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**PHYSICAL EDUCATION
TODAY**

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H. W. PETERS

Superintendent of Public Instruction

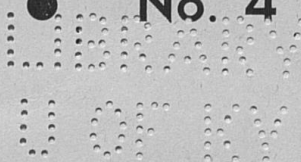
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FOREWORD

The material in this bulletin was assembled and organized under the direction of William L. Terry of the Department of Physical Education, Western Kentucky State Teachers College. It deals with the needs and possibilities of the physical education program for the public schools of Kentucky. Mr. Terry was assisted by Miss Frances Richards, Miss Gladys Perkerson, Miss Mabel Milton, Mr. Arnold Winkenhofer, all of Western Kentucky State Teachers College, Rexford C. Quinby, Ph. D., Director of Physical Education for Men, Berea College, and W. H. Hanson, State Supervisor of Safety.

With the belief that the information contained herein will be of interest and value to the school people of the Commonwealth, I have asked that it be published as a bulletin of the Department of Education.

H. W. PETERS,
Superintendent Public Instruction.

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PHYSICAL EDUCATION TODAY

Physical education is a new addition to the school curriculum, in spite of the fact that physical activity is as old as the race itself. In the development of the physical education program in Europe, drill found an important place. This program of formal drill, the English idea of games and sports, and contributions from the so-called systems of physical education from Germany and Sweden, have been brought together to make up a part of the program in the United States. Our program has also been influenced by the playground movement, the athletic movement, recreational movements of an educational nature such as Boy Scouts, Campfire Girls, and the Young Men's Christian Association.

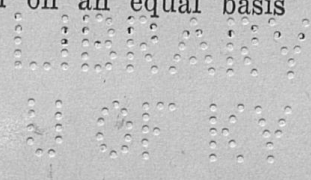
The growth in interest in physical education and health was accelerated by the draft statistics of the World War in 1918, showing over thirty percent of the men of the nation between the ages of eighteen and thirty to be unfit for military service. These statistics led outstanding men and women all over the country to advocate the inclusion of health and physical education in the school curriculum as a means of solving this vital national problem.

The program of physical education advocated by such leaders in the field of education has resulted in a widespread adoption of physical education and health as an integral part of the curriculum. Health and physical education has developed more rapidly in some sections of the country than in others. Lack of public interest and vigorous leadership along with inadequate financial support have retarded development in many school systems! Kentucky along with some of the other states has failed to develop an adequate health and physical education program for her public school. Probably this can be attributed to a lack of public interest, which has come about due to the failure of our educational leadership to emphasize the importance of health and physical education. It could hardly be said that the program has been retarded, because of lack of adequate financial support alone, because many states lacking the natural resources and wealth of Kentucky, have a satisfactory program of health and physical education for their schools. Rather we should say that the school people, the educational leaders, and the general public have failed to realize how vitally important the program of health and physical education is to the normal development of our boys and girls, and have not demanded that financial support be given such a program.

Kentucky, along with thirty-six other states, passed a law providing for instruction in health and physical education in the public schools. Kentucky's law was passed about 1920. This law, however, was repealed in 1934. Some school systems of the state have provided physical education programs and carried them on an equal basis

new addition

why



with the other subjects of the curriculum while others have had little or no physical education programs, substituting inter-scholastic athletics, physiology, or recess periods for what should be a varied schedule of physical education activities. The National Physical Education Service survey shows that of the seven states bordering on Kentucky, all but one have developed a modern state-wide physical education program. Six of these states have syllabi of physical education activities for the teachers of the public school system, and five have state directors or supervisors of health and physical education. There is no valid reason why Kentucky should not have a physical education program comparable to that of other states. To do this our leaders in education and in public life must realize that to neglect the education of all youth in vigorous physical activity skills, or to fail to instill an interest in wholesome play, is to open the way for serious social problems in the years that lie ahead.

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PHYSICAL EDUCATION—ITS PLACE IN THE MODERN SCHOOL PROGRAM

That physical education has a place in the modern school program is suggested by the following facts. Today, 36 states have compulsory laws concerning the teaching of physical education in the respective schools; these states represent over 90 per cent of the total population. More important than the above, is the fact that 23 states have state directors of physical education and these states represent 65 per cent of the population. Further than a mere consideration of the numbers and percentages above, is the fact that a detailed study of the states involved reveals the fact that those states considered the most progressive educationally have the most comprehensive and complete physical education programs. Noteworthy also is the fact that during the "lean" depression years, those states and cities that had good physical education programs were in many instances more reluctant to "cut" the staff or budget of the physical education set-up than *any other educational division*. In plain language, it may be safely stated that wherever physical education has been placed in the school program on an educationally sound basis, it has been accepted and established on its own merits.

In considering the place of physical education in our modern school program, it is perhaps well to give some thought to the meaning of physical education. One of the briefest and perhaps most concise conceptions is that physical education is education through physical activity. Regardless of what modern definition of the term one accepts, it is significant to note that physical education is "part and parcel" of education; it is an educational means; it is concerned with the same things as education; its aims are the same as the aims of all education; its principles are the same as education. The unfortunate and erroneous attitude still prevails among some school administrators and teachers as well as parents and taxpayers, that physical education is education *of* the physical. By this assumption it is implied that physical education is concerned with developing big and powerful muscles, "four-letter" athletes, circus acrobats, professional "toe-dancers", or "something" which provides for the release of "excess" energy with which youth is obsessed. Such conceptions are not only erroneous, they fall in the class of absurdity. If one will look at modern educational needs, opportunities, and procedures in light of present day social and economic standards it is quite apparent that physical education has not only a definite, but a prominent place in the school educational program.

One might justifiably ask what are some of the conceptions of physical education? Let us consider some of them as accepted by outstanding educators today. (1) Physical education is a field of education. No longer can we justifiably consider physical education

as a separate and distinct training procedure; it is educational in every sense of the word. (2) Physical education is a definite method of education through muscular and emotional experience. Muscular and emotional reactions and experiences are fundamental with children and youth, these are the ways or the paths of learning; physical education is vitally concerned with such. (3) Physical education is not a mischief-preventative, but a stimulating form of leisure time expression. Directed physical activity for children is more than a substitute for childhood pranks; it is a developmental agency. (4) Physical education is not a form of health insurance, but it is a valuable aid to health. Function makes structure, therefore, rational physical activity for the child and youth is essential for growth needs and organic development. (5) Physical education is not merely a preparation for adulthood, but is a training for good citizenship *now*. The activities of the program are of real life situations and vital interest on the child and youth level. (6) Physical education is not a mere developer of the physical, but is a promoter of fine adjustments between the physical and mental. Physical and mental development are not two separate and distinct units, but are interrelated and overlapping parts of the whole individual.

In considering education in view of the comparatively recent changes in the character and function of the American home, the mechanization of industry and the increasing amount of leisure time it is well to investigate some of the evidence offered in support of physical education in the schools. In this connection it is well to note that there is available today much objective evidence as to the values of physical education in all the schools of which the following is typical. (1) Participation in physical education activities stimulates growth; (2) there is a definite relationship between physical proficiency and scholastic achievement; (3) participation in athletics is not detrimental to health or scholastic standings; (4) physical education develops abilities and traits not dealt with by the traditional classroom subjects; (5) programs of physical education in schools reduce absences and retardation; (6) favorable opportunities exist in physical education for developing desirable character traits; (7) unusual opportunities exist in physical education for affecting normal personality adjustments; and (8) physical education activities are conducive to good postural development. These statements are not mere fancies, ideas or fads of subject matter specialists, they are facts based on research and experimentation.

The reasons for having physical education in our modern school curricula become the objectives of the physical education program. The objectives can best be considered under the two main headings of educational and administrative, of which the educational are of basic importance in this discussion. The first objective is to provide adequate opportunity in supervised physical activities that will lead to educative experiences. The second, to develop the organic systems of the body to the end that each individual may live at the highest possible level. The third, to develop skills in and favorable attitudes toward play activities that will carry over and function in leisure

time pursuits. To complete these objectives and carry them through to a satisfactory conclusion becomes the job of our modern educational program; no other institution today has a better opportunity for realization of these achievements than the school.

In conclusion it may be safely said that physical education is today recognized as a definite means and part of the modern educational program. The very nature of the activities of the physical education program trains *directly* for adjustment, for behavior and for emotional control. There is no longer a need for proving or establishing the worth of the program. The job today is to obtain the leaders, get the facilities and enforce a workable program on a state-wide basis to the end that every school child from the first through the twelfth grade will have sufficient opportunity for wholesome participation and enriched educational experience.

PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL

By H. T. TAYLOR, Louisville Public Schools

President Southern District Physical Education Association

A physical education program adapted to the needs and facilities of our elementary schools presents a problem of organization. Perhaps the best approach to this question might be a brief consideration of the elementary school child, an understanding of the fundamental questions involved in physical education, and some tentative suggestions as to the program under average conditions.

If we include the kindergarten in the elementary division, and it is well worth while because the foundation for all schooling lies here, and consider the next six years through the sixth grade, we find that we are dealing with children from the age of four and one-half to five years up to and including their eleventh year.

Studying the child during this period reveals the fact that he is primarily in an individualistic stage and that he is interested in the things around him, people he comes in contact with, and actions or activities within a certain range of difficulty. Cooperative action, team or group spirit, or club activities are not a natural part of his life until near the close of this period of growth.

In the kindergarten and early elementary grades, activities that provide action, such as running, jumping, or climbing, building with hand material, the simple singing games, along with some opportunities to collect and fashion simple objects, will meet the actual needs and interests of our pupils. As they proceed, there will be increased need for more active participation and for a broader range. Dramatic events have their appeal; games involving the elements of the chase and hunt, the individual games of skill, collecting, rhythmic, and certain seasonal sports become useful and essential.

Near the close of this period, the latter part of the fifth and the sixth year will bring additional interest in all fields: better muscular coordination and the need of some team games, individual skills, and the beginning of interest in competitive athletics. Here, also, there is a need for more difficult mental effort, such as quiet games for indoor or rainy day use.

The above presents a very brief picture of the stages of development from a physiological basis and the forms of play and games most adaptable to boys and girls during these years.

A complete technical explanation of the basis and need for physical education as a part of elementary education would be out of place at this time, but perhaps a brief description or definition and a short statement of general aims and objectives might be of some help. Dr. Jesse F. Williams' definition of physical education has

had wide acceptance. He states that "physical education is the sum of a pupil's physical activities, selected according to kind, and conducted according to outcomes."

Aims of physical education have been listed as follows:

- A. To give in a suitable environment, to every group of pupils, a vigorous muscular work of a type that is inherently interesting to that group.
- B. To select types of work, which also may be used to develop within the child a disposition to strive for higher social ideals.
- C. To use at opportune times types of work that develop within the child the power to quick and accurate thinking and doing.
- D. To give preference to such types of work that lead to the acquirement of skill that is useful for recreational ends.

Objectives for the elementary years have been stated in the following order:

- A. To inculcate health habits.
- B. To develop the body harmoniously.
- C. To give a fund of exercise material for use in after school days.
- D. To give opportunities for the development and guidance of the play spirit.
- E. To provide situations which will arouse and increase the physical qualities of fair play, courage, self-sacrifice, and loyalty.
- F. To give positive instruction in citizenship through leadership and obedience to rules.
- G. To satisfy desire for rhythm.
- H. To provide relaxation.
- I. To develop alertness.
- J. To give opportunity for the use of instinctive behavior.

Perhaps the most difficult question facing teachers in our elementary schools is that of a program or curriculum adapted to this particular situation. Some few cities provide physical education instructors or supervision for all grades, but the average teacher will not have this assistance and must rely on certain texts or outlines and her own ingenuity.

Knowledge of the physiological needs of children in her particular class is of prime importance. A study of community recreational opportunities and also general information as to customs and practices of the past as well as present will be helpful. Athletic interests of older brothers and sisters and the program, as well as traditions of the surrounding secondary schools and summer recreational possibilities, furnish a direct clue to the general interests and habits of her immediate class.

Any elementary group, whether located in a large city or simple one- or two-room country school, will have a few recreation or play habits based on the customs of their neighborhood. Selection of the best games and practices among these, in keeping with the needs of the group, is the first step involved. A gradual elimination of undesirable practices can be accomplished in a short time by substituting more suitable games and plays and by organizing the physical education period as well as available recreation periods so that the child has the same instruction and the same guidance in this part of the school program as in other accredited subjects.

Placing physical education on the program is the first step, and may raise the question of time allotment. For the lower grades, a minimum of thirty minutes a day is necessary. As to location during the day, this time should be given when it meets the needs of a particular class—preferably near the middle of the school day—or it can be divided into two periods of fifteen minutes each, especially for the lower grades.

The fifth and sixth grades need a longer period; at least forty minutes a day are essential. Again, this period should be placed so that the pupils have a chance to relax from academic duties and have the full benefit of fresh air, sunshine, and vigorous activity.

The use of the word "play" and the acceptance of the actual value of recreational practices conducted as a part of educational procedure may cause some reaction, but we know the needs of children in these grades and can easily estimate the actual value of a properly supervised program in physical education when we base our subject matter on a sound foundation. Our primary concern as teachers should be the natural, normal development of the child and a realization of the demands made by even the best school program. Our efforts in physical education, as in other subject matter, should be to further his successful accomplishment and to provide reasonable outlets under the best conditions available.

MODERN TRENDS IN HEALTH EDUCATION

By MISS WANDA ELLIS

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Interest in health is not a recent development. As far back as we have records of civilization, man's paramount interest has been in health. The development of health education as one of the most important phases of education is, however, comparatively recent. It was not until after the World War that educators began to realize the need for emphasis on health education in the school curriculum.

Studies have shown that the health of the child has, in the past, been impaired as soon as he or she enters school. This is a situation that is deplorable and which deserves attention for every teacher. Adequate health facilities and a functioning program in health will be acquired only through concentrated effort of everyone connected with the schools.

Health education should be included in the curriculum in kindergarten, grades, and high school. The National Education Association has placed health as the first of the seven cardinal principles in education. Without health the rest of the program cannot function.

The instruction in the primary grades of all modern school systems centers around the health program. The establishing of health habits and attitudes is the objective of this instruction. Every teacher is cognizant of the fact that the mere teaching of health facts is an utter waste of time unless the behavior of the child is altered. In an effective health education program this must be constantly kept in mind.

Of what importance is it for a child to know that milk is essential in his diet, unless that child drinks a sufficient amount of milk to assure normal development? It is therefore the duty of the teacher not only to teach the child facts concerning the importance of milk, but to do everything within her power to see that each child in her grade is drinking the amount of milk which the growing child needs. Of what importance is it for a child to know the correct habits of posture unless he practices them both in school and out? These are only two of the innumerable examples which might be given to illustrate the importance of the dual aspect of health education.

Education is a process by which the behavior of the individual is altered. If health education is to function as a portion of this vast program, the behavior of the child must be altered. The former type of instruction in hygiene and physiology had no constructive effect on the child. He might memorize the names of the bones of the body or learn to trace the circulation of the blood; but his health behavior remained unaltered. Such instruction is no longer sanctioned. Yet

we find a few teachers who are content to follow the lines of least resistance and to follow this simple but ineffective method of teaching. Such a teacher is depriving her pupils of training which would be of invaluable aid to them as future citizens.

In the kindergarten and in the primary and elementary grades, health instruction should be carried on throughout the school day. The establishment of desirable health habits should be the constant aim. Incidental instruction should be given in direct relationship to the classroom situation. Children should be given an opportunity to practice habits which the teacher wishes them to form. By the time the child reaches the third grade, he becomes interested in the WHY in relation to the health practices which the teacher is endeavoring to establish. Care should be taken to keep terminology and facts within the grasp of the child. To make this program effective, the child must be interested. It must be simple enough for him to grasp, and yet sufficiently difficult to offer a challenge.

There must be progression in the health education program. Students in high school will not be interested if the materials are presented on a grade level. Scientific facts offer a challenge to high school students. They are now groping for understanding, not only of themselves; they are becoming interested in community problems. If this interest is wisely utilized, better citizens will be developed.

Many of the problem children in our schools are victims of remedial defects. In fact this is often the cause of the maladjustment. A child whose eyesight is defective cannot accomplish what is expected of him. He becomes nervous and irritable, and he develops a defensive attitude. Many children in our schools today are being retarded by defects which could, and should, be corrected. Do you keep a careful check on the visual acuity of your pupils? Do you test the hearing of each pupil? Do you examine the teeth of your pupils and exert every effort to see that the defects are corrected? It is important that the teacher realize the importance of the follow-up of physical examinations. Merely finding defects is useless unless these defects are corrected.

The teacher who is interested in abundant health for her pupils must realize the important part played by physical education. While health is only one of the many objectives of physical education, it is a vital one. The teacher who understands the biological and physiological needs of the child realizes the importance of a well-planned and well-directed program of physical education. We cannot expect a child who is deprived of the big-muscle activity which his body demands, to develop and to behave normally. We cannot expect a child who is deprived of his menti-motor control which he needs, to be able to adjust to his environment. There are teachers who believe that the child will have ample opportunity for such development during hours not spent in school. This is evading an important issue. In the first place, the biological needs of the child demand activity at certain intervals. His nervous and muscular systems are not constructed in such a way as to make it wholesome for him to be inactive over a

long period of time. In addition, the teacher is depriving the pupil of a form of education in which the opportunities for constructive learning are innumerable.

The ability to compete successfully with his playmates furnishes a natural impetus for the practicing of desirable habits. Health as an isolated value means nothing to the child. Health as a means for successful participation in life situations has dynamic interest for him.

One of the most important phases of the health education program is the supervision of the health facilities of the school. This is important for all teachers but particularly important to the rural school teachers. There are many questions which a teacher should ask herself. Is the water which the children drink tested regularly? Does each child have an individual drinking cup? Are the heating facilities adequate? Are the toilets kept in a sanitary condition? Do the children have facilities for washing their hands? Is the lighting in the schoolroom satisfactory? Is the schoolroom properly ventilated? Are school lunches properly supervised? These and other pertinent questions should form a basis for the health education program.

If the facilities are unsatisfactory, the changing of conditions should be the responsibility of both the teacher and pupils. Activity and initiative from the pupils is the aim of every alert teacher. The altering of an unsatisfactory condition by the pupils is far more to be desired than for all initiative to come from the teacher.

Every teacher in the state can profit by the cooperation of the State and County Boards of Health. These organizations are always willing to aid those teachers who ask for assistance. Many problems concerning unsatisfactory health conditions are difficult for the teacher to solve. With the authority invested in the State and County Boards of Health, however, these problems become comparatively simple. If you are having difficulty concerning the quarantining for communicable diseases, the county health physician will readily come to your assistance. If the water supply of your school is unsatisfactory, report the condition to the State Board of Health.

Each teacher in Kentucky is familiar with the state program of health and the awarding of a Blue Ribbon to each child who meets the standard set-up by the State Board of Health. Each teacher should endeavor to have each child in her grade pass this test. Precautions should be taken, however, to see that the child does not feel that this should end his efforts to improve and conserve his health. The fact should be kept in mind constantly, that abundant health is a quality which is held only through constant effort on the part of the individual.

Many of our most prominent physicians and dentists would render invaluable service in the development of a health education program if they were approached in an intelligent manner by teachers. At present one hears remarks uncomplimentary to our health program by progressive physicians and dentists. Sometimes this is due

to their not being properly informed. Too often, however, it is a justifiable criticism, because the physical examinations are given in a desultory manner and warrant such an attitude. More valuable assistance is lost by not endeavoring to win the co-operation of these people. An example of such co-operation was made possible by an alert superintendent of a school in a small town in this state. This superintendent called upon the dentists who served this community and made arrangements for a clinic to be held by each dentist. Certain hours in the afternoon were set aside for school children where dental work was done at a greatly reduced rate. The same arrangement was made whereby needed tonsillectomies were performed. What was accomplished in this community could be done in every community in the state if there were an effective leader who had the support of each of the teachers.

To make a program of health education function, it is imperative that the teacher gain the interest and confidence of the parents. Very many of the health practices which one wishes to establish must be practiced at home, and the cooperation of the parents is essential. Many health projects have failed because a teacher endeavors to dictate to parents instead of gaining their confidence. This cooperation can be developed through such an organization as the Parent-Teacher Association.

Those interested in health education must not be content to depend on legislation as a means of solving all problems in health. It is, of course, true that legislation has assisted greatly in bringing the standard of health to its present status. With the present philosophy which so many individuals hold—that of “getting by”—legislation alone proves inadequate. To verify this statement, we shall use quarantining for a contagious disease as an example: It is often impossible to enforce this law unless people are educated as to the necessity for such a procedure. Before a check-up can be made, exposure to many may result. On the other hand, if people understand the importance of this law and feel that cooperation is their duty, results are far more satisfactory. The conclusion is therefore evident; before legislation is effective people must be educated in the principles of health and their responsibility for the welfare of others.

Health education is one of the subjects included in the curriculum of every school in Kentucky. No doubt it is taught to every pupil. The pertinent question, however, is whether or not the program is functioning. Each teacher should ask himself or herself whether or not the procedure which he or she uses is in accordance with the modern objectives of health education. Take stock of the health facilities in your school. Are you satisfied with present conditions? If not, what could you do to improve them? The remote objectives of such a program relate to the health of your pupils as future citizens, as well as to the health of future generations. It is a tremendous responsibility and one which, if intelligently met, will bring immeasurable satisfaction to you as an individual interested in the welfare of humanity.

THE TEACHING OF BODY MECHANICS

By REXFORD C. QUIMBY, PH. D.

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FUNDAMENTAL FACTS

In all probability the human body is too frequently compared to a machine. I know this and yet dare to suggest such a comparison at this time for this method seems to offer the best means of giving a clear picture of certain of the relationships that exist between a proper and improper use of the human body.

It seems perfectly obvious that a machine, such as an automobile, must be in proper alinement to function at its best; that such a machine must have various parts, all of which have a pretty definite place that they belong in; that this machine must have a means of getting fuel (food) if it is to run; and that there must be some means of eliminating any waste products from the fuel. Such a machine is put together so that these various factors are taken care of. We may easily imagine, or know from actual experience, that the getting of a cylinder out of line will play havoc with the smooth running of the automobile; that a small clot or bend in the feed pipe will cause distress signals; that the motor may be stopped by the closing of the exhaust pipe; or that a loose connection from the battery will start one to wondering why the motor will not start.

The human body is made up of various internal parts which give us the powers of life. Each of these parts has quite a definite place that it belongs in. Certain of these parts work together and give us the systems such as the respiratory for breathing; the circulatory for feeding and waste elimination; the digestive for preparing the food; the excretory for carrying away of waste; the nervous for the motivating or stimulating functions. In such a system, as in the motor, the misplacement of a vital part, such as a kidney or the pancreas, may result in a loss of functioning power for that particular part and eventually the system that it is connected with. A twisted tube in the motor may interfere with the free passage of the fuel and a blood vessel in the body which is pressed upon by some organ that is out of its intended place may be so restricted that the blood supply to a certain section is being continually cut down. And so the comparison may go on.

It seems so very obvious that the human body may have its various parts or systems so out of position that a good mechanical functioning is impossible *or* we may say that it seems so very obvious that the various parts and systems of the human body *must be in their intended positions* if there is to be a *good mechanical opportunity* for them to function at their best. If the body is used as it should

be, in a good body mechanics position, the individual will be giving the body the opportunity for the various parts to function with the least effort and to their best advantage. That there is a right and a wrong way to use the body in relation to its internal parts seems to me to be only common sense. In the automobile, the disarrangement of the parts will soon be noticed in the poor functioning and in the human body the end result must be a poor functioning. The damage that is being done may take a long time to show up in the body but day by day, week by week, and year by year, the harm is being done.

The term Good Body Mechanics means, then, the using of the body in such a way that the various internal parts and systems are allowed to be in such a position that they have *the best possible mechanical advantage to perform their functions.*

THE CAUSES OF POOR BODY MECHANICS

Body Mechanics is, in most cases, a matter of inheritance, muscular strength, habit, imitation, and mental attitude. There is no question that an individual inherits a type of build. This build may be of a slender, medium, heavy, or a mixed type. Along with this build will go certain tendencies of body mechanics. These tendencies may be looked upon like any other inherited tendency or predisposition. As the thin and medium builds have this tendency to use the body poorly this fact should be recognized and training given to them so that it may be overcome. It is commonly recognized that these slender builds have a tendency to contract tuberculosis and a great deal is being done to educate them to use care so that they may overcome this inherited tendency. With this education, those who live intelligently, are not going to let nature take its course in the matter of tuberculosis but rather they are going to do those things which will enable the system to fight off this disease. In the tendency to use the body poorly because of the inherited build, this same intelligence must be used to fight against a slump. Inheritance is important in body mechanics and it should be recognized. Care must be used to not mix up this matter of inheritance with fatalism, however, as has been done by some of the skeptics of the values of body mechanics training. The fact that a boy inherits a body that looks like his father's, or that a girl inherits a body that looks like her mother's, does not mean that because the father or mother has poor body mechanics that the child *must*. It may be very probable that when the boy or girl grows up that he or she will have the same poor use of the body that the parent had *but* this will be because nothing was done about it and nature was allowed to take its course, or because the boy or girl was of the type that could not or would not change. If nothing was done to aid the child in using the body correctly it would be the most natural thing for the body to be used as the parents had used theirs. The child learns a great deal from imitation and the things that are learned, gradually become a part of the attitudes and habits of life. If a father tends to carry the head forward, to permit the abdomen to droop, and to round the shoulders forward, it is not surprising if the son picks up this attitude and walk of his father. In fact, it will be more surprising if he doesn't. Thus gradually a habit in

sitting, standing, and walking is developed until it would appear, if you didn't think through it, that people *inherited* a certain way of sitting, standing, and walking. If this were true, the changing of the body mechanics might be a very much more difficult task. Sitting, walking, and standing, however, are learned and learned chiefly, probably, by imitation, and therefore a correct use of the body may as well be learned as a wrong way.

The developing of a habitual way of using the body is a long process beginning with the first steps and continuing to adulthood. With proper teaching this habitual use of the body may be molded so that it will be used as it should be. The habitual carriage of most people may be good, bad, or indifferent, but for the most part it probably is due to a hereditary tendency, muscular power, imitation, and attitude. In the majority of cases it is not an intelligently learned habit, for the majority of people do not know how to carry themselves well. Even those who make an effort are usually employing a wrong body mechanics. People lack the knowledge that is essential in taking correct body mechanics and hence when they make an effort to stand better they assume a strained position which is too difficult to hold and soon they are back in the slouch. Habit in the way people sit and stand is all powerful and as most of life is a matter of habits, a correct habit of carriage should be learned. This correct habit can not be left to nature, especially if the parents have a poor use of the body, but must be taught and consciously learned.

Not only are inheritance, imitation, and habits powerful influences in the use of the body but certain muscle groups that are used so much in maintaining a correct body mechanics are a powerful factor too. The weakness of these muscles permits one to slump. An abdomen with very weak abdominal muscles is difficult to hold up, an individual with a general muscular weakness fatigues easily, and naturally goes into a slouched position. This fault may most certainly be corrected, in a short time, with the right kind of exercises.

Attitude, of course, plays a large part in the way one stands or sits. If an individual just does not care or will not try to improve his body mechanics, it is rather a hopeless task to change them, but it would be equally hopeless to try to get a boy to learn to spell if he had this attitude. Attitudes may be changed very greatly with the right kind of teaching, which should include the powerful logic that is to be found in studying the anatomical and physiological facts that are the background upon which body mechanics training is built.

Why should people know how to use the body correctly? They do not have any instinctive guide, the upright standing position makes a good mechanical working of the various parts difficult, habits of carriage are developed largely through imitation, and most people never have had any instruction as to what is the best mechanical use of the body. Furthermore, the majority of people do not know that it makes any difference how they stand or sit. This is not surprising for certainly the lay public has a very scant knowledge of the laws of health and those who are teaching health or protecting us from disease have not had called to their attention the very important rela-

tionships between body mechanics and health. Inheritance, habit, imitation, muscular strength, and attitude are all important factors in the use of the body and knowing the place that each of these factors plays in body mechanics, a correct use of the body may be taught and excellent results come from this teaching.

THE CLASS ROOM TEACHER AND BODY MECHANICS

The class room teacher is in the most strategic position of all for the teaching of body mechanics. The teacher is with the children for many hours each day. The children are growing and forming bodily habits. They only need instruction, of the right kind, to learn to sit and stand in a way that will permit the body to carry on its functions with the least strain. No one else has the great opportunity to train the boys and girls into a correct use of the body. Some of this training may be done at home, but parents are far less able to give this instruction than the teacher.

In the majority of cases the teacher is not doing this teaching of body mechanics and for good reasons. Her training for teaching has not included a factual knowledge that would make her realize the importance of body mechanics. Quite likely she has had instruction in hygiene and health. In many cases the teacher will feel that the teaching of health is one of the major functions of the school. She will carry on the usual teaching in these fields such as the care of the teeth, training in what to eat, keeping away from contagious diseases, keeping the body clean, sleeping with the windows open, and so on in general hygienic training. As very little emphasis has been given to the physical educator in the importance of the use of the body mechanics to health, it is not surprising that the *general* class room teacher has not had specific training in this important field. Not only do the teachers lack the essential training and knowledge for the teaching of body mechanics but in too many cases their daily schedules are so full that they feel that there is no opportunity for the training of the use of the body. The teacher is in very much the same position that the general public is in, e. g. she does not know or realize that the way a person stands and sits, as judged from a health viewpoint, is very important.

There are teachers who realize that something should be done to improve the way the boys and girls sit and stand. They may have had some study that has brought this to their attention or they may feel that for the sake of appearance that the children should learn to carry themselves well. Unfortunately the majority of these teachers lack the background for doing this important work, and in attempting to straighten up the children, they do more harm than good. It is very easy to remember back to the usual commands that were given to correct these faults such as "shoulders back" or "straighten up". The child in complying with these commands pulled the shoulders back, pressing the shoulder blades together and lifted the chest by throwing it out to the front, thus increasing the curve in the lower back. This change of position brings the body into a strained and cramped position which is too uncomfortable to maintain and soon

the boy or girl will slump back into the former position or one that is worse. This is unfortunate for the mental and physical results are such that the child may always carry a dread of anything that would make him "straighten up". When the correct methods are used in this body mechanics training, there will be no such strain and soon the correct positions will be used more and more for they are the normal ones and the body will be more at ease and have less strain.

The teaching of body mechanics is a direct challenge to the teacher. It is an opportunity to do something for the boys and girls that they will carry throughout life. Health is one of the first aims of education and it should be. It is important that something definite and positive in the teaching of health shall be done. In the teaching of the rules and laws of health the child may learn them and soon forget them, or never obey them. In getting habits of a correct carriage of the body established in the children a definite and positive type of health education is being given that will pay larger dividends than any other kind of health learning. The teacher who teaches these fundamental laws of the use of the body will be in a much stronger position to show the definite things that her teaching has accomplished.

Boys and girls may be taught to stand and sit so that the body is being used in a good mechanical position. In the changing from the habitual slump positions, the new positions will seem, at first, to be more tiring, but only in this transition period will this be true. The teacher may train these young bodies so that habits of correct posture will become the regular thing. It can not be done in a few minutes, hours, or days. It is a process that must be carried on for year after year. The boy and girl are not expected to learn reading, writing, arithmetic, etc., after being given the fundamentals in the early grades, but on the contrary work is given in these subjects year after year. Some of the lessons are gone over and over again. In training the boy and girl for habits of good body mechanics, no less training should be expected to give results that will be lasting. The training must be continued over years with repetition and continued striving to make the carrying of the body in a good position so habitual, that it will be as natural as doing simple problems in arithmetic or knowing at once how to spell words that are in daily use.

The classroom teacher is in the strategic position to do this important work. The opportunity is golden to do something that will give the teacher great satisfaction; something that the children will be thankful for in later life; something that the parents may see and be grateful to the teacher for having accomplished for their children.

SUGGESTIONS FOR THE CORRECTING OF BODY MECHANICS FAULTS

To give anyone anything like a complete knowledge of the ways and means of correcting the faults that are to be found in body mechanics, in this short paper, of course, is impossible. I may merely suggest and point out the more obvious details and hope that from

these the teacher will get enough facts to make a start in the doing of this important health work.

The positions of the organs that are inside of the body are indicated by the way the individual uses his body. The posture charts with their grades of A, B, C, and D give us a very good idea of the various types of body carriage that we find. The ideal is that of the A type. A study of these charts will show that there are four important points at which the work for the correction of faulty carriage should be given. These points with the work that should be done to correct the faults are the following:

1. The abdominal region:

If the body is being used as it should be, the abdominal region will be flat or slightly drawn in at its lower section. That is, there should not be any protruding abdomen, or sagging in this region. To correct such a condition it is necessary to tighten and strengthen the lower section of the abdominal muscles. The abdominal muscles are those muscles which extend from the hip bones to the ribs. These muscles have a nerve supply in the upper section (the section that extends from the umbilicus to the ribs) and another nerve supply in the lower section (that part which extends downward from the umbilicus). Because we have these two nerve connections it is perfectly possible to learn to contract the lower section of the abdomen, without tightening the upper section, and this is just what has to be done to get rid of the protruding or sagging of the abdominal region. It is most important, that the individual should learn to pull in the lower abdomen, without the upper abdomen. This has to be learned. This learning is merely a matter of concentration and trying to pull in or contract this lower section of the abdomen. For some, it is difficult to learn, but this particular thing is probably the one most important factor in the obtaining and maintaining of a good body mechanics. The contraction of the lower abdominal muscles is best practiced in the lying position, but very fine work may also be done in the sitting or standing positions. It must be obvious that the contraction of this section will result in the upward push of the internal parts of the abdominal region, and the allowing of a fullness through the upper abdominal region, so that the internal organs will have an ample space to carry on their functions.

2. The lower back region:

When an individual lies down and pulls the knees up, he should be able to flatten the lower back out so that there would not be any curve in it. Many people, especially those who have a protruding abdomen, have such an excessive curve in the lower back that they can not get the lower back closer than two inches to the floor when they take the above lying position. Such a curve is excessive and a large part of it should be eliminated. The correction of this fault is done through the straightening up of the hip girdle level. This is accomplished by learning to tighten and shorten the gluteal or hip muscles. These are the muscles that extend from the back of the hip bones down onto the backs of the thigh bones. When these muscles

are tightened, they shorten and pull the hip girdle up in front and down in back. This helps to stretch the muscles that are through the lower back region and to flatten the lower back. The practicing of this exercise, in the lying, sitting or standing position will gradually take away the excessive curve of this lower back region and also help the protruding abdomen. This contraction of the muscles will have to be learned.

3. The chest region:

The chest should be held up high, and should have a wide spread of the ribs. This elevation and spread may be helped by the teaching of correct breathing and the spreading of the ribs with the hands. The individual should be taught to breath with a minimum use of the ribs and a maximum use of the diaphragm (the breathing muscle). This may be taught by having the individual take in a full breath, holding the ribs still, and forcing the air out by contracting the region in the costal angle (the V formed by the ribs). It is important that the ribs shall not be allowed to drop or to aid in this expelling of the air. This exercise will teach the individual to breath with the diaphragm. To widen the chest, have the individual grasp the edges of the ribs, in the costal angle, and pull sideways upon the ribs, at the same time that he takes a full breath. Repeat this exercise, each time trying to make the chest wider.

4. The position of the head:

The head should be in a well balanced position, carried directly over the chest. This means that the chin should be back and in. The position of the head is very important for if it is carried too far forward, this tends to flatten the chest and to cause the shoulders to round forward. The keeping of the head in a correct position is primarily a matter of learning the "feel" of just where this position is and concentrating upon keeping it there until this becomes a habitual position. An exercise to help shorten the muscles in the front of the neck and to aid in getting the head into the correct position is as follows: Pull the chin in, pressing it back against the neck, and try to stretch the back of the head upward.

Briefly the four regions need the following: Pull in the lower abdominal region without tightening the upper abdominal region; eliminate the excessive curve in the lower back by raising the level of the hip girdle and stretching the lower back muscles; widen the chest and learn to breath correctly; learn a correct position of the head.

SAFETY IN PHYSICAL EDUCATION

By W. H. HANSON, State Supervisor of Safety

Kentucky is entering upon the most extensive program ever undertaken by the Commonwealth in a campaign of safety on streets and highways. It is highly important that the youths of our state be taught the proper use of the motor car, and such rules as govern its safe operation, but, the whole problem is much broader, and commands attention to the problems of safety in the home, in the school, and in all the activities of our modern life.

The fact that safety education has an important place in the school curriculum today, is not questioned. Educators are fully in accord that health and safety are basic objectives in the elementary and secondary school; for of what avail is it to have a child learn the fundamental tools and subjects of the school if he loses his health or even his life? With the many hazards of the environment of childhood, it is essential that children be protected against dangers that are avoidable, and at the same time be taught to face those dangers that are unavoidable. The fine program of safety education—directed particularly at good pedestrians—carried on in many of the elementary schools through classroom instruction and safety patrols, has undoubtedly done much to bring about the conservation of life in the youth group.

In analyzing some of the facts about accidents, it may be helpful in showing the importance of a safety program. Fatal accidents last year numbered about 111,000. One-fourth of this number were children. Accidents in the age group 5-14, caused more deaths than several of the common diseases put together. Motor vehicle accidents were charged with thirty-eight per cent of the deaths. Drowning ranked second with eighteen per cent, and falls were third with nine per cent. In addition to the large number of child fatalities, there were a large number of non-fatal injuries, and a high rate of property loss. Accidents in physical education activities—including the gymnasium, playground and athletics—make up a large percentage of school accidents. Research has disclosed that in the senior high school, these activities account for from forty to fifty per cent of the total. In elementary school, the total is considerably lower.

Let us consider what are the most serious types of hazards in a community during the period of school age. A study of statistics reveals the following:

1. Automobile accidents rank highest as a cause of child deaths, but home accidents are still far more numerous as a cause of injuries.
2. Of the street accidents, crossing not at crossings, playing in the roadways, stepping from behind parked vehicles, bicycle riding, and various causes at street crossings, are the most important cases.

3. Of the home accidents, falls are the most numerous, followed by burns, scalds, asphyxiation, cuts and scratches and poisons.

4. Drowning accidents also predominate in late adolescence. For this reason, it is likewise important that in our physical education programs we should stress learning to swim and safe use of the water, especially in the junior and senior high school.

5. Football accounts for the largest number of athletic injuries, followed in order by basketball, baseball, soccer, and track athletics. This, however, does not consider the number of players engaged in each sport. Strangely enough, on a per capita basis, touch football has the highest incidence followed by football and wrestling.

6. Physical education accidents total nearly forty per cent of those occurring in school buildings.

A brief analysis may be useful to us in planning our work. Some schools tend to develop the street safety, and neglect the other important phases. It must be kept in mind that all of these various kinds of hazards must be stressed in the curriculum.

It is often asked who should direct the safety education program of the schools? The direction and control of all school activities, it is generally felt, should be in the hands of the schools themselves. While many agencies may help, the responsibility for organizing the curriculum, and supervising the activities, is tossed into the laps of the superintendent and the school principals. It has been found that many of the best safety programs are organized when the superintendent assigns the supervision of safety to the director of health and physical education. Trained teachers in physical education are the coordinating factors in many successful safety programs.

Organizing a School Safety Program

Since safety is inherently a part of the larger health and physical education program, what can be done to organize safety activities for your school? The following suggestions are offered:

1. Accident reporting.—Accident records are indispensable in determining what types of accidents are happening; where and why they are happening. All accidents should be reported to a central office where records may be kept.

2. Teaching safety.—Courses of study, pamphlets, and mimeographed material are available for carrying on class room instruction. The Kentucky State Safety Commission, Frankfort, Kentucky, will furnish materials upon request.

3. Posters and visual material.—Many posters can be obtained free. A wide variety of lantern slides and films are available, many of which can be obtained by the payment of express charges.

4. Patrols for school corridors and playgrounds.—Accidents are common to hallways, stairs and other parts of buildings. Indoor patrols stationed at vital points reduce accidents. All physical education teachers know the value of trained leaders in gymnasium

activities and athletic contests. The utilization of such leadership means fewer accidents.

5. School boy patrols.—Patrols, when organized in accordance with national standards, afford the necessary protection for children crossing at dangerous intersections. The State Highway Patrol has men trained to assist in organizing school boy patrols, and the State issues diplomas for meritorious service.

6. Safety tests.—A number of good safety tests have been made available by the National Safety Council and Travelers Insurance Company. The purpose of these tests is not so much for testing, but rather as a teaching device.

7. Teaching safety driving in high schools.—Courses in safe driving, often under the leadership of physical education departments, are being organized in many states. A course in driver education and training for teachers has been installed at the University of Kentucky, in the College of Education during the summer term.

As the result of the progressive increase in the number of automobiles on our highways, the task of driving an automobile has become a more difficult job than a few years ago, when the highways were not so full of traffic. To drive safely, our greatly improved motor cars of today, requires: First, physical characteristics such as good eyesight, hearing, health, and the physical capacity to manipulate the controls of the car; second, mental characteristics such as intelligence, self-control in an emergency, and other psychological factors; and third, acquired characteristics, such as skills, moral and legal responsibilities, muscular coordination, and compensation for fundamental physical and mental limitations. The same requirements can well be applied to the pedestrian. It is important for our safety as well as the safety of others that we discover physical defects and the lack of skills. Most of us are not aware of any such weaknesses. It is only after they are objectively demonstrated that they are recognized, and proper steps taken to correct them. Physical examinations, the teaching of fundamental skills and muscular coordination through gymnastics, games, rhythmic exercises, swimming and corrective exercises are some of the coordinating forces in physical education that go far in preparing our youth to meet the physical requirements of safe driving.

Dr. Frank S. Lloyd and Flody Eastwood, in their publication entitled "Safety in Athletics", reveal the fact that accidents are an important factor in school and college physical education. Not only do accidents in the gymnasium and athletic activities cause a large percentage of the total number, but considerable loss of time to injured students. A brief summary of the recommendations contained in the book can be given as follows:

1. A large number of the common gymnasium and athletic injuries are preventable.

2. Improper supervision by trained leaders has resulted in numerous injuries. Better supervision will prevent many accidents.

3. Other accidents are caused by improper physical conditions—

poor playing field, slippery floor surfaces, improper surroundings. Many of these features are within our control.

4. Improper equipment and inadequate first aid, also contribute to the severity of accidents.

5. Physical examinations are essential to all physical education activities.

6. Proper conditioning of players is important in competitive sports.

7. A well trained leaders' corps will prevent many gymnasium accidents.

8. Teaching the rules of the game and sound interpretation of rules by competent officials, tends to reduce athletic accidents.

Physical educators can do much to reduce accidents by applying some of these simple rules that research have proven worthwhile.

In conclusion, it would be well to emphasize that the educational profession is not in the sidelines, but in the thick of the campaign for human safety. The school program must expand to include safety instruction, especially on the secondary and teacher training levels, if the war on accidents is to be won. Organizing and administering the safety program is a function of the schools and may logically be allocated to the health and physical education department. Accidents are a real menace to the health, happiness and success of our children. Education and various safeguards will help reduce these accidents.

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