of study through a survey of 150 leading state, city, and rural supervisors and administrators of physical education throughout the United States.

The rating standards represent physical education programs which were classified as fair-minimum to a superior-ideal program. For example, in the Secondary Scorecard,

\begin{footnotesize}
\begin{enumerate}
\item Ray O. Duncan, "Forward with Fitness in "58", The Physical Educator, XIV, March, 1957, p. 17.
\end{enumerate}
\end{footnotesize}
100=fair-minimum; 200=good-average; and 300=superior-ideal.
The scores can be changed to percentages if desired. Examiners should show unprejudiced judgment in rating in order to give a reasonably fair picture of the program.44

Larson and Yocum define the term "evaluation" as follows: "Evaluation is the determination of how the objectives are achieved."45 Brownell and Williams have stated that, "Evaluation refers to everything associated with the learning process."46 The Webster Dictionary defines "evaluation" thus: "To estimate the worth of; to value; or to appraise."47 Leighton feels that today physical educators use the term "evaluation" as an all-inclusive term that eliminates all need or concern for a testing program of any kind.48

A national survey of health and physical education programs in high schools was started in 1950, with the Health

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and Physical Education Score Card No. II used as the evaluation measure. Made by leading physical educators, this was a cooperative study, which covered 25 states and included the evaluation of 2,600 schools. The sampling covered schools of the United States from coast to coast and from border to border. In the majority of the states a random, stratified sample of 100-150 schools was used.\textsuperscript{49}

In a study by DeWitt on the evaluation of a random, stratified sample of one hundred public, white, secondary schools of Tennessee revealed that the quality of the health and physical education programs in the state was rather low. It was felt by DeWitt that health and physical education programs involved not only those activities that took place in the classroom, the gymnasium, and on the playing field, but included the capability of the instructors, the organization of the activities, the various facilities with which the teachers have to work, and other factors. An evaluation of the above factors gave a picture of the total program and the combined status of all the schools.\textsuperscript{50}

Owens determined the status of health and physical


education programs for boys in 101 Ohio secondary schools and
determined the relationship of school size, community size,
accreditation, geographic area, type of school district, and
consolidation to this status. He revealed that accreditation
and school size had more influence upon the quality of the
program than any other factor studied. Schools with 500-999
students had a significantly better health and physical education
program than schools enrolling less than five hundred students.51

N. T. Dodson, in a study including 135 North Carolina
high schools, selected by a stratified, proportional random
sample technique revealed that high ranking items of the
Score Card were, for the most part, those required by state
regulation, and low ranking items were those in the areas
of aquation and correctives. The programs of North Carolina
were considered limited in scope, being confined mostly to a
few team games. Sports with carry-over possibilities were
lacking. Also it was decided that too many girls classes
and sports were taught by man instructors, an arrangement
which wasn't considered proper.52

51 Major Lawrence E. Owens, "Health and Physical Educa-
tion Program for Boys in Ohio High Schools," Research Quarterly,
XXVI, December, 1955, pp. 461-469.

52 Nathan T. Dodson, "Evaluation of Physical Education in
North Carolina High Schools," Research Quarterly, XXVII, May,
1956, pp. 243-244.
An investigation on the effects of elementary physical education on twelve-year-old boys in a Eugene, Oregon, school by Whittle revealed that the superior performance in the items of the different physical, motor, and personality tests administered were attributed to the boys' participation in physical education during their elementary school years. Boys from both the good and poor programs who participated a great deal in physical activities outside regular physical education classes demonstrated pronounced superiority to those who participated only a little in such activities.

In summarizing the review of related literature it might be said that the Kraus-Weber Test has stimulated thought and research in physical education. Many studies have been made using this test and controversial questions have arisen concerning it. As a result the public has become more aware of the problem of fitness. National concern was also shown when the American Association of Health, Physical Education, and Recreation provided the AAHPER Youth Fitness Test. Much additional information has been gained through the use of this new test. Additional evidence may be provided concerning the necessity of good physical education programs, which will

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promote physical fitness, through the evaluation of school programs by the Health and Physical Education Score Card No. I and II.
CHAPTER III

PROCEDURES

The AAHPER’s Youth Fitness Test and the Kraus-Weber Test of Minimum Muscular Fitness were administered to 275 elementary and junior high school students in four separate schools in South Dakota. Following the administration of these tests, the Health and Physical Education Score Cards No. I and II were used to evaluate the physical education programs of the schools. The schools which participated in this study were the following:

a. Arlington Public Schools, Arlington, South Dakota—grades four through eight;
b. Hurley Public Schools, Hurley, South Dakota—grades five through eight;
c. Mark Twain Elementary School, Sioux Falls, South Dakota—grades five through six; and
d. Volga Public Schools, Volga, South Dakota—grades four through eight.

The testing team consisted of the author and another graduate student at South Dakota State College, who were trained and certified to administer the Kraus-Weber Test and who were qualified to administer the AAHPER Test because of the experience gained while participating as testors in the national fitness project sponsored by the AAHPER. Certification of the Kraus-Weber Test was obtained after

*Testers were certified by Dr. R. B. Frost who had previously been approved for certifying other testors.
administering the tests to three classes of physical education at South Dakota State College consisting of approximately 130 students.

Prior to the testing, letters were sent to the superintendent of each school selected to be tested, or personal contact was made requesting permission to test the students and to evaluate the physical education programs.

At Sioux Falls Mark Twain Elementary School, the students were administered the Kraus-Weber tests during the physical education period. The test was administered on tables in a room adjacent to the gym. At the remaining three schools the students were tested during class or at recess. Permission was obtained to have the children leave the classroom in small groups for the testing purposes.

The equipment used to administer the Kraus-Weber Test consisted of tables approximately 32 inches high and a blanket. When tables were not available, the students were tested on the stage and the testers stood on the gymnasium floor. This seemed adequate as the stage was about the proper height.

Before the actual administration of the Kraus-Weber Test, the testers described the test to the children and demonstrated the procedure they wanted the children to follow. Questions concerning the test were then answered and the students were told not to practice the test. Practicing
The test was felt to be an advantage to the pupils.

The students approached the tables in single file and watched the preceding student take the test. This gave the testee another thorough demonstration which better acquainted him with the test. Before climbing up on the table, the student to be tested gave his name, and upon completion of each test item, the tester recorded the results on special charts.

An exact description of the test and the procedures used in administering it are shown on the following pages. The photographs were reproduced from Logterman's Thesis by permission of the author.¹

TEST NO. 1 - ABDOMINAL PLUS

1. **PURPOSE** - TO TEST THE STRENGTH OF THE ABDOMINALS AND PSOAS.

2. **DESIGNATION** - "ABDOMINALS PLUS PSOAS OR A+.

3. **POSITION** OF PERSON BEING TESTED - LYING SUPINE, HANDS BEHIND NECK.

   THE EXAMINER HOLDS THE TESTEE'S FEET ON THE TABLE.

4. **COMMAND** - "KEEP YOUR HANDS BEHIND YOUR NECK AND TRY TO ROLL UP INTO A SITTING POSITION."

5. **MARKING** - (PASS OR FAIL) A "PASS" CONSISTS OF RAISING THE TRUNK FROM A SUPINE POSITION TO A SITTING POSITION (TRUNK MAKES A RIGHT ANGLE TO THE LEGS). ANYTHING LESS THAN A FULL SIT-UP POSITION CONSTITUTES A "FAIL."
TEST NO. 16 - ABDOMINAL MINUS

1. **PURPOSE** - FURTHER TEST FOR ABDOMINALS.

2. **DESIGNATION** - "ABDOMINALS MINUS PSOAS" OR "A-".

3. **POSITION OF PERSON BEING TESTED** - LYING SUPINE, HANDS BEHIND NECK AND KNEES BENT. EXAMINER HOLDS HIS FEET DOWN ON THE TABLE.

4. **COMMAND** - "KEEP YOUR HANDS BEHIND YOUR NECK AND TRY TO ROLL UP INTO A SITTING POSITION."

5. **MARKING** - THE MARKING IS EXACTLY THE SAME AS FOR "ABDOMINALS PLUS."
1. **PURPOSE** - Tests the strength of the PSOAS, and lower abdomen.

2. **DESIGNATION** - "PSOAS" or "P."

3. **POSITION OF THE PERSON BEING TESTED** - Supine position with hands behind neck and legs extended.

4. **COMMAND** - "Keep your knees straight and lift your feet ten inches off the table. Keep them there while I count." The count is ten seconds.

5. **MARKING** - Holding for ten full seconds constitutes a pass. Anything less is recorded as a failure.
1. **PURPOSE** - TESTS THE STRENGTH OF UPPER BACK MUSCLES.

2. **DESIGNATION** - "UPPER BACK" OR "U.B."

3. **POSITION OF PERSON BEING TESTED** - LYING PRONE WITH A BLANKET UNDER HIS ABDOMEN, BUT FAR ENOUGH DOWN AS TO GIVE THE BODY THE FEELING OF BEING A SEE-SAW WHICH IF WEIGHTED AT EITHER END, WOULD BE ABLE TO HOLD THE OTHER END IN THE AIR. THIS IS MOST EASILY ACCOMPLISHED WITH THE FOLLOWING COMMANDS.

4. **COMMAND** - "ROLL OVER ONTO YOUR STOMACH AND LIFT UP THE MIDDLE SO THAT I CAN SLIDE THIS BLANKET UNDER YOU. NOW I AM GOING TO HOLD YOUR FEET DOWN WHILE YOU PUT YOUR HANDS BEHIND YOUR NECK AND RAISE UP YOUR CHEST, HEAD AND SHOULDERS. HOLD THEM UP WHILE I COUNT." THE COUNT IS TEN SECONDS.

5. **MARKING** - HOLDING FOR TEN SECONDS CONSTITUTES A PASS. ANYTHING LESS IS RECORDED AS A FAILURE.
TEST NO. V - LOWER BACK

**FIGURE 5**

1. **PURPOSE** - TEST THE STRENGTH OF LOWER BACK.

2. **DESIGNATION** - "LOWER BACK" OR "L.B."

3. **POSITION OF PERSON BEING TESTED** - THE PERSON REMAINS PRONE OVER THE BLANKET, BUT REMOVES HIS HANDS FROM BEHIND HIS NECK, PLACING THEM FOLDED ON THE TABLE AND RESTS HIS HEAD ON THEM.

4. **COMMAND** - "I AM GOING TO HOLD YOUR CHEST DOWN ON THE TABLE, TRY TO LIFT YOUR LEGS UP, BUT DO NOT BEND YOUR KNEES. NOW HOLD THIS POSITION WHILE I COUNT." THE COUNT IS TEN.

5. **MARKING** - HOLDING FOR TEN FULL SECONDS CONSTITUTES A PASS. ANYTHING LESS IS RECORDED AS A FAILURE.
TEST NO. VI - LENGTH OF BACK AND HAMSTRINGS


2. **DESIGNATION** - "BACK AND HAMSTRINGS" OR "FLEXIBILITY."

3. **POSITION OF PERSON BEING TESTED** - STANDING ERECT IN STOCKING OR BARE FEET, HANDS AT TESTEE'S SIDES.

4. **COMMAND** - "PUT YOUR FEET TOGETHER, KEEP YOUR KNEES STRAIGHT, NOW LEAN DOWN SLOWLY AND SEE HOW CLOSE YOU CAN COME TO TOUCHING THE FLOOR WITH YOUR FINGER TIPS."

5. **MARKING** - TOUCHING THE FLOOR WITH THE FINGER TIPS CONSTITUTES A PASS. ANY DEGREE LESS IS RECORDED AS A FAILURE.
In administration of the AAHPER Test the author tested schools that were selected and sponsored by the AAHPER's national testing project. Mark Twain and Hurley were schools selected for the national project and their results were used in this thesis. Arlington and Volga were added to make a comparison for thesis study.

Permission to administer the test at Arlington and Volga was obtained by personal interview with the superintendents. The test was administered in the gymnasium and on the playground during school hours.

Each child was measured for height and weight, after which their age, sex, and birthday was recorded. The children were then administered the AAHPER Test according to instructions obtained from the national office. Methods of testing and scoring were as follows:
SIT-UP

EQUIPMENT: Mat or floor

DESCRIPTION: The pupil lay on his back on a mat with the legs straight and feet about two feet apart. His hands were placed on the back of the neck with the fingers clasped. In starting a sit-up the testee's elbows were flat on the mat and when returning to the mat, the elbows were flat on the mat before the testee sat up again. A partner held the ankles and kept the heels in contact with the mat. The pupil sat up turning the trunk to the left touching the right elbow to the left knee, then returned to the starting position. The exercise was repeated, alternating sides.

RULES:
1. The fingers remained in contact behind the neck throughout the exercise.
2. The knees were on the floor during the sit-up, but usually bent slightly when touching elbow to knee.
3. The back was rounded and the head and elbows brought forward when sitting up again.

SCORING: One point was awarded for each correct sit-up. Any variation from the form was not counted. The maximum limit in terms of number of sit-ups
was 50 sit-ups for girls, grades 4-6; 
and 100 sit-ups for boys, grades 4-6.
SHUTTLE RACE

EQUIPMENT: Two blocks of wood, 2" times 2" times 4", stop watch, tape measure, and adhesive tape.

DESCRIPTION: Two parallel lines were taped on the gymnasium floor thirty feet apart. The blocks were both placed just beyond the second line, about a foot apart. This was set up in the center of the gymnasium so that there was plenty of space for the pupils to overrun the lines without danger. The pupil stood behind the first line and on the command, "Are you ready? Go!" ran to the second line, picked up one block of wood, ran back to the first line and placed the block behind the line. He then ran back to the second line, picked up the second block of wood and ran back to the first line, finishing as he crossed the line with the block in his hand.

RULES: One trial was given after a demonstration by the testers.

SCORING: The time was recorded in seconds and tenths of seconds, from the start of the race until the runner crossed the finish line on the second round trip. (See Figure 7)
Figure 7.

Shuttle Run
**50 YARD DASH**

**EQUIPMENT:** One or two stop watches.

**DESCRIPTION:** A distance of 50 yards was laid out on the school playground. The pupil took his position behind the starting line. On the starter’s commands, “Get on your mark! Get set! Go!” the starter made a downward sweep of his arm for the timer’s benefit.

Two pupils ran at one time, thus providing competition and motivation, with the timer using a dual stop watch. The timer stood at the finish line in order to judge when the pupil crossed the line.

**RULES:**

1. Only one trial was given.

2. The score was the time that elapsed between the starting signal and the moment the pupil crossed the finish line.

**SCORING:** The score was recorded in seconds and tenths of seconds.
GIRLS MODIFIED PULL-UP

EQUIPMENT: Metal bar approximately 1 to 1½ inches in diameter. An adjustable bar was used that was placed between the door jams.

DESCRIPTION: The pupil grasped the bar which was placed at shoulder height. An upper grip, with knuckles to the face, was used. The pupil extended his legs under the bar, extended his arms fully and braced his feet against the tester's foot. This bracing prevented slipping. The body was kept in a straight line from head to heels.

RULES:
1. No rest was permitted.
2. No pull-up was counted in which the pupil failed to:
   a. Keep the body straight;
   b. Come to a full extension of the arms;
   c. Touch the chest to the bar.
3. The maximum number for all girls from the fourth to the eighth grades was forty repetitions.

SCORING: The pupil's performance was recorded as the number of correctly executed pull-ups that were done up to and including the fortieth one.
PULL-UP

EQUIPMENT: Metal bar approximately 1 to 1¼ inches in diameter. An adjustable bar was used that was placed between the door jams.

DESCRIPTION: The bar was placed at the top of the door jam with just enough clearance for the head. In grasping the bar the pupils used the upper grasp with knuckles to the face. After the pupil assumed the hanging position, he raised his body by his arms until his chin was placed over the bar and then lowered his body until arms were fully extended. The exercise was repeated as many times as possible.

RULES: 1. Only one trial was allowed a student unless there was a fault.
2. The body was not allowed to swing and the pull was in no way a snap movement.
3. Kicking of the legs was not permitted.

SCORING: The pupil's performance was recorded as the number of correctly executed pull-ups starting with full extension of the arms. (See Figure 3)
Figure 8.

Boys Pull Ups
SOFTBALL THROW FOR DISTANCE

EQUIPMENT: Softball, tape measure, and marking pegs.

DESCRIPTION: Two lines were drawn parallel and six feet apart, within which limits the throw was made. The pupil threw the ball as far as possible, while staying between the parallel lines. No throw was counted if the pupil stepped over the restraining line, which was the front parallel line.

RULES: 1. Three trials were taken in succession and the best of those was recorded.

2. The distance was measured from the point where the ball first landed to the restraining line.

3. The score was recorded to the nearest foot.

4. An overhand throw was used.

SCORING: The score was recorded to the nearest foot for the longest throw.
STANDING BROAD JUMP

EQUIPMENT: Gymnasium floor was used and a tape measure.

DESCRIPTION: The pupil stood with toes just back of a take-off mark which was marked on the floor. The take-off was made from both feet and the pupil jumped forward as far as possible landing on both feet. Free swinging of the arms and bending of the knees was permitted and encouraged, but the feet were not allowed to creep forward before the jump was made.

RULES: 1. Three fair trials were allowed and the best of the three was recorded. Fouls were not charged as trials.

2. The pupil's performance was recorded in feet and inches to the nearest inch.

SCORING: The distance of the best jump shall be recorded in feet and inches.
600 YARD RUN-WALK

EQUIPMENT: Stopwatch

DESCRIPTION: The pupils selected the starting position that they deemed desirable. On the signal "Go" the student started running the 600 yard distance. The running was interspersed with periods of walking.

SCORING: The event was timed from the signal "Go" until pupil covered the 600 yards. The score was recorded to the nearest second.
Health and Physical Education Score Card No. I and II.

The next step in this study was the evaluation of the selected schools by means of the Health and Physical Education Score Card No. I and II.* (Appendices A and B) This evaluating instrument was selected because (1) it has been validated by 150 leading physical educators and found to have a high degree of validity; (2) it is easily understood, scored, and administered; (3) it has proved successful in determining the status of health and physical education programs in several other states; and (4) the score card covers the essential areas of physical education.

The score cards were obtained by correspondence from the University of Southern California Press, Los Angeles. They were presented to the superintendents of the selected schools through personal visitation and interview. They were then passed down to the coaches or physical education instructors for completion.

School Designations.

Schools will henceforth be referred to as schools A, B, C, and D. Arlington will be designated as school A, Hurley as school B, Sioux Falls Mark Twain as school C, and Volga as school D.

*Referred to in Figures 10, 11, and 12 as LaPorte Score Card.
CHAPTER IV

ANALYSIS OF DATA

Treatning the Data. After the writer had arranged the raw scores in an orderly fashion so as to facilitate their use, the scores of the Kraus-Weber Test, the AAIPER Test, and the Health and Physical Education Score Card No. I and II were treated as described in the following paragraphs.

The testing results were recorded on IBM cards to minimize error, and the scores were ranked through the use of the IBM machines. The total per cent failure, per cent failure boys, per cent failure girls, per cent flexibility, and per cent incidence weakness failure were computed and the results arranged in tabular form.

The raw scores of the AAIPER Test were first ranked in order of merit and then converted into standard scores as described by Garrett.\(^1\) The formula used for determining the "per cent position" was:

\[
\text{PER CENT} = 100 \left( \frac{R - \frac{5}{2}}{n} \right)
\]

The scores were next ranked according to the converted scores and the means of the converted scores were computed for each school. The scores were then arranged in frequency distributions and the mean and the standard deviation computed.

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according to Garrett.\(^2\) The formula used was:
\[
\text{MEAN} = \frac{\sum fx}{N} \quad \text{STANDARD DEVIATION} = \sqrt{\frac{\sum fx^2}{N} - c^2}
\]

The difference between means of each school and the mean of each of the other schools were computed in turn. The standard error of the difference and the critical ratio were found as described by Garrett.\(^3\) The formulas used were:
\[
\text{STANDARD ERROR OF THE DIFFERENCE BETWEEN MEANS} = \sigma \sqrt{\frac{1}{N_1} + \frac{1}{N_2}}
\]
\[
\text{CRITICAL RATIO} = \frac{M_1 - M_2}{\sigma}
\]

The levels of significance were also determined according to Garrett.\(^4\)

The average score on each test item of the AAIPEP Test was also obtained for each school. The schools were then ranked in each of the test items. (See Table VII)

Each school was next ranked on the results of the AAIPEP Test, the Kraus-Weber Test, and the Health and Physical Education Score Card. (See Table X)

\(^2\)Ibid., pp. 52-53.
\(^3\)Ibid., pp. 213-232.
\(^4\)Ibid., p. 427.
Per Cent Test Failure. Referring to Table I, one will note that the per cent test failure for school C is the lowest. This means these students were in the best physical condition as indicated by the Kraus-Weber Test. School B with 33.3 per cent test failure followed school C, then came school A with 48.3 per cent and last, school D with 47.5 per cent.

Table I
Per Cent of Test Failures By Grades in Selected Schools

<table>
<thead>
<tr>
<th>SCHOOLS</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>All Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>48.6%</td>
<td>45.8%</td>
<td>20.0%</td>
<td>50.0%</td>
<td>28.6%</td>
<td>38.3%</td>
</tr>
<tr>
<td>B</td>
<td>16.7%</td>
<td>46.7%</td>
<td>50.0%</td>
<td>50.0%</td>
<td>37.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>C</td>
<td>22.1%</td>
<td>25.8%</td>
<td>50.0%</td>
<td>37.5%</td>
<td>24.6%</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>60.0%</td>
<td>41.7%</td>
<td>50.0%</td>
<td>47.4%</td>
<td>37.5%</td>
<td>47.5%</td>
</tr>
</tbody>
</table>

These percentages were computed by dividing the total number of test failures by the total number taking the test and then multiplying the quotient by one hundred.

The per cent passing for all of the school children tested was 63.3. This compares favorably with other children tested in the United States. (See Figure 91).

The per cent test failures for the boys reveals that
A COMPARATIVE CHART SHOWING RESULTS OF FIVE KRAUS-WAISER TEST STUDIES

PERCENTAGE OF CHILDREN PASSING ALL TESTS

- 2,870 European Children: 91.3%
- 275 South Dakota Children: 63.3%
- 1,195 Oregon Children: 61.8%
- 1,156 Indiana Children: 54.9%
- 1,264 American Children: 42.1%
- 575 Iowa Children: 33.9%
school B with 37.5 is the lowest. School C which ranked first on the overall test failure, ranked second on per cent failure for boys with 38.7. School D followed with 42.4 per cent and school A with 62.5 per cent. This indicated that the boys in school A are in the poorest physical condition according to the Kraus-Weber Test. (See Table II)

Table II

Per Cent of Test Failures—Boys

<table>
<thead>
<tr>
<th>SCHOOLS</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>All Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90.9%</td>
<td>81.8%</td>
<td>42.9%</td>
<td>61.5%</td>
<td>35.7%</td>
<td>62.5%</td>
</tr>
<tr>
<td>B</td>
<td>33.3%</td>
<td>40.0%</td>
<td>42.9%</td>
<td>25.0%</td>
<td>37.5%</td>
<td>38.7%</td>
</tr>
<tr>
<td>C</td>
<td>35.7%</td>
<td>41.2%</td>
<td></td>
<td></td>
<td></td>
<td>38.7%</td>
</tr>
<tr>
<td>D</td>
<td>66.7%</td>
<td>50.0%</td>
<td>50.0%</td>
<td>27.3%</td>
<td>00.0%</td>
<td>42.4%</td>
</tr>
</tbody>
</table>

It is indicated by the per cent test failure for girls that school C, which had 7.7 per cent failing, is superior to the other schools. Next is school A with 15.3 per cent, school B with 27.8 per cent and last, school D with 53.6 per cent. It may be noted that in school A the fourth grade and in school B the fifth and seventh grade girls all passed the Kraus-Weber Test. The girls, compared with the boys, are in a better state of muscular fitness as indicated by the Kraus-Weber Test. (See Table III)
Table III
Per Cent of Test Failures—Girls

<table>
<thead>
<tr>
<th>SCHOOLS</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>All Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>00.0%</td>
<td>15.3%</td>
<td>11.1%</td>
<td>36.4%</td>
<td>14.2%</td>
<td>15.3%</td>
</tr>
<tr>
<td>B</td>
<td>00.0%</td>
<td>60.0%</td>
<td>00.0%</td>
<td>23.6%</td>
<td></td>
<td>27.0%</td>
</tr>
<tr>
<td>C</td>
<td>03.3%</td>
<td>07.1%</td>
<td></td>
<td></td>
<td></td>
<td>07.7%</td>
</tr>
<tr>
<td>D</td>
<td>50.0%</td>
<td>25.0%</td>
<td>50.0%</td>
<td>75.0%</td>
<td>50.0%</td>
<td>53.6%</td>
</tr>
</tbody>
</table>

Per Cent Flexibility Failures. The per cent of flexibility failures by grades in the selected schools was 22.3 for school C which is the lowest. It can be noted that schools A, B, and D are closely related in flexibility failures. School B has 31 per cent, school D 32.8 per cent, and school A 33.9 per cent. Of the different test items more pupils failed the flexibility test than any other test. (See Table IV)

The per cent flexibility failures are determined by dividing the total number of flexibility failures by the total number in the sample and then multiplying the quotient by one hundred.
Table IV
Per Cent of Flexibility Failures
By Grade in Selected Schools

<table>
<thead>
<tr>
<th>SCHOOLS</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>All Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>42.9%</td>
<td>45.3%</td>
<td>16.0%</td>
<td>37.5%</td>
<td>28.6%</td>
<td>33.9%</td>
</tr>
<tr>
<td>B</td>
<td>16.7%</td>
<td>46.6%</td>
<td>30.0%</td>
<td>30.0%</td>
<td></td>
<td>31.0%</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>23.1%</td>
<td>22.6%</td>
<td></td>
<td></td>
<td>22.8%</td>
</tr>
<tr>
<td>D</td>
<td>50.0%</td>
<td>33.3%</td>
<td>33.3%</td>
<td>31.6%</td>
<td>12.5%</td>
<td>32.9%</td>
</tr>
</tbody>
</table>

Per Cent Incidence of Weakness Failure. The per cent incidence of weakness failure for the different grades of the selected schools is the lowest at school C with 1.8 per cent. It may be noted that the entire fifth grade of schools B and C and school A eight grade passed all of the Kraus-Weber Test items, excluding the flexibility item. School B was second lowest on the incidence of weakness failure with 9.5 per cent; this was followed by school A's 14.3 per cent, and school D was last with 31.1 per cent. It may be noted that school D seemed to fall behind in percentage in many of the Kraus-Weber Test items. (See Table V)

The per cent of incidence weakness is calculated by adding the number of abdominal, psoas, and back failures, and then dividing this sum by the total number tested. The flexibility item is eliminated from the count.
Table V
Per Cent Incidence of Weakness Failures
At Different Grade Levels

<table>
<thead>
<tr>
<th>Schools</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>All Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>26.6%</td>
<td>16.7%</td>
<td>12.0%</td>
<td>16.7%</td>
<td>00.0%</td>
<td>14.8%</td>
</tr>
<tr>
<td>B</td>
<td>00.0%</td>
<td>06.7%</td>
<td>01.0%</td>
<td>18.2%</td>
<td>09.5%</td>
<td>01.8%</td>
</tr>
<tr>
<td>C</td>
<td>00.0%</td>
<td>03.2%</td>
<td>00.0%</td>
<td>00.0%</td>
<td>00.0%</td>
<td>00.0%</td>
</tr>
<tr>
<td>D</td>
<td>30.0%</td>
<td>16.7%</td>
<td>16.7%</td>
<td>47.4%</td>
<td>37.5%</td>
<td>31.1%</td>
</tr>
</tbody>
</table>

**AAMPER Test.** By referring to Table VI, we can now draw some conclusions with regard to the actual difference between these schools as indicated by the AAMPER Test. It can be seen that there is no significant difference between the means of schools A and D, D and C, or A and C. This means that in reality these schools are equal in respect to this test. School A is significantly better than school B (2 per cent level) in the results of this test, and school C is significantly better than school B (2 per cent level). School D is also better than school B, but the significance is only at the 20 per cent level.
### Table VI

**Significance of Differences Between Means of Converted Scores on AAEPER Fitness Test**

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>( \mu_1 )</th>
<th>( \mu_2 )</th>
<th>Diff</th>
<th>SD_1</th>
<th>SD_2</th>
<th>( \sigma_1 )</th>
<th>( \sigma_2 )</th>
<th>( \sigma )</th>
<th>CH</th>
<th>LEVEL OF SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A vs D</td>
<td>51.1</td>
<td>49.4</td>
<td>1.7</td>
<td>12.6</td>
<td>11.9</td>
<td>1.20</td>
<td>1.47</td>
<td>1.90</td>
<td>.09</td>
<td>Significant</td>
</tr>
<tr>
<td>D vs B</td>
<td>49.4</td>
<td>45.5</td>
<td>3.9</td>
<td>11.4</td>
<td>13.1</td>
<td>1.47</td>
<td>1.91</td>
<td>2.11</td>
<td>1.62</td>
<td></td>
</tr>
<tr>
<td>D vs C</td>
<td>49.4</td>
<td>51.4</td>
<td>2.0</td>
<td>11.4</td>
<td>12.1</td>
<td>1.47</td>
<td>1.80</td>
<td>2.17</td>
<td>.92</td>
<td>Significant</td>
</tr>
<tr>
<td>A vs B</td>
<td>51.1</td>
<td>45.5</td>
<td>6.6</td>
<td>12.8</td>
<td>13.1</td>
<td>1.20</td>
<td>1.91</td>
<td>2.26</td>
<td>2.48</td>
<td>Two per cent</td>
</tr>
<tr>
<td>A vs C</td>
<td>51.1</td>
<td>51.4</td>
<td>0.3</td>
<td>12.2</td>
<td>12.1</td>
<td>1.20</td>
<td>1.60</td>
<td>2.00</td>
<td>.15</td>
<td>Significant</td>
</tr>
<tr>
<td>B vs C</td>
<td>45.5</td>
<td>51.4</td>
<td>5.9</td>
<td>13.1</td>
<td>12.1</td>
<td>1.91</td>
<td>1.80</td>
<td>2.49</td>
<td>2.41</td>
<td>Two per cent</td>
</tr>
</tbody>
</table>

*Unless CH reached the 20 per cent level of significance it was considered as "not significant" for the purpose of this study.*
In Table VII will be found the rank of each of the schools on each individual item of the AHuPER Test. It can readily be seen that no school is consistently better than the others on all of the items. One school can be seen to excel in one event and other schools in other events.

**Health and Physical Education Score Card.** The results of the evaluation of schools through the use of the Score Card No. I, which is used for the elementary schools, showed that school C was rated higher by a considerable margin in all of the divisions of the score card than were any of the other schools. School C received a total of 103 points of a possible 150. The next highest school, school B, received 39 points; school A, 28; and school D, 24. It can be readily seen that the physical education programs in schools A, B, and D are in need of considerable improvement. (See Table VIII and Figure 10)

The Health and Physical Education Score Card No. II was used to evaluate the secondary grades, grades seven and eight. The results of this evaluation showed that school A and D have similar programs each scoring 52 points out of a possible 300. The poorest program was found in school B, which received only 43 points. According to the rating standards set up by the score card, all of these schools' programs are classified as very poor. (See Table IX and Figure 11) School C was not evaluated by the score card.
Table VII

Rank of Schools on Individual Test Items of AAHPER Youth Fitness Test

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>SIT-UPS</th>
<th>BOYS PULL-UPS</th>
<th>GIRLS PULL-UPS</th>
<th>SHUTTLE RUN</th>
<th>50 YARD DASH</th>
<th>SOFT-BALL THROW</th>
<th>BROAD JUMP</th>
<th>600-YARD RUN WALK</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
Table VIII

Results of Evaluation of Schools Through the Use of Health and Physical Education Score Card No. I

<table>
<thead>
<tr>
<th></th>
<th>Possible Scores</th>
<th>Scores Received by Schools:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Program of Activities</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>Outdoor Areas</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>Indoor Areas</td>
<td>30</td>
<td>7</td>
</tr>
<tr>
<td>Organization and Administration of Class Programs</td>
<td>36</td>
<td>7</td>
</tr>
<tr>
<td>Medical Examinations and Health Service</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>28</td>
</tr>
</tbody>
</table>

I Program of Activities

II Outdoor Areas

III Indoor Areas

IV Organization and Administration of Class Programs

V Medical Examinations and Health Service

Possible Score
I 30
II 24
III 30
IV 36
V 36

FIGURE 10

PROFILE OF SCHOOLS ON BASIS OF LAFORTE SCORE CARD NO. I

SCHOOLS A B C D
Table IX

Results of Evaluation of Schools Through the Use of Health and Physical Education
Score Card No. II

<table>
<thead>
<tr>
<th>Possible Scores</th>
<th>Scores Received by Schools:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Program of Activities</td>
<td>30</td>
</tr>
<tr>
<td>Outdoor Areas</td>
<td>30</td>
</tr>
<tr>
<td>Indoor Areas</td>
<td>30</td>
</tr>
<tr>
<td>Locker and Shower Areas</td>
<td>30</td>
</tr>
<tr>
<td>Swimming Pool</td>
<td>30</td>
</tr>
<tr>
<td>Supplies and Equipment</td>
<td>30</td>
</tr>
<tr>
<td>Medical Examinations and Health Service</td>
<td>30</td>
</tr>
<tr>
<td>Modified-Individual Activities</td>
<td>30</td>
</tr>
<tr>
<td>Organisation and Administration of Class Programs</td>
<td>30</td>
</tr>
<tr>
<td>Administration of Intramural and Interschool Athletics</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
</tr>
</tbody>
</table>

*This school was not evaluated on Score Card No. II because only the elementary level was tested.*

0 to 7, very poor program
8 to 15, poor program
15 to 20, fair program
20 to 25, good program
25 to 30, excellent program
Program of Activities
Outdoor Areas
Indoor Areas
Locker and Shower Areas
Swimming Pool
Supplies and Equipment
Medical Examinations and Health Service
Modified-Individual Activities
Organization and Administration of class Programs
Administration of Intramural and Interschool Athletics

(Possible score 30)

FIGURE 11

PROFILE OF SCHOOLS ON BASIS OF LAPORTE SCORE CARD NO. II

SCHOOLS  A       B       D
No. II because only the elementary grades were tested.

In Table X we will find the rank of each school as indicated by the results of the AAHPER Test, the Kraus-Weber Test, and the Health and Physical Education Score Card. The most striking fact is that the school which ranked first (school C) on the Score Card also ranked first on the Kraus-Weber and AAHPER Tests. This would indicate that the students in the school which had the best physical education program also scored the highest on the two tests.

Table X

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>AAHPER TEST</th>
<th>KRAUS-WEBER TEST</th>
<th>LaPORTE SCORE CARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

A profile indicating the rank of the school may be found in Figure 12.
FIGURE 12

PROFILE SHOWING RANK OF SCHOOLS ON AAHPER TEST, THE Kraus-Weber TEST, THE LAPORE Score CARD, AND THE AVERAGE RANK

SCHOOLS

A ———— B ———— C ++++ D •••••
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The AAHPER Youth Fitness Test and the Kraus-Weber Test of Minimum Muscular Fitness were administered to 275 children (grades 4 through 8) in the selected schools previously mentioned in this study. The testing was followed by an evaluation of the school's physical education programs through the use of the Health and Physical Education Score Card No. I and II.

The following conclusions are based upon data obtained from this study:

1. Of the entire group tested in this study, 63.3 percent passed the Kraus-Weber Test. This is somewhat higher than similar results of the Kraus-Weber Test in the Eastern and Central United States.

2. The per cent test failure for school C was the lowest, being 24.6. This school was superior in all test comparisons except the per cent test failure for boys where it ranked second to school B.

3. In all of the schools tested the girls were found to be superior in the per cent test failure except school D where the boys excelled. The seventh grade boys in school D all passed the Kraus-Weber Test. This was duplicated by the girls in school D, grades five and seven, and school A, grade four.
4. The percentage flexibility and the per cent incidence weakness tests indicated that students of school C were in the best state of muscular fitness. Schools A, B, and D were not consistently ranked on each Kraus-Weber Test comparison. One school was found to have the best score in one event and another in another event.

5. No significant difference was found between the means of school A and B, D and C, or A and C. This means, with respect to the AAHPER Test that there is no difference between these schools. It may be noted that school A is significantly better than school B. School D is also better than school B, but the significance is only at the 20 per cent level. School C is also significantly better than school D in the results of this test.

6. With respect to separate items of the AAHPER Test, no one school is consistently better than the other. School C ranked first in the AAHPER Test but did not rank first in many of the other test items.

7. The results of the evaluation of schools through the use of the Health and Physical Education Score Card revealed that school C has a physical education program far superior to that of any of the other schools tested. This program is rated as "good" according to the national standards listed on the score card. It should be noted that the school which ranked the highest on the score card also ranked the
highest on both fitness tests.

3. According to the Health and Physical Education Score Card No. II, the physical education programs of schools A, B, and D are nearly the same, all three of which are in grave need of improvement.

After completion of this study the author feels that the following recommendations are justified:

1. More schools should be evaluated by the Health and Physical Education Score Card No. I and II to determine the status of the program and to serve as a basis for improvements.

2. Additional testing by the Krause-Wober Test and the AAMPER Test should be included in physical education programs of the schools of South Dakota.

3. More emphasis should be placed by the state department on physical education programs.

4. A full time state supervisor of physical education should be employed in the State Department of Public Instruction.

5. Additional research in this area of education is needed.
LITERATURE CITED

A. BOOKS


B. PERIODICALS


---


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"Why Not Some Physical Fitness?" The Physical Educator, XIII (October, 1956), 83-85.


Owens, Lawrence E. "Health and Physical Education Program for Boys in Ohio High Schools," Research Quarterly, XXVI (December, 1955), 461-469.


"Analysis of Results From the Kraus-Weber Test of Minimum Muscular Fitness in Children," Research Quarterly, XXVI (October, 1955), 314-323.


C. UNPUBLISHED MATERIALS


APPENDIX A
HEALTH AND PHYSICAL EDUCATION SCORE CARD
No. I
FOR ELEMENTARY SCHOOLS
Grades 1-6

<table>
<thead>
<tr>
<th>NAME OF SCHOOL</th>
<th>ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal</td>
<td>Rated by</td>
</tr>
<tr>
<td>Rating for school year</td>
<td>Date</td>
</tr>
<tr>
<td>Number of students enrolled: boys</td>
<td>girls</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I. Program of Activities</th>
<th>Maximum Score</th>
<th>Actual Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Outdoor Areas</th>
<th>24</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>III. Indoor Areas</th>
<th>30</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>IV. Organization and Administration of Class Programs</th>
<th>36</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>V. Medical Examinations and Health Service.</th>
<th>36</th>
</tr>
</thead>
</table>

Total Possible Score: 150

Total Actual Percentage Score (Actual * 1.5) =

I. Program of Activities
Maximum Score = 30. Actual Score =

1. Content of Primary Program (grades 1-3) includes:
   (1) rhythmical activities, (2) hunting games, (3) relays, (4) stunts and self-testing, (5) athletic games of low organization.
   (three activities = 2; four activities = 4; five activities = 6)

   Score____

2. Content of Elementary Program (grades 4-6) includes:
   (1) athletic games, (2) rhythmical activities, (3) hunting games, (4) individual athletic events, (5) posture training, (6) relays, (7) stunts.
   (three activities = 2; five activities = 4; seven activities = 6)

   Score____

3. A well-planned and detailed yearly program (course of study, including specific objectives), for each grade, is on file in the principal’s office.
   (Fair program = 2; good = 4; excellent = 6)

   Score____
4. A Course of Study Committee gives consideration, at least annually, to needed revisions in the program. (Fair committee = 1; good = 2; excellent = 3) Score

5. Daily participation in class instruction period is required of all children. (Twenty minutes daily (exclusive of recess = 2; twenty-five minutes = 4; thirty minutes or more = 6) Score

6. Provision is made for adequate maintenance and sanitation of school grounds, plant, and classrooms; and for the co-ordination of health instruction in all grades. (Fair = 1; good = 2; excellent = 3) Score

II. Outdoor Areas

   Maximum Score = 24. Actual Score =

1. Total available unobstructed free play space for school and community use includes from two to five or more acres, according to size of school. (Minimum of two acres - an area equal to two small soccer fields - with an additional acre for each added unit of 500 students = 2; minimum of three acres with additional acre for each 500 students = 4; minimum of four acres, with additional acre for each 300 students = 6) Score

2. Field and court area are surfaced with materials that are resilient, non-slippery, firm and as nearly dustless as possible and have suitable slope for good drainage in rainy weather. At least 20% of area should be paved for multiple game use with blacktop (bitumals or asphaltic concrete). (Hard packed clay or decomposed granite, plus 20% blacktop = 2; calcium chloride, plus 20% blacktop = 4; good turf, plus some dirt area, plus 20% blacktop = 6) Score

3. Field areas are kept clean and well marked, and are without hazardous obstructions; and apparatus is protected by sawdust, sand, or shavings. (Fair condition = 1; good = 2; excellent = 3) Score

4. All play areas are fenced off from streets, with subdivision fences where necessary for safety and control; and are made attractive by vine, tree, or shrubbery borders. (Standards approximately met = 1-2; fully met = 3) Score
5. Playground is kept open after school hours and on Saturdays for general play of school children, under supervision of trained teacher or play director. (Standards approximately met = 2-4; fully met = 6)

Score

III. Indoor Areas

Maximum Score = 24. Actual Score =

1. One or more indoor recreation halls or play rooms (size proportionate to classes and enrollment) are provided for certain activities and for rainy weather, with ceiling height at least sixteen feet; with non-slippery floors, lines properly painted; walls smooth and clear; radiators and drinking fountains recessed; and light, heat, ventilation, and acoustics properly cared for. (Standards approximately met = 2-4; fully met = 6)

Score

2. A rest room each for boys and girls is provided for use in injury or illness or for rest periods, equipped with cots, pads, and blankets. (One cot for every 200 boys or girls = 1; one cot for 150 = 2; one cot for 100 = 3)

Score

3. Well-equipped rest rooms for instructors are provided. (Fair rooms = 1; good = 2; excellent = 3)

Score

4. Health offices equipped for medical examinations and first aid are provided either adjoining the principal's office or as a part of special instructor's office. (Fair = 1; good = 2; excellent = 3)

Score

5. Dressing and shower rooms are provided for grades 4-6 (adjoining recreation hall), with free floor space (exclusive of lockers) adequate to care for peak load of use. (Peak load equals largest number of students dressing in any one class period.) (Dressing area, 8-12 sq. ft. per pupil; showers three to five students per shower.) (Standards approximately met = 2; fully met = 3)

Score

6. Toilet facilities are available immediately adjoining dressing rooms and accessible directly to playground; containing adequate bowls, urinals, washbasins hot and cold water, liquid soap dispensers, drinking fountain, mirrors, wastebaskets, and paper towels or drying machines. (Standards approximately met = 1-2; fully met = 3)

Score
7. An equipment and supply office, suitable for use by consulting physical education supervisor, is equipped for storing and issuing class and playground supplies. (Fair office = 1; good = 2; excellent = 3) Score

IV. Organization and Administration of Class Programs

Maximum Score = 36  Actual Score = 

1. Adequate supply of play equipment (2-5 balls for each class at peak load) for class instruction in all activities offered is kept in a locked box or office cabinet. (Fair equipment = 2; good = 4; excellent = 6)

Score

2. Adequate facilities for handling individual activity (corrective) cases are available either within the school or in a central, corrective center accessible to several schools (or the equivalent) (Fair facilities = 1; good = 2; excellent = 3)

Score

3. All Classroom instructors have had special training courses in health and physical education activities or are taking such courses in extension or summer schools; in larger school systems specially trained physical education supervisors are assigned, on a consultant basis, to one or more schools. (Standards approximately met = 2-4; fully met = 6)

Score

4. Trained leadership is available for individual activity (corrective) cases from the regular staff, from a consultant supervisor, or from a physiotherapy clinic. (Standards approximately met = 1-2; fully met = 3)

Score

5. Appropriate activities are provided for students incapacitated for normal participation or needing special postural or orthopedic correction (classes B and C); with radically restricted cases assigned to rest at appropriate periods during the day. (Fair program = 1; good = 2; excellent = 3)

Score

6. In general class instruction, emphasis is placed upon enthusiastic, joyous participation in all activities included in the program, with instruction and practice in performance fundamentals, game rules, game strategy, and social conduct standards. (Standards approximately met = 1-2; fully met = 3)

Score
7. In individual activity instruction, emphasis is placed upon practicing the directed exercises at home frequently, with the cooperation of parents; upon maintaining good postural alignment at all times; and upon participating in modified sport activities for which they are fitted. (Standards approximately met = 1-2; fully met = 3)

Score

8. The noon-hour and recess periods are well organized with carefully limited activities that are physiologically defensible; and with several instructors assigned each day to careful supervision of the playground and recreation hall. (Fair organization and supervision = 1; good = 2; excellent = 3)

Score

9. No student is permitted to substitute clerical work, janitor work, or towel dispensing in place of physical education class activity (except during very temporary disability). (Fair = 1; good = 2; excellent = 3)

Score

10. Interschool competition is not approved, but well-organized play days are staged periodically under adequate leadership. (play days for girls or boys separately = 2; play days for boys and girls jointly = 3)

Score

V. Medical Examinations and Health Service

Maximum Score = 36 Actual Score =

1. Medical examining, advisory, and emergency service is provided by school physicians, with co-operative arrangements for handling handicapped and problem cases in school or public clinics, or by private medical practitioners. (Adequate volunteer service by community physicians = 4; part-time paid school physician = 6)

Score

2. Trained school nurse service is provided for by both school and home visitation purposes, by either part-time or full-time nurses, according to size of school. (Fair service = 2; good service = 4; excellent service = 6)

Score

3. A comprehensive health examination by the school physician is required of every student at least once in each school level (example: each three years); and includes at least a careful check for orthopedic
and postural defects, vision, hearing, nose, mouth, throat, teeth, heart, lungs, nutrition, skin, nervous condition, and possible hernia.
(Once in school level = 4; two or more times in school level = 6)

4. Assignment to rest, restricted, or individual activity, or excuse from required normal physical education activity (for other than temporary illness) is approved by the school physician, in consultation with principal or physical education instructor.
(Score = 3)

5. A permanent, continuous, progressive health record is maintained and passed on for each child and is used as basis for advice and follow-up health service.
(Fair = 1; good = 2; excellent = 3)

6. On basis of medical examination, children are classified into three divisions, or equivalent; A, average normal for unlimited participation; B, subnormal, with temporary or permanent limitation to restricted activity; C, offered individual or corrective treatment, supplementing normal program.
(Fair = 1; good = 2; excellent = 3)

7. Students returning after influenza or other serious illness are approved by physician or nurse before being permitted to participate in strenuous activities.
(Standards approximately met = 1-2; fully met = 3)

8. A health examination is made by the school physician of all teacher applicants; followed by a periodic examination every three years thereafter; and a careful inspection of all teachers returning to duty after illness of two weeks or more.
(Standards approximately met = 2; fully met = 3)

9. Nonmedical teachers or school officers are never permitted to diagnose or treat health disorders.
(Score = 3)
Health and Physical Education

Score Card No. II

For Junior and Senior High Schools
and
Four Year High Schools

For the Evaluation of
Health and Physical Education Programs
in the

School System

______________________________
Superintendent.

School________________________City________________

Principal______________________Year______________
HEALTH AND PHYSICAL EDUCATION SCORE CARD

No. II—For Secondary Schools

Based on
TWENTY-THREE YEARS OF RESEARCH
by
THE COMMITTEE ON CURRICULUM RESEARCH
of
THE COLLEGE PHYSICAL EDUCATION ASSOCIATION
Assisted by
Hundreds of Representative Physical Education Supervisors
Throughout the United States

Compiled by
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Professor of Physical Education and Education
University of Southern California
Chairman The Committee on Curriculum Research

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Wm. R. LaPorte
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PARKER AND COMPANY
241 E. 4th Street, Los Angeles 13, Calif.
1951
HEALTH AND PHYSICAL EDUCATION SCORE CARDS

No. II—Secondary Schools*

INSTRUCTIONS FOR USE OF SCORE CARDS

Nature of Cards.

These cards are intended as measuring devices for purposes of evaluating the physical education program and the general health, recreation, and safety provisions of an entire school. The rating should be made by the school principal himself or by his official representative assisted by the physical education instructor. The purpose is to center attention upon the characteristics of a good program and to provide opportunity for a school to compare its offering somewhat objectively with these characteristics. The evaluation should serve to disclose significant weaknesses that are subject to improvement, rather than to present merely a critical rating of the school.

The Rating Standards.

The standards presented in these score cards are based on the twenty-three-year intensive study by the Committee on Curriculum Research of the College Physical Education Association. Preliminary score cards were formulated by the chairman from the committee findings, and submitted for critical evaluation to a selected jury of 150 leading state, city, and rural supervisors and administrators of physical education throughout the United States. Their varied criticisms served as the basis for reconstructing the cards in preliminary form in 1938.

After twelve years of experience with the cards in rating state, county, and city school systems, the chairman conducted a re-evaluation survey in the fall of 1950. A jury of specialists was again asked to re-examine the Score Card standards for needed changes. A number of modifications were proposed which appear in the revised Score Cards presented herewith.

In order to keep the standards as flexible as possible for adaptation to schools of all sizes, it was necessary to resort to subjective scoring for some items. It was also necessary in some cases, for the sake of brevity, to include a number of important characteristics under a single standard.

Scoring Procedure.

The rating standards are intended to represent a range from a very poor program to a superior-excellent program. (For example, in the No. II Scorecard, 100 = poor program; 200 = fair-good; 200

*A similar card (No. 1), for Elementary Schools, is also available.
300 = excellent). If desired, the scores can be reduced to percentages, as indicated in the summary sections. In most cases a given item should range from one to three points if the program is at all acceptable. If it does not approximate even one point, however, the score should be listed as zero. Scores should represent the unprejudiced judgment of the rater in order to give a reasonably fair picture of the program.

Items have not been weighted relatively (except a few in the elementary card), because it is almost impossible to determine comparative values, where all factors are of great importance. Only the most significant characteristics of program content, facilities, or administrative procedures have been included in these standards, hence each one is of great importance.

It is recommended that raters skim through the score card to get a general picture of all its phases before starting the detailed rating.

**PROFILE CHART**

It is suggested that after all ratings have been completed the total score under each of the major divisions be inserted on the Score Card summary chart on the next page. These scores may then be spotted at the appropriate points under the several headings in the following profile chart. These points may then be connected by lines and the resulting profile will indicate graphically the strong and weak points in the institution's rating. Those items which appear below the 15-point line will be considered "poor"; those between 15 and 20, "fair"; those between 20 and 25, "good"; and those between 25 and 30, "excellent."
SECONDARY SCHOOL SCORE CARD

HEALTH AND PHYSICAL EDUCATION SCORE CARD

No. II
FOR JUNIOR AND SENIOR HIGH SCHOOLS AND FOUR-YEAR HIGH SCHOOLS

NAME OF SCHOOL .......................................................... ADDRESS ..........................................................
Jr., Sr., or 4-Yr. School ............................................ Principal ..................................................
Rating for school year ............................................. Rated by ........................................ Date ....................... 
Number of students enrolled: boys .................................. girls ........................................

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TOTAL POSSIBLE SCORE 300 Total Actual

Percentage Score (Actual ÷ 3) = ___

I. Program of Activities

Possible Score = 30. Actual Score =

1. Content of core and elective programs is distributed over gymnastics, rhythms, aquatics, individual sports (including defense activities), and team sports. 
   (Not less than 6% of time to each of the five types = 1; not less than 9% = 2; not less than 12% = 3)

   Score...

2. Program calls for systematic class instruction in activity fundamentals on the "block" or "unit of work" basis (continuous daily instruction in an activity for from three to six weeks).
   (Definite, but unsystematic instruction = 1; systematic instruction in other than block program = 2; systematic block instruction = 3)

   Score...

*Each item is to be scored 1, 2, or 3 according to scales indicated in parentheses. In the subjective scores (fair, good, and excellent), raters should make unprejudiced evaluations. If conditions are approximate but not exact, give estimated equivalent score.
3. Daily participation in physical and/or health education class instruction periods of from 45 to 60 minutes is required of all students.
   (Two days a week = 1; four days = 2; five days = 3) Score

4. Participation in intramural sports in addition to class instruction is available for all students.
   (Fair program = 1; good = 2; excellent = 3) Score

5. Detailed yearly program (course of study, including special objectives) for each grade level is on file in Principal's Office and activity schedules are posted on gymnasium office bulletin boards.
   (Fair program = 1; good = 2; excellent = 3) Score

6. A course of study committee (men and women) gives consideration at least annually to needed revisions in the program.
   (Fairly active = 1; active = 2; very active = 3) Score

7. Provision is made for adequate maintenance and sanitation of school grounds, plant, and classrooms.
   (Fair = 1; good = 2; excellent = 3) Score

8. A modern health instruction program is maintained under expert leadership in physical education, in home economics, or in general science, or is correlated through several departments.
   (Separate course in one department = 1; fairly well correlated = 2; completely correlated, with co-ordinating director = 3) Score

9. A comprehensive safety education program is maintained, emphasizing safety habits and practices, safety codes, and safety standards, in all departments.
   (Fair program = 1; good = 2; excellent = 3) Score

10. Definite efforts are made to encourage faculty recreational activity and to improve the health status of teachers.
    (Fair results = 1; good = 2; excellent = 3) Score

II. Outdoor Areas
    Possible Score = 30. Actual Score =

1. Total available unobstructed field and court playing space for school and community use varies from four to fifteen or more acres, according to size of school.
SECONDARY SCHOOL SCORE CARD

(Minimum of four acres—an area equal to one small soccer field, seven tennis courts, and one hard baseball field—and one additional acre for each added unit of five hundred students* (boys and girls) = 1; minimum of six acres, and one additional acre for each additional unit of four hundred students = 2; minimum of eight acres, and one additional acre for each additional unit of three hundred students = 3)

Score __________

2. Sufficient playing fields are marked off and equipped (for multiple use in field hockey, field ball, soccer, softball, speedball, touch football, et cetera) to accommodate all outside peak load classes (both boys and girls). (Fair facilities = 1; good facilities = 2; excellent facilities = 3)

Score __________

3. Court areas (for separate or multiple use in archery, badminton, handball, horseshoes, paddle tennis, tennis, et cetera) are marked off and equipped to accommodate both boys' and girls' classes in all court activities offered. (Fair facilities = 1; good facilities = 2; excellent facilities = 3)

Score __________

4. Field and court areas are surfaced with materials that are resilient, non-slippery, firm and as nearly dustless as possible, and have suitable slope for good drainage in rainy weather. At least 20% of area should be paved for multiple court game use, with blacktop (bituminals or asphalt concrete). (Hard packed clay or decomposed granite, plus 20% blacktop = 1; calcium chloride, plus 20% blacktop = 2; good turf, plus some dirt area, plus 20% blacktop = 3)

Score __________

5. Jumping pits and field apparatus are protected by sawdust, sand, or dirt kept soft. (Dirt kept soft = 1; sand = 2; sawdust = 3)

Score __________

6. Field, court, and diamond areas are kept clean and well marked; are without hazardous obstructions; and are laid out to provide maximum relief from sun glare. (Fair condition = 1; good = 2; excellent = 3)

Score __________

7. Maintenance work on fields and courts is done by workmen other than instructors or students. (Partly by others = 1; mostly = 2; entirely = 3)

Score __________

*Explanation: Four acres for first 500 students; five acres for 1,000, etc.
8. All play areas are fenced off from streets, with subdivision fences where necessary for safety and control. (Partly fenced = 1; all fenced from street = 2; all fenced, with subdivisions = 3) Score

9. Play areas are bordered by attractive trees, shrubbery, and vines; and in warm climates are equipped with shaded tables and seats. (Fair condition = 1; good = 2; excellent = 3) Score

10. Play areas are lighted for night use for community recreation programs. (Fair lighting = 1; good = 2; excellent = 3) Score

III. Indoor Areas

Possible Score = 30. Actual Score =

1. One or more gymnasium areas sufficient for boys’ and girls’ inside class activities (according to size of school) (for common use for apparatus, boxing, corrective, fencing, gymnastics, rhythms, tumbling, and wrestling) are available and are appropriately equipped, and properly heated, lighted, and ventilated. (Standards approximately met = 1-2; fully met = 3) Score

2. Gymnasium floors are of hardwood; lines are properly painted; walls are smooth and clear; painting is a light neutral color; radiators and drinking fountains are recessed; ceiling height is between eighteen and twenty-two feet. (Standards approximately met = 2; entirely met = 3) Score

3. Additional classrooms, appropriately equipped for theory instruction and health education classes, are provided in the building or conveniently adjacent. (One room = 2; two or more rooms = 3) Score

4. Special rooms for coeducational social activities are appropriately furnished. (Classroom or gymnasiums partly furnished = 1; well-furnished separate rooms = 3) Score

5. A rest room for boys (equipped with cots, pads, blankets, and sheets), adequate to handle peak load use of building, is provided for use in injury or illness, or for rest periods. (One cot for 100 boys in peak load = 1; 1 cot for 75 boys = 2; one cot for 50 boys = 3) Score
6. A rest room for girls, with equipped cots adequate to handle peak load use of building, is provided for use in injury or illness, or for rest periods.

   (One cot in peak load for 50 girls = 1; one cot for 30 girls = 2; one cot for 20 girls = 3) Score

7. Rest rooms each for men and women faculty members are provided with appropriate dressing rooms and showers.

   (Satisfactory facilities for women only = 2; for both men and women = 3) Score

8. An equipment office is provided in both boys' and girls' locker rooms, properly arranged for issuing towels, suits, and supplies for both indoor and outdoor use.

   (Satisfactory office for one only (boys or girls) = 1-2; satisfactory for both = 3) Score

9. Properly equipped instructors' offices (separate for men and women), with suitable facilities for medical examinations, are available, in good locations for adequate supervision of student activities.

   (Well-equipped offices, but poorly located for supervision = 1; well-equipped, with good supervision of one major activity area = 2; well-equipped, with supervision of two or more major activity areas = 3) Score

10. The combined inside facilities (including classrooms, gymnasiums, and special rooms) are adequate to handle all classes (boys and girls), inside, during bad weather.

    (Approximately = 1-2; entirely = 3) Score

IV. Locker and Shower Areas

Possible Score = 30. Actual Score =

1. Locker rooms (sunny and well ventilated) provide free floor space, exclusive of lockers, adequate to care for peak load of use. (Peak load equals largest number of students dressing in any one class period.)

   (Eight sq. ft. per pupil = 1; ten sq. ft. = 2; twelve sq. ft. = 3) Score

2. Individual locker facilities are provided for all students.

   (Box lockers or narrow vertical lockers = 1; combination box and dressing lockers = 2; half length, standard size lockers, or self-service basket system, combined with full-length dressing lockers for peak load = 3) Score

3. Adequate lock protection is provided for lockers or baskets.

   (Key locks = 1; permanent combination locks = 2; high-grade combination padlocks = 3) Score
4. Continuous supervision by either equipment clerks or instructors is provided for locker areas while in use by students. 
   Fair supervision = 1; good = 2; excellent = 3

Score___

5. Boys' dressing areas are of the open aisle type, with fixed benches in the aisles; girls' areas offer choice of closed booth or open aisle. 
   (Standards approximately met = 2; fully met = 3)

Score___

6. Boys' shower rooms are of the "gang" type, with adequate drying room capacity; girls' areas offer choice of "gang" type or closed booth type. 
   (Standards approximately met = 2; fully met = 3)

Score___

7. Shower rooms provide eight to twelve square feet of floor area per shower head, and sufficient showers to take care of peak load adequately. 
   (Five students per shower at peak load = 1; four per shower = 2; three per shower = 3)

Score___

8. Hot water is thermostatically controlled to prevent scalding; shower heads are at neck height; liquid soap dispensers are provided in all shower areas. 
   (Standards approximately met = 2; fully met = 3)

Score___

9. Adequate toilet facilities are available in separate areas immediately adjoining locker and shower rooms (accessible directly to playground); and contain adequate bowls, urinals, washbasins (conforming to established standards for the peak load); hot and cold water, liquid soap dispensers, drinking fountains, mirrors, wastebaskets, and paper towels or drying machines. 
   (Fair facilities = 1; good = 2; excellent = 3)

Score___

10. Floors are washed daily with antiseptic solution; and antiseptic footbaths are provided for optional use, to aid in control of foot ringworm. 
   (Standards approximately met = 2; fully met = 3)

Score___

V. Swimming Pool

Possible Score = 30. Actual Score =

1. Adequate swimming facilities are available for all students (both boys and girls). 
   [Off-campus facilities, closely adjoining = 1; small pool (less than 1250 sq. ft.) on school grounds = 2; large pool (over 1250 sq. ft.) on school grounds = 3]

Score___
2. Pool construction provides proper acoustics; suitable scum gutters; nonslip decks; white tile or other light finish on sides and bottom; underwater lighting if pool is used at night; bottom of pool clearly visible at all times of operation.

(Standards approximately met = 1-2; fully met = 3)

Score __________

3. Pool is equipped with adequate machinery for heating, filtering, and sterilizing water, and for maintaining it in conformity with established health standards.

(Fair equipment = 1; good = 2; excellent = 3)

Score __________

4. Standard tests are made daily for air temperature, water temperature, water acidity, and residual chlorine content and, at least weekly, for bacterial content of water.

(Score = 3)

Score __________

5. Pool is equipped with standard safety devices and is protected by control doors which are kept locked at all times except when life guard or instructor is on duty.

(Score = 3)

Score __________

6. Swimmers are required to enter pool through a water foot bath, opening from the shower rooms; to visit toilet and take supervised soap shower baths before entering; and are not permitted in pool with colds or skin infections.

(Standards approximately met = 2; fully met = 3)

Score __________

7. Spectators in street shoes are not permitted on pool decks but are provided with appropriate gallery space.

(Score = 3)

Score __________

8. Use of pool facilities is distributed equally between men and women students.

(Approximately met = 3)

Score __________

9. All life guards and swimming instructors are required to hold the Senior Red Cross Life Saving Certificate or the Examiner's Certificate.

(Score = 3)

Score __________

10. Pool is available for community recreational use when not required for school purposes, particularly during summer months.

(Score = 3)

Score __________
Note: Schools without campus pools or adjacent facilities, if they conduct and stress swimming campaigns, may score up to maximum of 15 points for swimming pool, as follows: (annual "learn to swim" campaign, in cooperation with Red Cross or other agency, reaching successfully 25% of student body = 5; campaign reaching 50% of student body = 10; campaign reaching 75% of student body = 15)

Score

VI. Supplies and Equipment
Possible Score = 30. Actual Score =

1. Adequate supply of balls (in good condition) and similar equipment is available for class instruction in all team activities offered.
   (One ball, or other item, for every ten members of average size class = 1; one for every eight members = 2; one for every six members = 3)
   Score

2. Class sets of supplies for individual or dual sports are provided for class instruction in all activities offered (archery, badminton, handball, golf, horseshoes, table tennis, squash, tennis, etcetera).
   (Individual supplies for each member of average size class = 2; for each member of peak load class = 3)
   Score

3. All class supplies are kept repaired and in good condition (balls clean and well inflated, bats taped) both for efficiency and safety.
   (Fair condition = 1; good = 2; excellent = 3)
   Score

4. All students wear appropriate uniforms in activity classes.
   (Uniform furnished by themselves = 1; provided by school, and fee charged = 2; provided by school, without charge = 3)
   Score

5. Towels and swimming suits or trunks (where needed) are made available.
   (Furnished by student = 1; by school with fee = 2; by school without charge = 3)
   Score

6. Swimming suits and towels are laundered daily, and uniforms weekly.
   (By student at home = 1; by school, with fee = 2; by school, without charge = 3)
   Score
7. Adequate first aid supplies are available at all times in a first aid room, or in instructors' offices and equipment offices.
   (Fair supplies = 1; good = 2; excellent = 3) Score___

8. Adequate equipment clerks (other than instructors) are provided at all activity hours to handle equipment and supplies (including towel dispensing).
   [Volunteer student help (not for phys. ed. credit) = 1; paid student help = 2; full-time equipment clerk = 3] Score___

9. Piano and pianist, or phonograph, and other necessary musical accompaniment equipment are furnished for dancing classes.
   (Fair equipment and service = 1; good = 2; excellent = 3) Score___

10. Activity supplies are available for community recreation use outside of school hours.
    (Score = 3) Score___

VII. Medical Examinations and Health Service
    Possible Score = 30. Actual Score =

1. Medical examining, advisory, and emergency service is provided by school physicians with co-operative arrangements for handling handicapped and problem cases in school or public clinics or by private medical practitioners.
   [Adequate volunteer service by community physicians = 2; part-time paid school physician, or (in schools of 2,000 or more) one or more full-time physicians = 3] Score___

2. Trained school nurse service is provided for both school and home visitation purposes, by either part-time or full-time nurses according to size of school.
   (Fair service = 1; good service = 2; excellent service = 3) Score___

3. A comprehensive examination by the school physician (assisted by physical education instructors) is required of every student at least once in each school level (example, junior high); and includes at least a careful check for orthopedic and postural defects, vision, hearing, nose, mouth, throat, teeth, heart, lungs, nutrition, skin, nervous condition, and possible hernia.
   (Once in school level = 2; two or more times in school level = 3) Score___
4. No student is permitted to participate in strenuous class or athletic activity without a satisfactory medical examination.
(Score = 3)

5. A permanent, continuous, progressive health record is maintained and passed on for each child and is used as a basis for advice and follow-up health service.
(Fair = 1; good = 2; excellent = 3)

6. On basis of medical examination children are classified into three divisions, or equivalent: A, average normal for unlimited participation; B, subnormal, with temporary or permanent limitation to restricted activity; C, offered individual or corrective treatment, supplementing normal program.
(Fair = 1; good = 2; excellent = 3)

7. Assignment to rest, restricted, or individual activity, or excuse from required normal physical education activity (for other than temporary illness) is approved by the school physician, in consultation with the physical education department head.
(Score = 3)

8. Students returning after influenza or other serious illness are inspected by the school physician or nurse and assigned to a modified program until their condition justifies resumption of normal activity; students sent home in case of illness or accident are accompanied by an adult.
(Standards approximately met = 1-2; fully met = 3)

9. A health examination is made by the school physician of all teacher applicants; followed by a periodic examination every three years thereafter; and a careful inspection of all teachers returning to duty after illness of two weeks or more.
(Standards approximately met = 1-2; fully met = 3)

10. Nonmedical teachers or school officers are never permitted to diagnose or treat health disorders; but a close co-operation is maintained between physical education teachers and the school physician.
(Score = 3)
VIII. *Modified-Individual (Corrective) Activities*

Possible Score = 30. Actual Score =

1. Adequate modified and individual activity classes, with limited enrollment, are provided for students incapacitated for normal participation or needing special postural or orthopedic correction (classes B and C).  
(Maximum of 30 students per instructor = 1; 25 students per instructor = 2; 20 students per instructor = 3)

Score——

2. All modified and individual activity cases are properly classified and grouped within classes for effective instruction and guidance, according to their condition.  
(Fair = 1; good = 2; excellent = 3)

Score——

3. Extreme types of restricted cases are assigned to periodic rest periods, in addition to the modified activity, with appropriate reductions in academic program, where needed.  
(Fair = 1; good = 2; excellent = 3)

Score——

4. Adequate facilities are provided for suitable games for modified cases (table tennis, deck tennis, horseshoes, croquet, archery, shuffle board, et cetera).  
(Fair facilities = 1; good = 2; excellent = 3)

Score——

5. Adequate facilities for handling individual activity cases are available either within the school or in a central corrective center, accessible to several schools (or the equivalent).  
(Fair facilities = 1; good = 2; excellent = 3)

Score——

6. All teachers assigned to handle individual activity (corrective) classes have had technical training in corrective and therapeutic work.  
(Fair training = 1; good = 2; excellent = 3)

Score——

7. In individual activity instruction, emphasis is placed upon practicing the directed exercises at home, frequently, with the co-operation of parents; and upon maintaining good postural alignments at all times.  
(Fair = 1; good = 2; excellent = 3)

Score——

8. All individual activity cases are encouraged to participate also in modified class activities for which they are fitted, and are returned to normal activity as soon as their condition permits.  
(Fair = 1; good = 2; excellent = 3)

Score——
9. Wherever possible, interesting activities of the sports, gymnastic, aquatic, or rhythmical types are used in place of corrective drills, to secure postural and corrective results.

(Fair results = 1; good = 2; excellent = 3)

Score_____

10. Normal students, who are temporarily incapacitated for strenuous activity because of accident, operation, or serious illness, are assigned to modified activity, under supervision (either in their regular period or in a special class), until school physician or nurse approves their return to regular class work.

(Score = 3)

Score_____

IX. Organization and Administration of Class Programs

Possible Score = 30. Actual Score =

1. All persons coaching teams, or handling physical education classes, or community recreation activities under school supervision are properly certified to teach in the state and have had extensive training and/or experience in physical education.

(All certified and experienced = 2; all with a major or minor = 3)

Score_____

2. Teachers are active in professional organizations such as the American Association for Health, Physical Education, and Recreation, attend professional meetings, subscribe to professional magazines, and maintain a good supply of late professional books in library.

(Fairly active = 1; active = 2; very active 3)

Score_____

3. Instructors stress co-ordinated teaching; combining with performance fundamentals, the necessary rules, team strategy, social and ethical standards, health and safety factors; and attempt to adapt program to outside recreational needs and interests.

(Fair = 1; good = 2; excellent = 3)

Score_____

4. Frequent opportunity is provided for coeducational activity, either in class instruction or in recreational participation.

(Mild encouragement = 1; coeducational intramural sports = 2; coeducational elective class instruction = 3)
5. Instructional classes for normal students are limited in size for effective instruction purposes. (Maximum of 45 students per instructor = 1; 40 students per instructor = 2; 35 students per instructor = 3) Score: __ __

6. Teacher class assignments (including after school responsibilities such as team coaching and playground direction, unless these involve additional salary) are sufficiently limited for adequate instruction. (Maximum load six hours per day = 2; five hours per day = 3) Score: __ __

7. Testing for final grade in activity classes is distributed over (1) performance skills, (2) knowledge of rules and strategy, (3) social attitudes (citizenship), (4) posture and body mechanics (or equivalent). (Fair tests = 1; good = 2; excellent = 3) Score: __ __

8. Students are not permitted to substitute clerical work, janitor work, towel dispensing, or piano playing, et cetera, in place of physical education class activity. (Score = 3) Score: __ __

9. Healthful living (health education instruction) is offered in concentrated instruction periods, in appropriate departments, in addition to coordinated health counseling in other departments. Classes meet in quiet, comfortable classrooms, not in locker rooms or on bleachers. (Equivalent of at least two hours per week for one semester in each level = 1; equivalent of five hours per week for one semester in each level = 2; equivalent of five hours per week for two semesters in each level = 3). (If substituted for an activity class = 0) Score: __ __

10. Assignment to activity classes is based on age, physical condition, skill development, need, and interest. (Assigned at random according to free period = 0; by grades = 1; by medical diagnosis and grade = 2; by medical diagnosis, degree of development and skill, need and interest = 3) Score: __ __

X. Administration of Intramural and Interschool Athletics*
   Possible Score = 30. Actual Score =

1. Both intramural and interschool sports programs (for boys and girls) are budgeted and financed from school

*Note: Schools that do not sponsor interschool athletics should double the score on items 1-5, and leave out items 6-10.
fund; and ticket selling for contests is discouraged or prohibited.
(Partly financed, and sale discouraged = 1; fully financed, and sale to students prohibited = 2; fully financed, and public admitted free to contests = 3)

Score____

2. Students are classified for competitive purposes on basis of three-point classification plan (or equivalent) in addition to medical examination, in order to reduce hazards and to minimize inequalities between opponents.
(Fair classification = 1; good = 2; excellent = 3)

Score____

3. Instruction, coaching, and officiating of athletics is handled by women instructors for girls, and by men instructors for boys, with close co-operation between the two in coeducational activities and joint sports days; use of athletic facilities is equitably divided between boys and girls.
(Standards approximately met = 2; fully met = 3)

Score____

4. Well-organized sports (play) days are staged periodically under trained and experienced leadership with major emphasis on carry-over types of sports.
(Sports days for girls and boys separately = 2; both separate and joint sports days for boys and girls = 3)

Score____

5. Noon-hour activities (where time is available beyond adequate period for unhurried eating) are carefully supervised and limited to modified sports of physiologically defendible types.
(Fair organization and supervision = 1; good = 2; excellent = 3)
(If no time available, score = 1)

Score____

6. Interschool competition for girls (when conducted) is under strict supervision and control of well-trained women instructors; is conducted according to girls' rules; and is limited chiefly to interschool sports (play) days.
(Standards approximately met = 2; fully met = 3)

Score____

7. Interschool competition for boys is restricted largely to local leagues; without overnight travel; no state (or larger) championships; no postseason games; not over seven games in football season; not over sixteen games in basketball season; other sports with appropriate
limits; and with from two to three weeks of preliminary practice preceding first contest.
(Standards approximately met = 2; fully met = 3)
Score

8. Students are eligible for interschool competition only between fourteenth and nineteenth birthdays; for not more than four years in any one sport; and for not more than one major sport in a given semester or term.
(Standards approximately met = 2; fully met = 3)
Score

9. Interscholastic athletic policies are determined by school administrators and physical education instructors or by regularly constituted school athletic leagues; and game officials are selected from experienced school people as far as possible.
(Mostly = 2; entirely = 3)
Score

10. School officials provide necessary traffic and safety protection to and from and during interschool contests; and maintain school physician in attendance at all major athletic contests.
(Standards approximately met = 2; fully met = 3)
Score
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