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THE PROBLEMS OF GRADING PHYSICAL EDUCATION

by

JOSEPH A. ZILE

A.B. Southwestern College, 1929

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degree of Master of Education

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1953

Approved by:

James E. Short
Chairman, Board of Examiners

[Signature]
Dean, Graduate School

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CHAPTER I

INTRODUCTION

The question of grading has been a problem in school systems as far back as 1916. Starch states in his book:

Marks are the universal measure of school work. Numerous and momentous problems in the operation of a school depend upon them, such as promotion, retardation, elimination, honors, eligibility for contests and societies, graduation, admission to higher institutions, recommendation for future positions, and the like. Until a decade ago, no one questioned either the validity or the fairness of these measurements. ¹

Starch² also mentions investigations that were made to determine the range of variation and reliability of grades assigned by different teachers. Two papers were checked by 142 teachers of English according to the practices and standards of their respective schools. One fact brought out by this investigation was that a wide range of variation existed. Marks given by different teachers on the same paper had a range of from thirty-five to forty points. The probable error of the grades was approximately four and five-tenths from the average of the entire group of grades. The chances are even that the grade is within five points of being correct.

An investigation similar to the one in English, was

¹Daniel Starch, Educational Measurements (New York: The MacMillan Company, 1916), p. 3.

²Ibid., pp. 3-15.

made on a geometry paper which was graded by 118 mathematics teachers. The results showed that the grades varied even more widely than the grades of the English papers. There was a probable error of seven and five-tenths and a range of sixty-six in grading. The grades assigned by seventy teachers in history had the extreme range extending from forty through to ninety-two with a probable error of seven and seven-tenths.

The results showed that the unreliability of grades are as great in one subject as in another and that larger divisions on the marking scale would be more accurate in evaluating school work.

The probable factors for producing their variability of marks would be the difference among the standards of teachers in placing relative values upon various elements in a paper, and inability to distinguish between closely allied degrees of merit.

On the basis of these experimental results, the most satisfactory grading system would be a scale of five steps A, B, C, D, E,; and if a finer distinction is needed, the plus or minus signs could be used.

Wrinkle³ made a ten year study in the secondary school of the Campus Research-Laboratory School of Colorado State College of Education to find a substitute for this five

³William L. Wrinkle, Improving Marking and Reporting Practices (New York: Rinehart and Company, Inc., 1947), 115 pp.

point grading system. Several methods were tried including the two and three point systems, informal-letter reports, and parent-teacher conferences. He found in his efforts that:

We could not report intelligently unless we first evaluated intelligently, and that we could not evaluate intelligently unless we knew what we were trying to do; also that grading could not be separated from the objectives.⁴

To tell what an A, B, C, D, or E mark based upon local school standards of achievement means would be impossible, unless the achievement or ability level of the school giving the mark is also known.

The use of the single letter marking system is supported by six fallacies: (1) the mark is an effective conveyor of information; (2) anyone can achieve any mark he wished if he is willing to make the necessary effort; (3) people succeed in out-of-school life about the same as they do in school; (4) the mark is rightly comparable to a pay check; (5) marking practices provide a justifiable introduction to competitive adult life; and (6) the mark can be used as a means without its eventually being recognized as an end in itself. All are unsound.⁵

The U and S system had advantages in that it was more genuine and the marks became less important and did not discourage poor students. Experiments in the use of the U and S showed that motivation was retarded. The students were not concerned with grades and attempted to stay just over the border line. A third letter was added, an H which stood for honor. Those students who showed

⁴Ibid., p. 3.

⁵Ibid., p. 49.

exceptional ability would receive an H. Some teachers began using the plus and minus sign and they were back almost where they started with the five point system.

I have never seen a perfect report form. I doubt if there is one. What might be good in one school might not be good in another. Each school has to work out its own forms and practices on the basis of its own objectives, its own philosophy, and its own staff.⁶

⁶Ibid., p. 107.

CHAPTER II

THE PROBLEM

Statement of the problem. The purpose of this study was to select more objective methods of grading physical education by a review of professional literature available at Montana State University.

Importance of the study. "One of the most important types of responsibilities of the teacher is the measurement and evaluation of the growth of learners in his classes."¹ Teachers must be as accurate as possible in reporting grades so that unfairness or injustice to the student may be avoided.

Because of the significance attached to school marks, they should be accurate indices of pupil achievement. Decisions in regard to a pupil's success or failure in a course and his promotion to a higher grade are made largely upon the basis of marks. Errors in marking which result in an injustice to the pupil in regard to these matters are extremely serious. Feelings of bitterness, discouragement, and inferiority on the part of the pupil, as well as the humiliation of the parents, are but a few of the concomitants of failing marks.²

Administrators expect these reports. They are to be used as a basis for promotion, graduation, counseling, recommendations for future jobs and the like.

"No complete objective method of grading physical

¹Harl R. Douglas and Hubert H. Mills, Teaching in High School (New York: The Ronald Press Company, 1948), p. 411.

²Ibid., p. 407.

education has been established.³ This presents the problem of grading in physical education. Sharman⁴ reviews this problem by stating that some critics have directed their attacks to the elimination of grades rather than toward the correction of the abuses and weaknesses of the objective method most commonly used. On the other hand many teachers insist that grades can be used for good purposes. He goes on to state that many instructors have been evaluating students' progress and achievement subjectively. This has not been a satisfactory method because of the difficulty of justifying the final grade to the student or the parent. Therefore, grades should be based on the achievement of the pupils that can be measured objectively. Some would grade on achievement alone, while others would consider other factors such as improvement, social and character traits. These questions arise: (1) what should be the objectives for the course, (2) what factors, if any, should be eliminated, (3) what factors of those objectives should be considered, and (4) which of those factors selected should be used in determining the final grade?

This study was restricted to the study of literature

³Eugene W. Nixon and Fredrick W. Cozens, An Introduction to Physical Education (Philadelphia and London: W. B. Saunders Company, 1948), p. 113.

⁴Jackson R. Sharman, The Teaching of Physical Education (New York: A. S. Barnes and Company, 1936), p. 59.

to select ideas and materials that could be used in grading physical education in a high school.

ORGANIZATION OF REMAINDER OF THE PAPER

The chapters to follow will contain a review of literature available at Montana State University on grading high school physical education classes; a survey of literature on theories and practices in grading by leading physical educators; and a chapter will be presented on a summary of the literature for the purpose of suggesting methods and ideas that could be of use in grading high school students in physical education. The study will be concluded by a short summary and conclusions.

CHAPTER III

REVIEW OF THE RELATED LITERATURE

THEORIES ON GRADING

Much has been written on tests and measurements, rating scales, and factors to be considered, but only a few specific plans on what factors to stress and what weights should be given to those factors, have been advanced. The discussion in this study will be concerned with high school students in physical education.

Nixon and Cozens say:

Since some form of evaluating students' progress in every school activity is made, it appears not only administratively desirable but necessary for teachers of physical education to give careful consideration to the manner in which their evaluation is made.¹

Experience has shown that, if credits and grades are abandoned in physical education but continued in other school subjects, both the parent and the student soon come to feel that the physical education program is relatively unimportant. Irvin² states that the very absence of credits or grades may materially affect the successful functioning of the physical education program in some cases. The importance given to grades in most schools places a great

¹Eugene W. Nixon and Frederick W. Cozens, An Introduction to Physical Education (Philadelphia and London: W. B. Saunders Company, 1947), p. 112.

²Leslie W. Irvin, Curriculum in Health and Physical Education (St. Louis: The C. V. Mosby Company, 1944), 391 pp.

responsibility on the teacher in that as acceptable a grade as possible should be reported.

Several theories have been advanced on grading physical education. Sharman³ says, marks should be reliable, specific and discriminating, and should be used as a measure of progress and achievement; not as a reward or punishment. He goes on to say that if a pupil is to be marked on traits and qualities of sportsmanship, personality and behavior, a separate mark should be used. Pupils and parents should be made to understand that these marks are based on the teachers' subjective opinions and have nothing to do with the actual achievement in the physical education activities. Emphasis should be made, however, that marks should measure so accurately the achievement in any activity that they are practically synonymous with success in the activity itself. They should serve the means of letting pupils know what progress they are making and of guiding teachers in advising, classifying, and instructing pupils.

Voltmer and Esslinger⁴ recommend that the actual grade given to a student should be awarded on an educational basis; that is, the students who most nearly achieve the

³Jackson R. Sharman, Teaching of Physical Education (New York: A. S. Barnes and Company, 1936), pp. 58-59.

⁴Edward F. Voltmer and Arthur A. Esslinger, The Organization and Administration of Physical Education (New York: Appleton-Century-Crofts Inc., 1949), pp. 400-401.

attainment objectives should be given the best grades. Those objectives could be conveniently grouped into physical, mental, and social development. They should not be based on physical skills or activities alone, but on the other two objectives as well. The basis upon which grades are awarded reflects the instructor's real objectives in physical education for class work. All aspects are used and no one weighted so heavily or so lightly that it is of dominant significance in determining the final grade. Students should be informed of the relative values placed on each of the objectives.

Bovard, Cozens, and Hagman state:

In keeping with accepted educational philosophy the final grade given to a student in physical education should be based on the degree to which the major objectives have been realized.⁵

They also say that the objectives will include measurement of skills (physical), knowledge of rules and strategy (mental), and evaluation of parts played in the social development of the student. If any other objectives are specific to the course, they should be considered. Teachers' subjective opinions on students' attendance, attitude, effort, improvement, and conduct, are inconsistent with present day thought and should be discontinued.

Lee says:

⁵John F. Bovard, Fredrick W. Cozens, and E Patrick Hagman, Tests and Measurements in Physical Education (Philadelphia and London: W. B. Barnes and Company, 1949), p. 7.

We cannot ignore the fact that grades have had a place in the educational system for many years, so they cannot be wiped out suddenly without causing confusion. Also we cannot escape the fact that, embedded as they are in the school procedure, pupils do work for marks and they therefore can be used to advantage as motivation for better efforts in learning.⁶

McCloy⁷ remarks that grading in any school subject should be done only as a means of better serving the student. A grade could be given the student in each of the several activities and could be called specific grades. These would be weighted and averaged to obtain a final grade which would represent the student's average accomplishment. First, rate the student as objectively as possible and assign a grade. Improvement on previous performance could be recognized. The grading of attitudes on behavior is perhaps a debatable question. A character grade could be given but withheld from the student and used for the purpose of guidance.

Staley⁸ explains the final grade is of basic importance in the educational enterprise and is designed to indicate the degree of learning achieved by the student, from material given over a period such as the semester. There is no standardized procedure for deriving a final

⁶Mable Lee, The Conduct of Physical Education (New York: A. S. Barnes and Company, 1937), pp. 407.

⁷Charles Harold McCloy, Test and Measurements in Health and Physical Education (New York: F. S. Crofts and Company, 1939), pp. 303-305.

⁸Seward C. Staley, The Curriculum in Sports (Philadelphia and London: W. B. Saunders Company, 1935), 357 pp.

grade, so the instructor will have to use his own plan. The following factors most commonly used are: performance, examinations, demonstrations, written and oral examinations, ability estimates, sportsmanship, healthmanship, improvement, attendance, attitude in daily work and demerits. The factors used in deriving the final grade must be adapted to the situation found in each school.

McCormick⁹ argues that a definite objective plan for grading physical education is desirable and necessary. The measuring program should measure the status of the student's progress toward the achievement of the accepted objectives of the physical education program. The objectives should be development of sports and safety skills, development of positive attitudes, and development of standards of conduct or sportsmanship. Grades should be based on a number of factors such as: initial physical fitness achievement, retest of physical fitness for improvement, performance of skills in different activities, effort, attitude, and a knowledge of materials covered in the class instruction period. An unexcused absence should detract from the final grade. The procedure should be based on tests, ratings, and similar measures derived from experiment and research and should be revised as new material is found.

⁹H. B. McCormick, "A Grading Procedure for the Physical Education Activity Program," Journal of Health and Physical Education, 18:716-17, December, 1947.

Bookwalter¹⁰ says "marks, are at present quite essential to administrators." Marks must be valid, reliable, objective, and assigned according to a definite system and according to definite standards. They must be capable of interpretation into qualities of performance for which they stand. The marks must be made up of properly weighted factors, these factors to be combined into a final mark that is most representative of the total achievement of the pupil. Attendance in grading is a debatable question. Attendance, however, is more important in physical education than in any other subject because of the physical activities and should be a factor in grading. Character and citizenship are difficult to grade but are important to evaluate; a suggestion would be to use a teacher-pupil estimate of these factors.

In the following material, there is an interesting note as to how some of the leading physical educators weigh the various factors of the major objectives in deriving a grade. LaPorte¹¹ recommends that grades be based on the four following items, rating each twenty-five per cent.

1. Performance skills

¹⁰Karl Webber Bookwalter, "Marking in Physical Education," Journal of Health and Physical Education, 8:18-19, January, 1936.

¹¹William Ralph LaPorte, The Physical Education Curriculum (Los Angeles: The University of Southern California Press, 1938), p. 48.

2. Knowledge of rules and general performance on strategy

3. Social attitudes including: cooperation, sportsmanship, leadership, effort, attendance, improvement

4. Posture and bearing

Voltmer and Esslinger¹² suggest that grades be based on the educational objectives according to the philosophy of the teacher. Three suggested methods of weighing the objectives are as follows:

1. Attainment in physical aspects fifty per cent, social aspects thirty per cent, and mental aspects twenty per cent.

2. Attainment in physical aspects forty-five per cent, social aspects thirty-five per cent, and mental aspects twenty per cent.

3. Attainment in physical aspects forty per cent, social aspects thirty-five per cent, and mental aspects twenty-five per cent.

Bookwalter¹³ found that most prominent educators believe pupils should be marked on achievement more than on attendance and mark on a positive rather than a negative basis. Marks should serve the pupil by informing him how closely he is conforming to standard performance, both

¹²Voltmer and Esslinger, op. cit., p. 292.

¹³Bookwalter, op. cit., p. 14.

quantitative and qualitative, and as an incentive to further or continued effort. A list of factors to be considered and comparative weights based on a point system follows:

1. Attendance, twenty-four points
2. Skills, twenty-four points
3. Towel fees, uniforms, etc., four points
4. Hygienic inspection, four points
5. Posture tests, four points
6. New style tests on rules, four points
7. Teachers' estimates, eight points

Attendance was given a heavy weight because it is more important in physical education than in academic classes, according to Bookwalter.¹⁴

GRADING SYSTEMS

There are a number of systems for recording grades in use at the present time. The following is a list of those in use:¹⁵

1. Two groups, passing or failing
2. Minimum standard with additional points for additional performance
3. The three groups; inferior, average, superior
4. Five division plan; A,B,C,D,E
5. Percentage system on scale of values for equal

¹⁴Ibid., p. 16.

¹⁵Lee, op. cit., p. 407.

performance increments

6. Point system

7. Increased points on a scale of values for equal performance increments

8. Increased points for increased performance around a median

9. Class ranking

Lee¹⁶ stated that the five point plan seems to meet with most favor. The class ranking system is used in conjunction with the two, three, and five point plan, the percentage system, and the point system. However, it is most commonly used with the five point system. The teacher has great leeway in determining the final grades in any system used.

Reilly¹⁷ briefly explains various systems in use, each having advantages and disadvantages. She lists these as:

The pass or fail. A single standard of performance is set up and a student either "sinks or swims." This system is easily administered, but injustice may be given to a student who is on the borderline. This system may also encourage carelessness on the part of the better

¹⁶Ibid., p. 402.

¹⁷Helen M. Reilly, "Basis for grading in Physical Education," Journal of Health and Physical Education, 6:40-41, October, 1935.

students. Various tests used in physical education built on the same basis are subject to the same comments. Some are: the athletic dodge test, Philadelphia age-aim charts, and Brace motor ability test.

The minimum standard with additional points for added performance. This system shows no superior performance above the minimum standard and none for those below the standard. There are no marks to distinguish between failure and inferior.

Three division type. There is no distinction between inferior and failure, and none between superior and failure. The classification is too broad to measure accurately the range of performance.

Five division plan. This method is probably the best existing system. A suggested scale is three per cent "A," twenty-two per cent "B," fifty per cent "C," twenty-two per cent "D," and three per cent "F."

Percentage system. Unless the units can be accurately defined they are useless objectively. This system obviously serves well in instances requiring minuteness of marking, and also, distinguishing between marks such as sixty-nine and seventy per cent is difficult.

The point system. This plan has the advantage of

providing a graded scale of performance covering a wide range of ability for all. The student can figure out his own grade; however, the student may lose sight of the end to be obtained in an attempt to secure points.

Increased performance around a median. Contrary to the emphasis on skilled performance emphasis is placed on all around ability.

Class rank system. This system is growing in favor in colleges as it is good for highly selected classes. These highly selected classes are not usually found in high schools.

Bookwalter¹⁸ says the inability of teachers to mark reliably in terms of percentages is common knowledge. A letter system is far more accurate and just as useful. If a school system requires percentage grades, the teacher should mark in letters and then change to per cent. This method will retain more accuracy and still satisfy the administration. The system of marking, pass or fail, has its merits. However, if the other subjects are marked upon a definite scale then physical education must likewise be evaluated.

THE TESTING PROGRAM

Bovard, Cozen, and Hagman had this to say about

¹⁸Bookwalter, op. cit., p. 17.

testing: "Testing, when a regular phase of the physical education program, serves as one way to increase the importance of the program in the minds of the pupil. This tends to put the physical education program on a level with other school subjects in which frequent testing is an accepted procedure."¹⁹ The testing program, however, must be properly administered. Measurement in physical education as in all education is still in the pioneer stage and many imperfections exist. Any program of physical education to be termed adequate must attempt to appraise the worth of its outcomes, but the adequacy of the process of evaluation should be understood and used effectively.

Authorities in testing and measuring are well agreed as to what are the most important criteria to be kept in mind in the choice of tests. These will include validity, reliability, objectivity, administration economy, the availability of norms, duplicate forms, and standardized directions.

The first step in the construction of a test in physical education is to determine the quality to be measured, derived from the objectives of the course. Other things being equal, the test which has the most parts, which is measuring the most elements of a given ability, is the most reliable. One of the factors contributing to reliability of a test is the degree of objectivity which is

¹⁹ Bovard, Cozen, and Hagman, op. cit., p. 12.

involved in the scoring of test items. By objectivity is meant the degree of uniformity with which various teachers may score the same test. Objectivity in activity testing does not present much of a problem since scores are recorded in units of time, distance, height, or number of times in an exercise.

Tests such as throwing for accuracy had a lower reliability than tests of speed and strength. McCloy²⁰ showed that tests and measurements serve two general purposes. The first is for research designed to improve the professional program. Second, to assist in the adequate organization, administration and supervision of instruction, and to get a better knowledge of the pupils. General capacity and present ability tests, when properly weighted, probably are the best device for sectionizing and serve as the most objective basis we now have for grading. The test results must be capable of interpretation so that they may be utilized immediately for the improvement of the program.

Scott and French²¹ in commenting on testing say that when the objectives of physical education are directed toward definite teaching goals, growth takes place, results are recognizable and some means of evaluation can be made.

²⁰McCloy, op. cit., pp. 2-5.

²¹Gladys N. Scott and Esther French, Evaluation in Physical Education (New York: A. S. Barnes and Company, 1946), 348 pp.

Tests may be used for motivation of the student for diagnosis, to single out skills and areas of knowledge in which the student may need special attention, and for guidance in physical skills. Each teacher should be able and willing to show evidence of the results of his program. Tests are an integral part of teaching. No teacher will be able to use all of the available tests. When tests are needed for various purposes, the following list should serve.

1. When tests are needed to create interest and effort, achievement tests of general or specific ability, written tests, diagnostic tests or practice tests could be used.

2. When the teacher needs to know the status of students or the ability of the class, he may select: achievement tests, motor educability, motor ability, motor capacity, or written tests.

3. If he is concerned with some special ability or characteristic, he may select from the cardiac functional, strength, endurance, physical capacity or orthopedic tests, as the case may require.

Larson and Yocum²² in giving their views on the testing program, say that measurement of individual achievement indicates the degree to which the student has realized the objectives of the course. This information is used by

²²Leonard A. Larson and Rachael Dunaven Yocum, Measurement and Evaluation in Physical, Health, and Recreation Education (St. Louis: The C. V. Mosby Company, 1951), 507 pp.

the teacher to determine teaching emphasis and is a basic element of grading. The teacher should establish standards for each of the objectives to be measured as they will aid in the selection and presentation of activities and provide a more logical basis for grading. Although a relationship exists between general and sports skills, standards for sports skills are more direct and for this reason have a greater value to the student and to the teacher. Measurement and evaluation are not ends in themselves; they are merely means to an end. Measurement of sport skills is dependent upon the performance of the individual. The best performance of which the individual is capable is necessary for satisfactory reliability, objectivity, and validity. In some instances, such as accuracy tests, best efforts will not be reliable. To improve reliability or objectivity, the test may be lengthened or repeated two or more times. A rough approximation table of test reliability and objectivity is presented in a recent publication by Larson and Yocum.²³ A review of this table shows that tests of strength and speed have a higher reliability than accuracy tests. Reliability coefficients on tests of ninety per cent are rated high, between eighty and ninety per cent average, and under eighty per cent is rather low.

Sharman²⁴ in presenting his views on testing stated

²³Ibid., p. 209.

²⁴Sharman, op. cit., pp. 224-226.

that there have been adverse criticisms of testing in all phases of school work for many years. Many physical education teachers believe that testing is largely a waste of time and effort, that testing interferes with the successful execution of a well planned program. They point out that the condition of administering examinations and tests have not been like the actual situations in games or other activities. Their objections may be granted but yet there is much in favor of having examinations. The main objective of testing is to determine the level of ability, achievement, understanding or appreciation. This objective may be achieved by informal methods such as observation, but usually a more definite planned test is helpful. Probably the most fundamental cause of retardation of measurement in physical education has been the vague statement of objectives. When purposes are not clearly defined, the measurement of progress toward achieving those purposes is haphazard. When the goals are stated definitely, the measurement of outcomes may then become systematic. Then definite objectives should be set up for the course and measurement toward those objectives should be attempted. The objections that have been raised to testing have in most cases been the fault of the tests, the way they were administered, and interpretations placed on the results. The fundamental concepts and beliefs underlying a testing program are sound in principle. There is a great amount of material on the subject of testing

in physical education and it would be well for a teacher to take at least one comprehensive course on testing. Tests are valuable in several respects: they help in grading teachers in the success of their work, they help pupils see what progress they have made, they help teachers diagnose the difficulties of pupils, and they provide evidence concerning curriculum revision and time allotment. Some of the purposes are to measure the status of the pupil in health, physical fitness, motor skills, or knowledge of activities; to measure the gain in any of these traits over a period of time; to diagnose the specific weaknesses and needs of the individual pupils. Diagnostic tests for the purpose of determining weaknesses of pupils should be followed by remedial teaching. A test should be selected for reliability and validity, that is, does it measure consistently, and does it measure what is supposed to be measured? The tests selected should measure the progress toward organization of procedures and should be such that large groups of pupils can be tested efficiently and accurately in a short time.

SUMMARY OF THE LITERATURE

General grading. Grading progress and achievement in school subjects has been an important problem for many years. Grades are, at present, quite essential to administrators as they are used for several purposes in the

operation of the school. Grade reports are used for promotion, retardation, elimination, honors, eligibility for contests and societies, graduation, admission to higher institutions, counseling, and recommendations for future jobs. The importance given to grades in most schools has placed a great responsibility on the teacher. Investigations have shown that there is a wide variety in grades given by teachers in the same subject. This shows that inaccuracy in grading is common. Teachers should strive to be as accurate as possible in reporting grades so as not to cause injustices to the students.

Theories of grading physical education. There has been a great deal of controversy among physical educators on the question of grading. Some would like to see grades eliminated entirely while others would like to see a revision made in the subjective practices now in use. Since no standardized procedure for grading physical education has yet been established, the teacher will have to organize a plan of his own. The differences in school policies make it difficult to set up a standard plan that will be satisfactory in all situations.

The following summary of the practices of leading educators may be of help to teachers in setting up a plan for grading. The general purposes of grades may be listed as:

1. To report progress and achievement to the admin-

istration for the purpose of promotion, graduation.

2. To report progress and achievement to the parent.
3. To let the student know his progress and standing in the class.
4. To help teachers in advising, classifying, and instructing students.
5. To help discover the weaknesses and strengths of students.
6. To serve as motivation for better efforts in learning.

Most educators agree, that in planning a program, definite objectives should be set up. The final grade should then be based on the degree to which the selected objectives have been realized. The objectives most commonly listed are physical development of the individual, social development, and mental development. If any other objectives specific to the course seem necessary, they should be considered in the evaluation.

Grades should be accurate, reliable, specific, objective, and discriminating. The final grade should represent the average accomplishment of the student in all the activities of the course. Teachers should take a positive attitude toward awarding grades and they should not be given as a reward or punishment. They should serve as a motivation for better efforts in learning.

There are many factors under the objectives set up

for the program that could be used in deriving the final grade. Since physical education is an activity program, most educators believe that the physical development of the individual should be given the most attention. Progress and achievement of the student in physical activities, should be the major factor in the grade. There are three philosophies presented for the use of such factors as attitudes, traits of character, leadership, sportsmanship, and effort. These philosophies are (1) some believe that a special grade should be given, such as a character grade; (2) some would use them in the final grades as a subjective estimate; and (3) others believe that they would be outcomes from the activity, instead of a factor in grading. If all or some of these factors are used, the subjective opinion of the teacher would be necessary as no valid test has been developed to measure these traits.

Attendance, which is the major factor in some plans, should be considered, as it is probably more important in a physical activity program than in most school subjects. The philosophy of the teacher would be the deciding factor on which plan should be used in a particular situation.

For objective grading in physical education, a well rounded testing program is necessary.

Systems of recording grades. There are a variety of grading systems in practice at the present time. Each has certain advantages or disadvantages, but the five point

system A, B, C, D, E, is used by a majority of the schools. All systems have been tried and it was found by experiment that the percentage system had too fine a scale to be satisfactory. Many educators prefer the point system which like the five point plan, has a scale acceptable to most school curriculums. A teacher favoring any one system may grade on that scale and then easily convert to the grade expected by the school.

Testing in the program. Testing, when a regular phase of the physical education program, serves as one way to increase the importance of the program in the minds of the students. Frequent testing in other subjects of the school has been an accepted procedure and should be in physical education. Tests and measurements serve two definite purposes. One is research designed to improve the program, and the other is to assist in the adequate organization, administration, and supervision of instruction to get a better knowledge of the student. Elements in the testing program serve as the most objective basis for grading. The teacher should be able and willing to show evidence of the results of the program.

Measurement and evaluation are not ends in themselves. They are merely means to an end. Tests may be either standardized or non-standardized. Non-standardized tests have little value except for measuring knowledge; therefore, standardized tests should be used to measure

organic skills and adjustment outcomes.

Good administration is important for a successful testing program. Some knowledge in statistical analysis is necessary to get the best results, and each teacher should have an elementary course in tests and measurements. The teacher must first carefully select objectives that he wishes to achieve in the course. Tests that can be used to realize those objectives best should be selected. Tests should be selected for their reliability, validity, and objectivity. The teacher should not use too many tests or make them so long that they would retard the program; however, they should be long enough to measure what is necessary.

Tests are valuable in several respects: (1) they help in guiding teachers; (2) help pupils see what progress they have made; (3) help teachers diagnose and correct weaknesses of students; (4) serve as a basis for grading in the different activities; and (5) sometimes serve as motivation for increasing effort in learning on the part of the student.

Teachers when giving tests should be careful in interpreting results. Tests should be so selected that a large group of students may be tested efficiently and accurately in a short period of time. Student leaders may be trained to help in administering the tests and tabulating the scores. There are so many tests available for use that

no teacher will be able to use all the tests. When tests are desired, the following list may be of help:

1. When tests to create interest and effort, achievement tests of general or specific ability of the student are needed; written tests, diagnostic tests or practice tests could be used.

2. When the status of the student or ability of the class is needed, achievement test, motor educability, motor ability, motor capacity or written tests could be used.

3. For special abilities or characteristics, the cardiac functional, strength, and endurance is to be measured, physical capacity or orthopedic tests may be used as the case may require.

The steps which are common in most testing programs follow Sharman:²⁵

1. Statement of the problem; That is, recognizing clearly the purpose of the testing program.

2. Selection of the tests to be used. If the purpose is to measure gains over a period of time, it will be necessary to choose tests having equivalent forms.

3. Administering the tests.

4. Scoring the tests.

5. Tabulating the tests.

6. Interpreting the results.

²⁵Sharman, op. cit., p. 225.

Larson and Yocum,²⁶ Scott and French,²⁷ Bovard, Cozens, and Hagman,²⁸ and McCloy²⁹ are excellent sources that can be used for selection of different types of tests. Methods of administering, scoring, tabulating, and interpreting are carefully explained for each test.

²⁶Larson and Yocum, op. cit., 507 pp.

²⁷Scott and French, op. cit., 348 pp.

²⁸Bovard, Cozens, and Hagman, op. cit., 410 pp.

²⁹McCloy, op. cit., 401 pp.

CHAPTER IV

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

The purpose of this study was to review professional literature available at Montana State University, and to select objective methods for grading physical education in high school. Different phases of grading were surveyed.

These items were considered in grading high school subjects in general.

- a. Importance of grades in the school curriculum.
- b. The development of grades.
- c. Advantages and disadvantages of the systems in use.
- d. Reliability of grading progress and achievement.
- e. The type most commonly used.

Many interesting facts were brought to light. There was doubt that any perfect system could be established to satisfy all schools. Each school would have to work out its own plan on the basis of its own objectives.

No complete objective method of grading physical education has been established and most instructors have been grading subjectively. This presents a problem since it is difficult to justify the final grade to the student and parent. To correct this problem, grades based on progress and achievement of the student that can be measured

objectively would be necessary. Some educators believe that grades should be based on achievement alone, while others would consider other factors such as improvement, social traits and character traits. These questions arise: (1) what should be the objectives of the course; (2) what factors should be used or eliminated; and (3) which factors should be stressed in determining the final grade.

Theories of prominent physical educators on grading physical education were examined. The phases surveyed were:

- a. Importance of grades in physical education.
- b. Objectives for the program.
- c. The different factors of the objectives in use.
- d. Which factors could be used and which ones could be eliminated.
- e. What factors should be stressed in deriving a final grade.
- f. What systems of grading are in use.
- g. Which systems have proven more successful.
- h. The purpose, importance, and the use of tests in physical education.
- i. The types of tests that could be used to meet the objectives.

Practically the same problems of grading were found for grading physical education, as were found in grading the other subjects. No standardized plan was available, but ideas were suggested that could be helpful to the teacher

in grading physical education. Each teacher should set up objectives and select physical activities for his own situation. Progress and achievement in physical activities that can be measured objectively should be stressed. Other factors may be used but given a lighter weight in the final grade or a separate grade, such as a character grade. Grading progress and achievement objectively requires a testing program of some kind. Teachers should have some knowledge in administrating, scoring, tabulating, and interpreting tests, to have a successful program for better grading in physical education.

Tests should be selected so that a large group of students may be measured with a minimum of time and effort.

Information concerned with weighing the different factors of the objectives was limited, as only a few specific plans were presented. Each instructor would have to determine factor weights for his own program. Parts of some grading plans would have to be used according to the philosophy of the teacher.

Complete objective tests for measuring character traits and personality traits were not available, but some subjective rating scales for measuring these factors were suggested. Self-rating scales for students and scales that could be rated entirely by the teacher were most common.

There is a need for more research and experimentation in measuring physical education, especially for social

development. The improvement in reliability and validity of tests for this objective would demand repeated use of the measuring devices available.

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