A COMPARISON OF DIRECT AND INDIRECT HEALTH INSTRUCTION AND ITS EFFECT ON STUDENTS' ACQUISITION OF HEALTH KNOWLEDGE

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CHAPTER I

INTRODUCTION

Health knowledge has long been declared a necessary and significant facet of a student's complete education. Throughout the history of public education in this country, health has been regarded as one of the basic educational subjects to be included in the curriculum. Health knowledge provides the very foundation of information which enables mankind to carry on the work of the world. As Delbert Oberteuffer, a well-known health and physical educator, stated:

> To educate in health is to equip the individual with the concepts and behaviors fundamental to sound and consistent decisions and choices that tend to promote his well-being and that of his family and neighbors.[1]

It is a basic premise of this research that health education is and has been considered an important part of a person's total education. Consequently, health instruction, a major part of health education, must also, be vital to the student's acquisition of health knowledge. What then, is the best method for conveying this knowledge to students, to instruct them? Can a student better learn health knowledge through information presented in related subject areas, i.e., an indirect approach to teaching health? Or is health knowledge learned more effectively by means of direct instruction in a regular classroom environment?

It is the purpose of this research to determine which method

of instruction, direct or indirect, enables students to acquire an increased knowledge of health.

Statement of the Problem

The problem investigated in this study was to measure the health knowledge acquired by selected ninth grade students during a semester of direct health instruction and to compare these results with the health knowledge acquired by ninth grade students who were not exposed to direct health instruction.

Hypothesis

There is no significant difference at the .01 level of confidence between the health knowledge gained by ninth grade students who were exposed to direct health instruction and the health knowledge acquired by ninth grade students who did not have direct health instruction.

Delimitations

The subjects for this study were limited to male and female ninth grade students in the Edmond, Oklahoma Public School System.

The students had no prior health class taught as a separate subject unless a student had transferred from a school district where health was taught as a separate subject.

Edmond Mid-High health classes were limtied to 55 minutes in length.

There was no conscious attempt to control the students' acquisition of health knowledge outside the classroom.

Limitations

Administration of the test, provision of instructions and management of the classroom situation during the testing period was the responsibility of the classroom teacher.

The presentation of the health subject matter to the students was limited by the proficiency of the individual teacher.

The reading ability and basic intelligence level of the subjects in the study were not controlled factors.

The students were encouraged to anwer all questions to the best of their ability.

The health teachers for these classes were experiencing their initial effort in teaching health as a subject.

The students for this investigation may have been exposed to health information indirectly through related subjects (i.e., home economics, family living, science or physical education).

Assumptions

It was assumed that:

1. Students were able to comprehend testing questions.
2. Students' knowledge regarding health was varied.
3. Students employed optimal effort at answering test questions.
4. The testing environment was conducive to accurate testing.

Significance of the Study

Health education in the public schools is an essential part of a student's complete education. Furthermore, the teaching of health

in the schools is mandated by Oklahoma State law.[2] According to Fawole's research,[3] health instruction in this state is delivered to students for the most part via indirect health instruction in related subject area classes. Therefore, it is important to determine if indirect health instruction is the better method of teaching this vital, man-dated subject. It is the intent of this research to evaluate which method--direct health instruction, which the majority of health professionals recommend or indirect health instruction, the latter being the method employed in the majority of Oklahoma schools--enables students to acquire increased health knowledge.

Definition of Terms

Following are terms used to help clarify the content of this dissertation:

1. Health - The quality, resulting from the total functioning of the individual that empowers him to achieve a personally satisfying and socially useful life.[4]
2. Health Concepts - General ideas which relate to health knowledge. For example, there is considerable empirical evidence suggesting the importance of regular exercise in preventing heart disease.
3. Health Education - The process of providing learning experiences for the purpose of influencing knowledge, attitudes and conduct relating to individual and group health.[5]
4. Direct-Health Instruction - Involves primarily a well-planned, sequential program of classroom instruction focusing on health topics. It attempts to relate these

topics to students in a meaningful way, with emphasis on the individual, the family and community.[6]

5. Indirect Health Instruction - Refers to teaching in related subject fields such as science, physical education, home economics or social studies. Through these subjects areas, health information may be presented incidentially in conjunction with the regular subject material.[7]

6. Comprehensive Health Education - A sequential and ordered program scientifically based and educationally designed to postively influence the individual's health knowledge, attitudes and practices as the individual interacts with the internal and external environment.[8]

ENDNOTES

[1]Delbert Oberteuffer, School Health Education, 5th Ed. (New York, 1972), p. 11.

[2]State Superintendent of Public Instruction, School Laws of Oklahoma, Bulletin No. 133-X (Oklahoma, 1978), p. 51.

[3]Joseph Fawole. "A Survey of the Status of Health Instruction in Oklahoma Junior and Senior High Schools" (unpub. doctoral dissertaion, University of Oklahoma, 1979).

[4]Edward B. Johns, Wilfred C. Sutton, and Lloyd E. Webster, Health For Effective Living (New York, 1958), p. 5.

[5]"Report to the Committee on Terminology in School Health Education," Journal of Health, Physical Education and Recreation, 22 (September, 1951), p. 14.

[6]Robert E. Kime, Richard G. Schlaadt, and Leonard E. Tritsch, Health Instruction: An Action Approach (Englewood Cliffs, New Jersey, 1977), p. 62.

[7]Elena M. Sliepcevich and Charles R. Carroll. "The Correlation of Health With Other Areas of the High School Curriculum," The Journal of School Health, 28 (November, 1958), p. 284.

[8]Report to the Oklahoma Health Education Advisory Board. "Comprehensive Health Education Instruction Act of 1981" (January, 1981).

CHAPTER II

REVIEW OF THE LITERATURE

The review of literature is divided into four areas about which this study is concerned: (1) significance of health education in the United States Public School curricula, (2) background of health education in Oklahoma Public Schools, (3) literature related to health education instruction, and (4) literature related to health education evaluation.

Significance of Health Education in the American Public School Curricula

During the colonial period, several educators supported the health education concept. John Locke[1] advocated the need for the classroom instructor to be trained in health maintenance and instruction. Henry Barnard listed a number of relevant topics for classroom discussion which centered around such ideas as "appurtenances for injury," personal hygiene, importance of physical activity and cause and prevention of illness and disease.[2] Benjamin Franklin, in discussing the environment and curriculum of the academy schools, declared that schools should foster a "healthful situation," and he promoted physical exercise as one of the academy's primary subjects.[3]

In 1932, Horace Mann advanced the idea of teacher training in health education; he felt that students exposed to health information would have a better and longer life.[4]

During the mid-1800's, as public education expanded and became tax-supported, one of the earliest and most significant education documents, "The Report of the Sanitary Commission of Massachusetts," which concerned the need for health instruction, was written. This 1850 report, compiled by one of the commission members, Lemuel Shattuck, stated:

> It has recently been recommended that the science of physiology be taught in the public schools, and the recommendation should be universally approved . . . . Every child should be taught early in life, that, to preserve his life and his own health and the lives and health of others, is one of the most important and abiding duties . . . . Everything connected with wealth, happiness and long life depends upon health . . . .[5]

Health education in the schools made slow progress prior to World War I. However, as man after man was rejected to serve in the armed forces, due to physical and emotional disorders, the need to public awareness of health knowledge was recognized.[6] In 1918, the Commission on the Re-organization of Secondary Education listed "health" as the first of the Seven Cardinal Principles of Education.[7] The initial report of the 1924 Joint Committee of Health Problems in Education of the National Education Association and the American Medical Association, entitled Health Education[8] was a significant stimulus to the development of health instruction in American schools. The 1948 edition re-emphasized this committee's strong advocacy that "health is a basic and major objective of education and is fundamental to the present and future welfare of the

nation . . .".[9] The Educational Policies Commission, in their 1952 document, "Education for all Youth - A Further Look," said that the nation's youth needed to "develop and maintain good health and physical fitness".[10] One of the educational objectives identified by the 1955 Presidential White House conferences was the "development of physical and mental health".[11]

More recently, noted education professionals have advocated the need for and importance of the teaching of health concepts in the school setting. Oberteuffer spent his professional life promoting health and physical education. He believed that the goal of health education was "to give man the tools by which his potential strengths, energies, and social, physical and mental-emotional effectiveness can be fully realized".[12] Elena Sliepcevich conducted an extensive status study to determine the extent of health education and activities in the United States during the early 1960's. A Summary Report,[13] published in 1964 detailed the findings of this study which involved health knowledge, attitudes and practices of public school children. As a result of this research study a foundation for curricula development and further research was laid and the impetus for the conceptual approach to health education had its beginning. Other influential professionals, Kilander[14] Means[15, 16] and Mayer,[17] to name a few, demonstrated their support of health education through their writings, research, lectures and/or teaching.

Numerous national organizations, which included a cross section of parental groups, religious and medical groups, public health, educational and civic groups have made statements supporting the teaching of health concepts in the schools. Members of the National

Education Association, National Congress of Parents and Teachers, American Medical Association and many other related organizations have drafted resolutions urging the development of health education programs as a necessary and important part of every school program[18]. Following are quotes from a number of these and other organizations that have endorsed and supported school health education.

The American Public Health Association:

> . . . health instruction should be an integral and basic part of elementary school, high school and college curriculum for all students . . . .[19]

The American College Health Association:

> . . . instruction in health should be an integral, but distinct part of all school and college curriculums and that health services coordinate their efforts in planning for and obtaining these objectives . . . .[20]

The American Dental Association:

> . . . approve and support a strong program of health education as a basic part of the school and college curriculum . . . .[21]

The American Medical Association:

> . . . health education should be an integral and basic part of school and college curriculum . . . .[22]

World Health Organization:

> . . . The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest cooperation of individuals and states.[23]

The Society of State Directors of Health, Physical Education and Recreation:

> The ultimate goal of the comprehensive school health program is to help every young person to achieve his full potential through becoming responsible for his own personal health decisions and practices . . . .[24]

State of Oklahoma, Department of Education, Annual Bulletin, 1978:

> A program of health education should be included as a part of the student's schedule. This course should include consumer community health, personal health, dental health, mental health, nutrition, safety, environmental health, tobacco and alcohol.[25]

Letters from these organizations and others are found in Appendix A.

Background of Health Education in Oklahoma Public Schools

The earliest literature with reference to school health was located by this researcher in the 1908 publication of Laws and Opinions for the Regulation and Support of the Common Schools[26]. The law stated that teachers were required to teach students morality and acceptable behavior as members of society. Five years later however, state laws specifically required the teaching of physiology and hygiene,[27] effects of alcoholic drink and narcotics,[28] and, again, morality and human kindness. Time requirements for these subjects were not spelled out for the teacher; however, they were to be part of physiology and hygiene, and no additional textbook was to be purchased.

A 1924 bulletin, Course of Study for Science, included a requirement for indirect health teaching in general science. The following is a quote from that bulletin:

> Health. No science work is worthy of consideration in the first year of the secondary school unless it makes possible an understanding of the laws of healthy living. Much of this teaching may be indirect but some of it must certainly be through the agency of direct and simple experiments.[29]

Winslow's Health Living was listed as a required textbook in the Department of Public Education's 1926 bulletin.[30] A health program based on a curriculum guide specifying subject material and instructional time was developed for grades 1-8.

Article XI in School Laws of Oklahoma, 1949,[31] detailed the public school curriculum. Health, physical fitness and safety were included as required subjects; however, there were no specific guidelines detailing time allotment or method of instruction.

Curricula research indicates that health information was delivered to public school students in Oklahoma through indirect instruction in subjects such as reading, civics, home economics, in addition to science and physical education. An instructor who was certified to teach in the classroom was considered to be qualified to teach health education as no guidelines were established for heath education prior to 1970.

A summary report for health education in Oklahoma was included in the Twenty-Sixth Biennial Report of 1956.[32] This report detailed a state health education meeting held at Lake Texoma and revealed the issues discussed: (1) status of health instruction, (2) hindrance to more effective health instruction, (3) knowledge needed by health teachers; and (4) changes needed in the curriculum. It was noted that the majority of health instruction in Oklahoma was integrated with other subjects. Health education was receiving attention.

The following year, 1957, a curriculum bulletin for alcohol and narcotics was developed.[33] This was intended to offer guidelines to teachers for the instruction of this subject. Ten years later, a

curriculum guide was developed for grades K-6; this guide was comprehensive in its content, yet, it was not explicit in detailing when and how this material was to be taught.[34] In 1970, the Oklahoma Health Planning Commission conducted a survey involving a five percent sample of Oklahoma public schools.[35] This survey included 98 public schools from which 25 were drawn for testing at the sixth, ninth and twelfth grade levels.

A summary of findings indicated that health practices and knowledge scores of Oklahoma ninth and twelfth graders fell considerably below national averages; sixth grade scores were nearer the national average. The survey revealed that the majority of health instruction was integrated with other subjects.

State legislation in the form of the Drug Abuse Act of 1972[36] provided the impetus for the health education movement in Oklahoma. The primary purpose of this act was to "insure the development of a comprehensive drug abuse education program for all children and youth in kindergarten and grades 1 through 12 for the public schools of this state".[37]

Attention was drawn to the subject of health via this law; inservice programs were offered to teachers, and textbooks and other materials were made available in the schools. All levels of each public school were required to teach drug education as a part of the curriculum. This one topic became the focal point of public school health education for a number of years.

A push for comprehensive health education program taught by health educators as separate courses was promoted by several interested groups in the late 1970's. From this interest, Senate Bill

136 was written and presented to the legislature in 1981. Its intent was the development of a statewide comprehensive health education program.[38] This bill was not passed by the Senate; however, money was allocated to the Office of Comprehensive Health Education to fund 26 health education pilot programs in Oklahoma public schools and has been refunded for the 1982-83 school year.

Separate teacher certification for health is now pending before the Professional Standards Board; the fate of this development is, of course, unknown.

The state of Oklahoma has included health education in its public school curriculum requirements since the early 1900's with various content areas receiving emphasis from time to time. It now appears that the State Department of Education is making strides to implement a comprehensive format for statewide health education and health instruction.

Literature Related to Health Instruction

How should a subject be taught? What method of instruction enables a student to more effectively comprehend the content of the course subject matter? Should class material be presented to students through direct instruction, correlated or integrated with other subject areas, or perhaps taught 2 or 3 days per week alternating with another class? For decades, educators have studied, researched and debated in order to determine the most effective method to present subject matter material to public school students. This is, of course, true with instruction in health education.

Mitchell[39] in 1934, surveyed health education experts and

teachers in public schools to determine the best method to instruct in health. He found that the vast majority of schools present health information through integration with other subjects, while health experts recommended instruction through a comprehensive, balanced and separate health course.

Bechtel[40] in 1937 and Sliepcevich[41] in 1958 conducted studies to determine the contributions to health instruction made by means of the correlation method.

The results of Bechtel's study revealed that only a small percentage of health topics can be taught thoroughly by correlation, yet, this method of instruction offered a number of advantages: (1) health material was presented in new and varied settings, (2) health knowledge was reinforced through offerings in numerous subjects, and (3) teachers in other subjects made contributions to the health field.

Sliepcevich, in her study concerning health instruction through correlation, stated that all instruction relating to health cannot be handled through direct health teaching. Opportunities for correlating health with other subject areas were outlined in order to assist teachers in presenting health information in conjunction with their primary subject matter. However, it was reiterated that correlation was intended to supplement direct instruction, not replace it.

In a speech delivered to the University of Texas Health Education Workshop Conference in 1940, Cassidy[42] discussed the use of the total school environment in regard to the teaching of health through integration with subject areas.

In 1951, Kilander[43] reported on a study undertaken to determine

the status of various organizational and administrative factors related to health instruction in secondary schools. The researcher surveyed 33 states in order to develop an overview of different components of health education. It was revealed in this report that while health leaders recommended a separate course in health education, integration with other subjects was also beneficial in exposing student to health information. The integration method of health instruction seemed to be more successful in schools where a separate health course was also offered.

The State Curriculum Committee on Health Education in the state of Michigan summarized a number of research projects in a 1958 progress report.[44] Among these projects was an experiment concerning direct instruction in a family living unit taught one day per week in an already existing class (i.e., English class or science class). Evaluators of the project reported that this type of instruction had been successful because of the effectiveness of teacher instruction, the variety of techniques and the rapport established between teachers and pupils. A summary of other projects, concerning varying methods of instruction were reported and it was concluded that a variety of health teaching methods were successful when properly planned and presented to classes.

A 1959 article by Synder[45] reviewed the contributions organizational patterns of teaching methods made to school health instruction. He stated that incidental instruction in everyday living, correlation of health with other established subjects, integration of health through identified projects and direct teaching were all valuable health instructional tools. Snyder added that specific time for

direct health instruction should be established as with other subjects and the other approaches to teaching health should be considered supplemental.

Oberteuffer[46] in a 1968 health education appraisal report explained the value in using discussion, research and problem solving as updated approaches to health instruction. He stated that health educators "better get busy and teach things that are significant for 1970 and 1980".[47] Continuing he declared that with the expanding importance of health instruction more time will be needed. "None of this once a week, or rainy day period will do in the future. Someone has to more over".[48]

The American Association of Health, Physical Education and Recreation[49] issued, in 1970, a position statement with recommendations concerning the importance of health instruction in contemporary society. It was recommended that:

1. There be a unified approach to health teaching, a program of health instruction organized and scheduled in such a way that there is scope and sequence through the school years (K-12).

2. A program of curriculum development be undertaken which will involve: (a) the identification of specific courses with content, learning activities and evaluation activities, and, (b) coordination and integration with other subject matter areas.[49]

It further stated that health instruction, to be effective, must be on a continuing basis and not a crash program.

Adams[51] conducted a study in 1974 to determine the status of health instruction in order to provide a basis for its improvement in the secondary schools of Tennessee. It was found that time allotted for health instruction was equivalent to that of other

subjects and was a requirement for graduation. As a result, the students in Tennessee secondary schools evaluated in this study, had a higher mean score on health knowledge tests than averages established by national norms.

A 1977 article by Yarber[52] emphasized the need and importance of accountability in health instruction. The author stated that due to the importance of health instruction in the total education of the child, accountability in instructional practices should be stressed. Instruments and procedures to evaluate health instruction as well as appropriate grade levels and populations were suggested in this report.

Faulkenberry[53] conducted a study in 1979 which assessed the status of health instruction programs in South Carolina high schools. The findings of this research concluded that the majority of the high schools offered health as a separate subject, however, a large percentage of the teachers were academically unqualified to teach health. Not only was the method of health instruction important, but the personnel utilized to present the material must be qualified and effective, it was concluded.

In summary, experts in the field of health education recommend direct instruction as the most effective method to instruct in health. However, studies revealed that instruction through correlation, integration, discussions and problem solving activities were, also, beneficial as supplementary methods in exposing health information to public school students.

Studies Related to Health Evalaution

Researchers evaluate in health for numerous reasons. These reasons may include the desire to evaluate the effectiveness of health or to compare effectiveness of teaching methods in order to refine or improve the health programs. Pigg[54] stated that health evaluation can help determine the student's level of health knowledge and/or make assessment of the health instruction program as one segment of the total school health plan. Health educators may feel the need to demonstrate "proof of worth" of their subject. This aspect of evaluation was commented on by Suchman:

> All the social institutions or subsystems, whether medical, educational, religious, economic or political are required to provide 'proof' of their legitimacy and effectiveness in order to justify society's continued support. Both the demand for and the type of acceptable 'proof' will depend largely upon the nature of the relationship between the social institution and the public. In general, a balance will be struck between faith and fact, reflecting the degree of man's respect for authority and tradition within the particular system verses his skepticism and desire for tangible 'proofs of worth'.[55]

Whatever the need or desire for health education evaluation, it has been in progress in one form or another for decades. However, prior to 1900, evaluation of school health programs was practically non-existent due to the lack of organized school health education.

After the turn of the century, as these programs were in developmental stages, health educators believed school children would benefit from a planned program of health instruction. Thus, numerous evaluative studies were conducted to determine the impact of quality health instruction on school children. A number of these earlier studies were conducted in Baltimore, Maryland in 1914; in

Malden, Massachusetts in 1922; in Ohio from 1922-1925; in Fargo, North Dakota from 1923-1927; and other areas of the country.[56] It was found that the level of health knowledge of school children could be improved through a structured health instruction program.

An early study to determine gain in health knowledge was conducted by Murphy[57] in 1937. Women physical education students were placed in two groups; one received health instruction, the other did not. Both groups were given a pre-test and a retest.

Women who received health instruction displayed a larger gain than the women who did not receive instruction. It was also shown that women who attended related classes, such as biology, general science and home economics, but did not attend health classes, did not exceed the health knowledge of freshmen entering college.

Gmur[58] in 1959, compared three different patterns of curriculum organization and instruction: correlation, integration and the separate course. Pre-test and post-test scores of 100 high school freshmen and 100 high school seniors for each of the curricular populations were analyzed. The results showed a statistically significant difference in the post-test scores. The students in the direct or separate course scored significantly higher on the post-test that the students in the other type health classes even though there was no significant difference in pre-test scores of the curricular populations. This evidence supports the conclusion that the best results in health instruction can be achieved by direct teaching in a separate course in health education.

Jensen[59] selected an elementary population with which to evaluated the merits of two different health programs. Prior to

instruction the same objectives were established for both programs. One treatment used in this 1959 study was the unit organization of subject matter in which teacher-pupil planning and problem solving techniques were utlized. The second treatment of this sixth grade population was the method of integrating health information with other related subjects. After evaluation of the two programs, Jensen found that students in both situations had made a significant gain in health knowledge but that no significant differences were found between the mean achievement for the two treatments. The researcher, in this study had shown the 'proof of worth' of the health program in this elementary setting.

Another study that was designed to show worthiness of the health program was conducted by Johns[60] in 1962. This research evaluated the effectiveness of school health education in terms of program activities, pupils' health knowledge, attitudes and practices and the value of evaluation of programs in selected schools and colleges in the Los Angeles area. This study provided data for student, teachers, administrators, board members and citizens that justified the health education program in these schools and opened avenues for improvements in this area. The author states that "the School Health Education Evaluative Study did provide uncontrovertible evidence of the value of health education and evaluation as a process in health education".[61]

Witham's[62] purpose in evaluation was to compare health instruction methods and the contributions these methods made to health knowledge. In this 1960 study, Witham evaluated three plans of health instruction in the Minnesota Public Schools. He used a

comparison for the mean scores of tests from 60 selected Minnesota Public High Schools involving 2,785 high school seniors. Direct health instruction, instruction alternating with physical education and indirect health instruction through related subject fields were the instructional plans evaluated. The statistical analysis of the mean test scores from these three methods of instruction revealed that direct health instruction yielded mean scores statistically superior to the other two plans for teaching health information.

Morton[63] in 1976, compared direct and non-direct health instruction and its relationship to senior students' acquisition of health knowledge and size of the school district. He concluded that the importance of health instruction in the curriculum was confirmed and that health instruction and district size were important variables in student health knowledge scores.

A research study by Shaw[64] conducted at the University of Massachusetts, was intended to evaluate the efficiency or effectiveness of general health courses. Following pre-test, post-test evaluation of the usefulness of a general health course for college students, Shaw concluded that this type was beneficial to all undergraduate students.

Assessment of high school programs were conducted by Papenfuss[65] in 1972 and Sloan[66] in 1978. Papenfuss, in the state of Iowa, evaluated types of instruction, qualifications of the instructors, time allotment, size of classes and course content. The findings of this study established a sound basis for confirming the status of health education in Iowa and therefore, realistic goals and objectives could be offered to the state in order to work toward improving the health

programs in the public schools.

Sloan's research attempted to measure the level of health knowledge and decifer the strengths and weaknesses of South Carolina public high school seniors. Professional health educators administered the Fast-Tyson Health Knowledge Test to seniors in 33 high schools. Following analysis of the data, the researcher was able to conclude that South Carolina high school students ranked at a low level in health knowledge as compared to standards on the Fast-Tyson Test. As a result the researcher recommended the following: health education teachers be better prepared; dual certification for health and physical education be eliminated; specific health requirements for all school students be established; and, certified health teachers be employed.

An evaluative study which assessed the health knowledge of college freshmen in a wide geographical area was conducted by Nazaretian[67] in 1978. Two of the purposes of her study were to analyze health knowledge of college freshmen in 13 southern states and compare this information with the health program requirements of the individual states. After analyzing the data, the researcher concluded that the provisions of state adopted curricula, textbooks, teaching guides and regularly scheduled classes have not been implemented in such a way as to develop a positive relationship between these factors and the health knowledge of students. The majority of health education programs in these 13 states were not 'proving their worth.' Through evaluation the researcher was able to access the present status of health programs and offer recommendations for improvement.

Redican, Olsen and Mathis[68] conducted a study in 1978 to compare the cognitive effects of two nationally available prototype health education curricula at the elementary level. The design of the study was such that the Midwest sixth grade students, (N=168) drawn from six different classes, were measured against both a control group and each other. Following exposure to health concepts through regular health instruction, School Health Curriculum Project material or the A. J. Nystrom Company's "Being Healthy" units, the researcher found that there were significant differences in students' health knowledge in favor of the prototype health curricula. The researchers contributed the differences to the number and quality of teachers inservice programs for the prototyoe units.

One of the most recent studies was conducted in Arkansas by Burgess[69] in 1978. The purpose of this research was to analyze the health knowledge of eighth graders in order to construct a health knowledge curriculum guide for this age group. After measuring health knowledge, comparing it to national norms and evaluating health instruction, the researcher was able to assess the health education program at the eighth grade level and develop a curriculum guide to help refine and direct that particular health program.

Fawole[70] surveyed junior and senior high schools in Oklahoma in 1979 to determine among other things, the status of health instruction in this state. The researcher found that the majority of health instruction in Oklahoma public schools was presented through indirect instruction, mainly in physical education classes. Other findings indicated that the lecture method was most often used in health classes and health students were most often evaluated through

the observation method.

An article by Dearborn[71] discussed the merits of pre-testing in health education. However, his ideas might be paraphrased to include the merits of evaluation in the entire realm of health education. Reasons for health education evaluation include:

1. to assist in the selection of appropriate content material with placement of needed emphasis on certain areas to meet the revealed needs of the students;
2. to measure class and/or individual progress;
3. to provide added motivation for learning;
4. to create an increased interest in health subject matter material;
5. to assist in structuring, defining and/or refining of health education programs;
6. to compare the effectiveness of teaching methods, and,
7. to measure qualifications of health educators.

ENDNOTES

[1]John Locke as cited in Clint E. Bruess and John E. Gay, Implementing Comprehensive School Health (New York, 1978), p. 7.

[2]Ibid., p. 8.

[3]Richard Means, Historical Perspectives on School Health (New Jersey, 1975), p. 7.

[4]Bruess, p. 8.

[5]Means, p. 10.

[6]Ibid., p. 12. On the first draft, 2,510,706 men were examined and 730,756 were rejected on physical and/or mental grounds.

[7]United States Department of the Interior, Bureau of Education. Cardinal Principles of Secondary Education, Bulletin No. 35 (Washington, 1918), p. 11.

[8]C. E. Turner, Harriet B. Randall, and Sara Louise Smith, School Health and Health Education (St. Louis, 1970), p. 22.

[9]Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, Health Education (Washington, 1948), p. 225.

[10]Means, p. 17.

[11]Ibid.

[12]Oberteuffer, p. 7.

[13]Elena Sliepcevich, School Health Education Study: A Summary Report (Washington, 1964).

[14]H. F. Kilander, Health Instruction in the Secondary Schools, Federal Security Agency, Office of Education, Pamphlet No. 110 (Washington, 1951).

[15]Richard K. Means, "Horace Mann - Pioneer in Health Education," Journal of Health, Physical Education and Recreation, 32 (September, 1964), p. 372.

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CHAPTER III

METHODS AND PROCEDURES

The intent of this study was to compare the effectiveness of direct health instruction with the effectiveness of indirect health instruction and to evaluate this instruction by measuring the students' acquisition of health knowledge. The following areas are considered in the analysis: health education courses and teachers, selection of subjects, the experimental and control group, selection of the test to evaluate health knowledge, procedures for testing, coding of the computer cards and statistical treatment of the data.

Health Education Course and Teachers

Comprehensive health education classes were required of all ninth grade students at Edmond Mid-High in Edmond, Oklahoma. The topics taught in these classes included the following: mental-emotional health, chemical use and abuse, communicable disease, nutrition, fitness, safety, consumer health and personal hygiene. Students met these 16-week classes 55 minutes daily. There were 12 class sections utilizing three teachers. A lecture-discussion mode of teaching based on reading of the text, Modern Health, was used. Resources such as health films, filmstrips, magazines, posters and other references supplemented textbook material and classroom instruction.

The three teachers were first-year health educators. Each held an Oklahoma teaching certificate and was a physical education major with varying health backgrounds: one, a health minor, another an athletic trainer and the third, a track coach. They expressed a desire to teach health education when Edmond Public Schools placed health in the curriculum, thus were selected by the administration to fill these positions.

In only a small percentage of Oklahoma schools, according to Fawole,[1] is health offered as a separate subject. For the first year, Edmond Public Schools offered health as a separate subject, as well as a required course. The health classes and Oklahoma history classes in Edmond Mid-High provided the needed population and the teaching situation in which to conduct and evaluate the purpose of this research.

Selection of Subjects

The subjects for this study consisted of 406 ninth grade students in health education and Oklahoma history classes at Edmond Mid-High in Edmond, Oklahoma. The 194 students in health education, which was for the first time required for high school graduation, comprised the fall experimental group. The control group consisted of 212 students in the Oklahoma history classes. Because the Oklahoma history students were required to take the health education course during the spring semester, they became a second experimental group, increasing the final pre-and post-testing population to 406.

The Control and Experimental Groups

The control group was comprised of students who attended required Oklahoma history classes for 16 weeks during the fall semester. The students in these classes provided a population similar in age, environment and background to the experimental group and they encompassed the remainder of the ninth grade students. Throughout the semester, students in the control group acquired health information by means of indirect instruction through attending classes in related subject areas such as home economics, science and/or physical education. No attempt was made to direct or control the health knowledge acquisition of this group. The majority of Oklahoma public school students, according to Fawole,[2] acquired health knowledge through indirect instruction.

The fall experimental groups was comprised of ninth grade students who attended 16 weeks of required health education classes that met daily for 55 minutes. These students were taught through the direct instruction method with teachers utilizing a variety of resources to complement the instruction.

Selection of the Test to Evaluate Health Knowledge

The researcher reviewed a number of tests in order to locate an instrument to evaluate the students' acquisition of health knowledge. For this study, the researcher desired an evaluation instrument that met the following criteria:

1. comprehensive in content;
2. recently constructed;
3. accessibility of the author for interviewing;

4. sufficiently difficult to allow measurement between pre- and post-test;
5. easy to acquire permission to use test;
6. not expensive to duplicate; and
7. easy to administer.

The Hamrick-Anspaugh Comprehensive Health Knowledge Test,[3] met the above criteria. This test was constructed in 1981 and contained 100 items. Fifty of these 100 items, which coincided with the Edmond health course content, were selected. Table I reveals the percentage of time spent teaching a particular topic and the percentage of the test that dealt with the same topic.

TABLE I

COMPARISON OF HEALTH COURSE CONTENT AND HEALTH TEST CONTENT

Health Classes				Health Test (50 questions)		
A. Drugs	2.5 wks.	15%	(.1562)	A. Drugs	16%	(8 questions)
B. Mental Hl.	3 wks.	18-19%	(.1875)	B. Mental Hl.	18%	(9 questions)
C. Fitness	3 wks.	18-19%	(.1875)	C. Fitness	10%	(5 questions)
D. Disease	3 wks.	18-19%	(.1875)	D. Disease	22%	(11 questions)
E. Consumerism	1 wk.	6%	(.0620)	E. Consumerism	12%	(6 questions)
F. Nutrition	3 wks.	18-19%	(.1875)	F. Nutrition	14%	(7 questions)
G. Safety	3 days	1%	(.0312)	G. Environment	8%	(4 questions)

Reliability of the test was determined through computer analysis using test-retest reliability procedures for the fifty item test. Upon evaluation of the testing instrument, a jury of health experts, consisting of the following members, attested to its content validity: Dr. Dale Evans, Director of Allied Health, University of Houston; Dr. Warren McNabb, Coordinator of Health Education, University of Nevada - Las Vegas; Dr. Larry Bridges, Coordinator of Community Health Education, St. Francis Hospital, Tulsa, Oklahoma. Dr. Michael Hamrick, Health Educator, Memphis State University, and author of the 100 item test and Dr. McNabb offered numerous suggestions for revisions of the test, if used again, for a similar study.

Procedures for Testing

At the beginning of the fall semester, the classroom teachers administered the revised Hamrick-Anspaugh Comprehensive Health Test, as the pre-test, during the regular class period to 406 ninth graders enrolled in the required health education and Oklahoma history classes. The researcher gave the teachers instructions prior to the testing session. Following the pre-test, students in the health classes were exposed to health information for 16 weeks through direct instruction while the Oklahoma history students were indirectly exposed to health information via class attendance in related subjects: science, home economics and/or physical eduation. After 16 weeks of classes, the same test was given as a post-test to all 406 students following the same procedures as used in the pre-test administration.

During the spring semester, the students who had been in Oklahoma history classes were required to take health education classes. As these students completed the health classes, they were given a second post-test. These students, who had been the control group for the fall testing, became a second experimental group. This procedure not only doubled the size of the testing population for evaluating direct health instruction, but allowed the researcher to compare a group with itself, as well as with another group.

Coding of the Computer Cards

Students recorded their test answers on OMR computer cards which were coded with numbers that enabled the researcher to match each student's cards following post-tests examinations. These were then fed into the computer for statistical analysis. Coding, which established an identifying number for each student, was numbered as follows:

1st column: 1, 2, or 3 for 1st, 2nd or 3rd test

2nd column: 1 for experimental group or 2 for control group

3rd column: 1 - 6 for teacher number

4th column: 1 - 5 for class period of teacher and students

5th and 6th column: 1 - 33 to give each student a number in each class

After all the tests were administered (pre-, post-and post-post-test), each student had three cards which were matched, placed in order and then fed into the computer for statistical analysis.

Cards which could not be matched for all examinations were eliminated from the study. The final numbers of 194 for the experimental

group and 212 for the control group were used for statistical analysis. Zeros on the OMR conputer print-outs indicated omitted or multiple responses on the answer cards. The zeros were counted as incorrect.

Statistical Treatment of the Data

Standard procedures for determining significant differences within and between the means of population groups' test scores were utilized in the statistical analysis of the data.

The paired t-test was utilized to measure differences within the means of the fall experimental group by administering pre-and post-tests before and after the 16 week health education classes taught by direct instruction. To measure differences within the control group, also using pre-and post-test, the paired t-test was also employed following a semester of indirect health instruction. This same group, after a semester of direct health instruction during the spring, was given a second post-test; the paired t-test was used to measure differences in the means within this group before and after direct instruction in health classes.

A two group t-test was utilized to identify any statistical difference between the means of the fall experimental group and the control group prior to exposure to health knowledge by direct or indirect instruction.

A two-group t-test was employed to determine any significant difference between the means of the fall experimental and control group following a semester of direct and indirect health instruction.

ENDNOTES

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CHAPTER IV

RESULTS AND DISCUSSION

The problem investigated in this study was to compare the health knowledge acquired by selected ninth grade students during a semester of direct health instruction with the knowledge acquired by ninth grade students who were exposed to health information through indirect health instruction. It was the purpose of this research to determine which method of instruction, direct or indirect, enables students to better acquire health knowledge.

Subjects for this study were 406 ninth grade students in health education and Oklahoma history classes at Edmond Mid-High in Edmond, Oklahoma. The fall experimental group consisted of 194 students attending required health classes taught by direct instruction, and the control group was comprised of 212 ninth grade students enrolled in Oklahoma history classes. The control group received health instruction indirectly through attendance in related subject area classes. It then became a second experimental group when these students attended the required health classes during the spring semester and received health information through direct instruction. A pre-test was administered to the fall experimental and control groups at the beginning and a post-test was administered at the end of the fall semester. A second post-test was administered to the spring experimental group at the end of the spring semester after they had

attended the health classes. The .01 level of confidence was accepted as the level which was indicative of significance.

Results of this research were drawn from evidence based on the total scores made on the revised Hamrick-Anspaugh Comprehensive Health Knowledge Test, a 100 item test reduced to 50 items. The data were based upon a comparison of mean scores which were treated statistically by use of the paired t-test and the two group t-test.

Comparison of the Pre-test Population

A two group t-test was used to compare mean scores between groups on the pre-test which was administered at the beginning of the fall semester. The 194 students in the fall experiment group had a pre-test mean of 19.67, a standard deviation of 4.67 and a range of 24, (9 to 33 points). The control group, comprised of 212 students, had a pre-test mean of 20.25, a standard deviation of 4.62 and a range of 24, (9 to 33) points. There was not a significant difference in the mean scores on the pre-test between the fall experimental group and the control group. It would appear from these statistics that these two groups of ninth grade students began the fall semester equal in their knowledge concerning health. Table II provides a visual comparison of the pre-test mean scores, standard deviation and range between the fall experimental group and the control group. Test was administered prior to instruction.

TABLE II

COMPARISON OF THE PRE-TEST MEANS BETWEEN THE FALL EXPERIMENTAL AND CONTROL GROUPS

	N	Mean	S.D.	Range	D. F.	Prob.
Experimental Group	194	19.67	4.67	24 (9-33)	404.0	0.2025
Control Group	212	20.25	4.62	24 (9-33)		

Comparison of the Post-test Population

This research sought to determine by use of a two group t-test if there was a significant difference between two groups of mean scores following a semester of direct or indirect health instruction. The fall experimental group, after 16 weeks of direct health instruction, had a mean post-test score of 23.23, a standard deviation of 5.45 and a range of 29, (8 to 37 points). For the fall experimental group, there was an increase of 18% in health knowledge acquired during the semester of direct health instruction.

After 16 weeks of indirect health instruction, the control group had a post-test mean score of 19.82, a standard deviation of 5.54 and a range of 31 (4 to 35 points). The control group actually recorded a loss on the mean test score between the pre-and post-test. Table III illustrates a comparison of the post-test mean scores between the fall experimental group who received direct health instruction and the control group who were exposed to health information through indirect instruction.

TABLE III

COMPARISON OF POST-TEST MEANS BETWEEN THE FALL EXPERIMENTAL AND CONTRL GROUPS FOLLOWING DIRECT-INDIRECT INSTRUCTION

	N	Mean	S.D.	Range	D. F.	t-Value	Probability
Experimental Group	194	23.23	5.45	29 (8-37)	404.0	6.2371	0.0001
Control Group	212	19.82	5.54	31 (4-35)			

There was a significant difference between the means of the post-test scores of the fall experimental and the control groups at the .01 level of confidence. Therefore, the researcher rejects the null hypothesis that there is no significant difference between the health knowledge gained by ninth grade students who were exposed to direct health instruction and the health knowledge acquired by ninth grade students who were exposed to health information through indirect instruction.

In summary, after a semester of direct health instruction, the fall experimental group had a post-test mean score which was significantly higher than the post-test mean score of the control group.

Health Information Gained or Lost Between Pre- and Post-Test

The average amount of health information gained by each group during the fall semester was compared by the use of the two group

t-test. Each student in the fall experimental group gained an average of 3.56 points between the pre-test and the post-test, following a semester of direct health instruction. The range in the fall experimental group scores was from a -11.00 (loss of information) to a +17.00 (gain of information). In other words, at least one student lost 11 points between the pre-and post-test and at least one student gained as many as 17 points between the pre-and post-test. Figure I shows the range of health information gained or lost between pre-and post-test for the fall experimental groups. Vertical numbers represent frequencies at which that particular point gain or loss occurred.

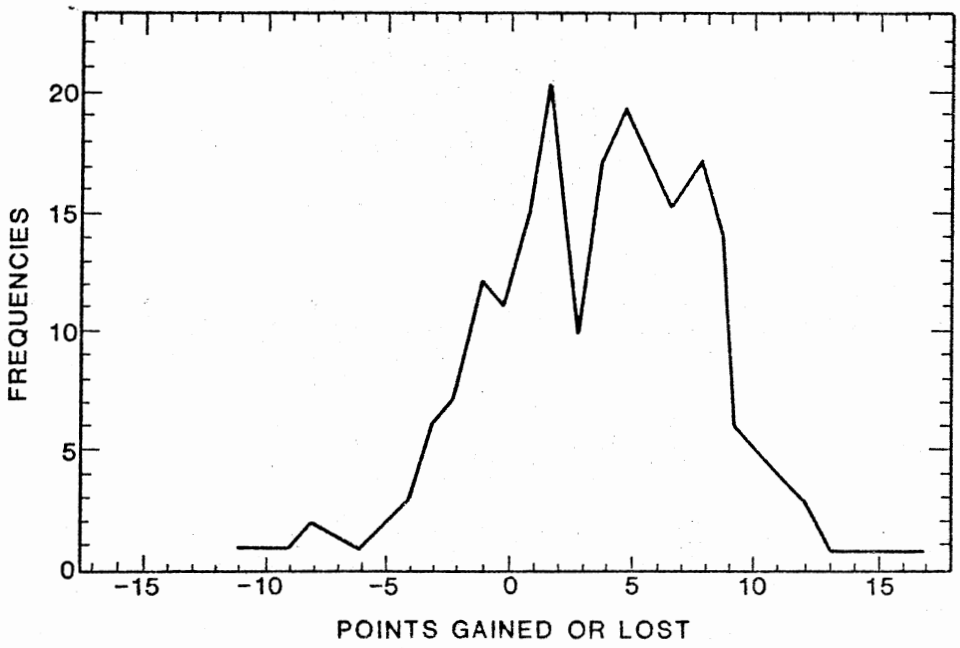

Figure 1. Range of Health Information Gained or Lost Between Pre- and Post-Test for the Fall Experimental Group

Students in the control group had an average loss of -0.43 between the pre-and post-test following a semester of indirect health instruction. There was a range from -17.00 (loss of information) to a +11.00 (gain of information) between the pre-and post-test. Figure II illustrates the range of information gained or lost between the pre-and post-test. Vertical numbers represent frequency at which the point of gain of loss occurred.

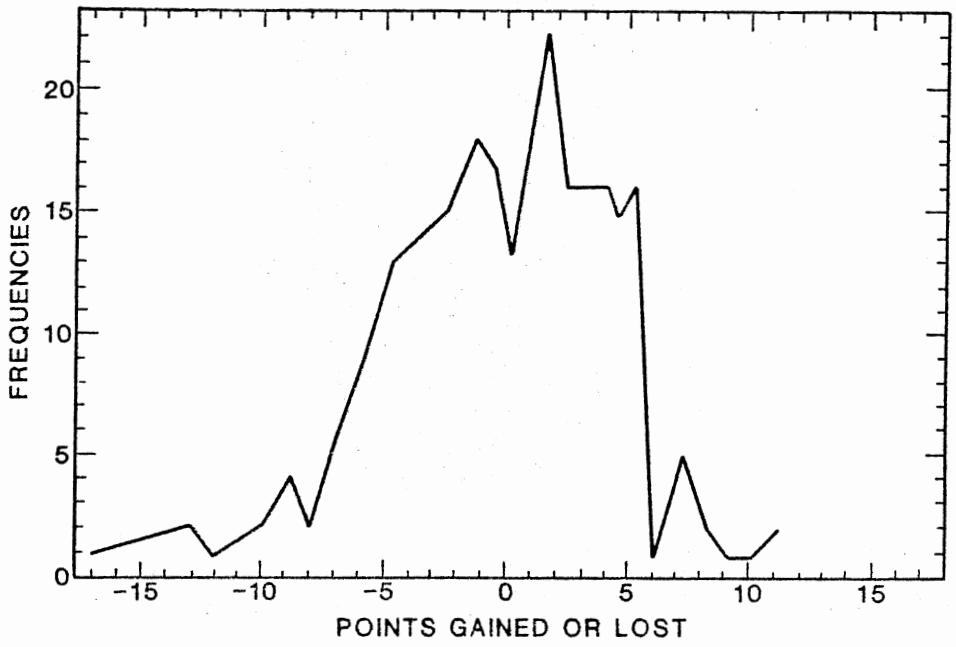

Figure 2. Range of Health Information Gained or Lost Between Pre-and Post-Test for the Control Group

Comparing the "gain" in knowledge of the fall experimental group to that of the control group, the two group t-test yielded a t-value of 8.86 which is significant at the .01 level of confidence. The fall experimental group after 16 weeks of direct health instruction had a significant increase in knowledge as compared to the control group who were exposed to health information via indirect instruction.

Another statistical procedure was used to compared direct and indirect health instruction. A paired t-test was employed to measure if there were any significant differences within the means of the groups that had received health instruction by the direct or indirect methods.

Comparison of Mean Scores Within Groups

The fall experimental group, which received direct health instruction during the fall semester, showed a significant difference between the mean scores of pre-and post-test. Use of the paired t-test gave a t value of 11.02 which is significant at the .01 level of confidence. This statistic revealed that these students gained significantly in health information between the pre-and post-test within the group following a semester of direct health instruction. Table IV shows the difference within the pre-test mean score and the post-test mean score of the fall experimental group.

TABLE IV

PRE- AND POST-TEST MEAN SCORE COMPARISON WITHIN THE FALL EXPERIMENTAL GROUP

	Mean	S.D.	Range	t-value	Probability
Pre-test	19.67	4.67	24 (9-33)	11.02	.01
Post-test	23.23	5.45	29 (8-37)		

The control group did not display any significant difference within the pre-test and post-test mean scores of the group following a semester of indirect health instruction. The paired t-test gave a t-value of -1.36 which is not significant at the .01 level of confidence. Hence, there was no significant change in health knowledge. Table V illustrates the pre-and post-test mean scores of the control group following indirect health instruction during the fall semester.

TABLE V

PRE- AND POST-TEST MEAN SCORE COMPARISON WITHIN THE CONTROL GROUP (FALL)

	N	Mean	S.D.	Range	t-value	Probability
Pre-test	212	20.25	4.62	24 (9-33)	-1.36	0.17
Post-test		19.85	5.54	31 (4-35)		

However, this same group attended the required health classes taught by the same teachers that the fall experimental group had attended during the first semester. Instead of being exposed to health information by indirect instruction as they had in the fall, this group received health information through direct instruction. After being administered a second post-test at the end of the spring semester, this spring experimental group, who had been the fall control group, showed a significant difference in the mean score between the first pre-test and the second post-test at the .01 level of confidence. Table VI displays the difference within the pre-test and second post-test mean scores for the spring experimental group.

TABLE VI

PRE-TEST AND SECOND POST-TEST COMPARISON WITHIN THE SPRING EXPERIMENTAL GROUP - (ORIGINAL FALL CONTROL GROUP) FOLLOWING DIRECT INSTRUCTION IN THE SPRING

	N	Mean	S.D.	Range
Pre-test	212	20.25	4.62	24 (9-33)
Second Post-test		23.66	6.15	29 (8-37)

There was a significant difference at the .01 level of confidence between the original pre-test scores for both experimental groups and the post-test mean scores of the fall group, and the second post-test of the spring experimental groups immediately following completion of a separate health education course taught by direct instruction.

Did one group gain more from having direct instruction than the other group? By comparing the mean scores of both groups on the pre-test (fall experimental group: 19.67, control group: 20.25), it was determined that the groups were initially equal in knowledge concerning health. The mean gain in points on the health test immediately following direct health instruction for both fall and spring experimental groups was as follows: 3.56 for the fall experimental group and 3.83 for the spring experimental group. Comparison of the means within the groups after direct health instruction yieled a t-value of 11.02 for the fall experimental group and 10.41 for the spring experimental group. Table VII makes a visual comparison of the fall and spring experimental groups. The fall control group (spring experimental group) statistics reveals pre-and post-test means concerning indirect health instruction. It appears from these statistics that the groups responded approximately the same to direct health instruction. Both groups showed a significant gain in knowledge after being exposed to health information via direct health instruction.

TABLE VII

COMPARISON OF LIKENESSES BETWEEN FALL AND SPRING EXPERIMENTAl GROUPS AFTER BOTH GROUPS RECEIVED DIRECT HEALTH INSTRUCTION. FALL CONTROL GROUP PRE-AND POST-MEAN SCORES ARE INCLUDED

	N	Mean Pre-	Mean Post-	Mean points gained after direct instruction	t-value for both groups after direct instruction
Fall Experimental Group	194	19.67	23.23	3.56	11.02
Spring Experimental Group	212	20.25	23.66	3.83	10.41
				Indirect Instruction	
Fall Control Group	212	20.25	19.85	-0.43	

Discussion of the Results

It was found, after analysis of the pre-test data, that there was no significant difference between the experimental and control groups' health knowledge. These 406 ninth grade students appeared to have approximately an equal amount of health knowledge. It is probable that the majority of these students, throughout their public school education to this point, had been exposed to health information in the same manner of teaching: incidental instruction. This assumption is based on Fawole's[1] research in which he found that the large percentage of the public schools students in Oklahoma were taught health by indirect instruction.

Between the pre-and the post-test, these 406 ninth grade students were presented health information via two methods of instruction: direct or indirect. After analyzing data from the post-test

scores, it was determined that the fall experimental group, which received direct instruction, had a significantly higher mean score than did the group receiving indirect instruction. The control group, in fact, had a small loss of information between the pre-and post-testing period. It may be speculated that these students had a lack of motivation for retaking a test for which there had been no actual class. Or perhaps they simply saw no need to perform well on the test, even though they were encouraged to do so. For whatever the reason, the results of the post-test scores of the control group produced a slight loss from the score made on the pre-test.

Gmur[2] and Witham[3] in each of their studies determined that direct health instruction resulted in significantly higher post-test scores in their research population. It was discussed in the literature that various methods of instruction each have merit, yet in numerous studies, the method of direct instruction seems to produce the greatest amount of cognitive gain.

The researcher not only evaluated differences between the fall experimental and control group, but also, within the groups themselves. The fall and spring experimental groups which had been taught health through direct instruction showed a significant gain in health knowledge between the pre-and post-test. The post-test scores of the control group produced no significant difference in knowledge gained after 16 weeks of indirect health instruction. It would appear that attendance in classes such as science, home economics and/or physical education did not provide enough health information to allow for a significant gain in scores on the post-test.

However, this same group of students, having received indirect

instruction in the fall, was required to attend the health classes in the spring where they received direct health instruction. They were given a second post-test and after data analysis, this group did show a significant difference between their pre-test score and their second post-test score.

The use of direct instruction as a method of delivering health knowledge to these students produced a significant difference in the test score means between two different population groups and within the same population group. The statistical outcome of this study suggests that since health is an integral part of the public school curriculum, it should be delivered to the public school students by the direct instruction method as a separate subject for a minimum of one semester.

ENDNOTES

[1]Joseph O. Fawole, "A Survey of the Status of Health Instruction in Oklahoma Junior and Senior High Schools" (unpub. doctoral dissertation, University of Oklahoma, 1979).

[2]Benjamin C. Gmur, "A Comparative Study of Health Education Outcomes Derived from Three Curriculum Patterns in Secondary Schools" (unpub. doctoral dissertation, U.C.L.A., 1959).

[3]James H. Witham, "An Appraisal of Health Instruction in Selected Secondary Schools of Minnesota Under Three Plans of Scheduling" (unpub. doctoral dissertation, University of Indiana, 1960).

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this research was to determine whether direct or indirect instruction in health education more effectively enables students to acquire health knowledge.

Subjects for this study were ninth grade students at Edmond Mid-High in Edmond, Oklahoma. The fall experimental group was composed of 194 students attending health classes taught through direct instruction and the control group was Oklahoma history students (N=212) who received indirect health instruction through class attendance in related subject areas.

The revised Hamrick-Anspaugh Comprehensive Health Knowledge Test was administered to these 406 students in the fall semester prior to direct or indirect instruction. The same test was given at the end of the semester following instruction. The original control group was required to attend the health education classes during the spring semester; this group became a second experimental group following direct instruction in health. They were administered a second post-test at the end of the spring semester.

It was hypothesized that there would be no significant difference at the .01 level of confidence between the health knowledge gained by

ninth grade students who were exposed to direct health instruction and the health knowledge acquired by ninth grade students who did not have direct health instruction.

The statistical procedures used in this study were the paired t-test to measure differences within the mean scores of the groups and the two group t-test was used to compare differences between the means of the two groups.

Conclusions

Based on the limitations of this study the following conclusions were drawn concerning direct and indirect health instruction:

1. The pre-test mean scores of the experimental and control group were not significantly different prior to health instruction (fall experimental group - 19.67; control group - 20.25). The ninth grade students in both groups appeared to have approximately equal cognitive understanding of health information. The level of health knowledge of ninth graders at this school in Oklahoma cannot be compared to other national norms since the testing instrument has not been utilized in a national study. However, a study comparing the health knowledge of Oklahoma students to national norms was conducted in 1970, as reported in the review of literature. It was found at that time that Oklahoma students were far below national health level norms. It is the opinion of this researcher that this was due, in part, to the method of health instruction, (i.e., indirect), that was being employed in the majority of

Oklahoma public schools. Since the indirect method of instruction is still being used in the majority of Oklahoma Public Schools, it is assumed that Oklahoma students are below national health knowledge norms in 1982.

2. Following a semester of direct instruction compared to indirect health instruction, post-test evaluation revealed that there was a significant difference between the mean scores of the two groups. The group exposed to health information via direct instruction had a significantly higher post-test score than students exposed to health through indirect instruction (fall experimental group - 23.23; control group 19.82). This was also the findings of the second experimental group following post-test evaluation at the conclusions of the spring semester (spring experimental group - 23.66). It is concluded that the method of health instruction does produce a significant difference in the information acquired. It can be reasonably assumed that the direct method of instruction in health education is significantly better than the method of indirect instruction.

3. Edmond ninth grade students responded similarly in their acquisition of health knowledge through direct instruction. As the fall control group became a second experimental group during the spring semester, these students demonstrated a significant increase in health knowledge following direct instruction (pre-test - 20.25, second post-test - 23.66). It was shown through testing

procedures that the experimental and control groups were similar before direct or indirect instruction (fall experimental group - 19.67; control group - 20.25) and that the fall experimental group had a significantly higher mean score than the control group following direct instruction (fall experimental group: 23.23; control group 19.82) and that the spring experimental group had a significantly higher post-test mean score after direct health instruction (pre-test 20.25; post-test 23.66). Both groups, following direct instruction, displayed a significant increase in health knowledge between pre-and post-test. It may reasonably assumed that other Oklahoma Public School students would demonstrate an increased acquisition of health knowledge through exposure to direct instruction in health education.

4. Revision of the Hamrick-Anspaugh Comprehensive Health Test should be performed if this test were used for a second study at this grade level. Health experts, in evaluating this instrument, expressed their concern regarding the difficulty of the vocabulary and suggested revisions in content for better representation of health topics.

The evidence presented in this study leads the researcher to conclude that the most effective learning in health education can be achieved through direct health instruction in a comprehensive health class.

Recommendations

On the basis of the results and conclusions of this study, the following recommendations are presented for consideration.

A study should be conducted to compare Oklahoma health students with national norms in order to determine the level at which Oklahoma students presently compare. The results of this study could aid the State Department of Education in developing aims and objectives for the health education program in this state.

Health education should be offered as a separate course taught by direct instruction in all Oklahoma Public Schools. It has been documented by this study, as well as other studies, that this method of exposing students to health information is far superior to the indirect method of teaching health knowledge in related subjects.

School administrators should be made aware that direct teaching in a separate course is the better method of instruction in health education. Administrators should use the results of this study to influence state education officials, in particular the Office of Comprehensive Health Education, to implement health education classes with direct instruction by qualified health educators in the Oklahoma Public Schools.

In finding significant differences in the health knowledge gained by students receiving direct or indirect instruction, it is further recommended that research in this field be concerned with the following areas:

1. a similar study at a different Oklahoma Public School and grade level to reinforce the findings of this study;
2. a new testing instrument should be located or constructed

for use at this grade level;

3. research to determine in which content areas the strengths and weaknesses lie for public school health students;
4. evaluation to determine the qualifications of health educators in the Oklahoma Public Schools and the effect these qualifications have on students' acquisition of health knowledge;
5. a study to evaluate the implications of health knowledge on public school students' health attitudes and health behaviors;
6. a survey to determine the type and extent of health information being taught in related subject areas and its effect on students' health attitudes and behaviors;
7. research to determine the level of health knowledge of incoming freshmen and outgoing college seniors;
8. a longitudinal study involving elementary students in regard to acquisition of health knowledge and it's long term effects on health behaviors through the high school years.

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APPENDIXES

APPENDIX A

STATEMENTS OF SUPPORT FOR SCHOOL HEALTH EDUCATION FROM NATIONAL ORGANIZATIONS

Oklahoma State University

School of Health, Physical Education and Leisure Services

STILLWATER, OKLAHOMA 74078
COLVIN PHYSICAL EDUCATION CENTER
(405) 624-5493

December 3, 1981

Gentlemen:

A dissertation concerning school health education is being written at this time at Oklahoma State University. It is important that a statement from your organization concerning the endorsement of school health education and your support for this subject be included in this research project.

May I ask that you assist us by sending your organization's statement supporting school health education.

Thank you in advance.

Sincerely,

Danny Ballard

RESOURCE CORNER

GROUPS ENDORSE SCHOOL HEALTH EDUCATION

Many national organizations, including a cross-section of public health, parental, religious, and civic groups, have made statements supporting health education in schools. The statements range from official organization position papers or policy declarations, to supportive statements included within program descriptions and goal specifications, to promotional phrases in agency brochures.

During the past several months, SHEP staff members have been identifying and collecting statements that could assist planners of school health education programs in writing grants, in engaging community support and in developing curriculum content. A sample statement entitled "1970 Position Statement by the Big Six" reads:

> We urge that federal legislation give support to a comprehensive (K-12) health education program that will combine needed attention to such health problems as alcohol and drug abuse, smoking and health, physical fitness, mental health, family life and human development, human ecology, the need for continuous health supervision, venereal disease, nutrition, accident prevention, and consumer education. We urge provision for inservice and preservice teacher education, updated teaching materials, and other factors in strengthening a comprehensive health instruction program. We further urge the Congress, the Secretary of Health, Education, and Welfare, and the U.S. Commissioner of Education to establish a higher federal priority for this program.
>
> (National Congress of Parents and Teachers, American Association of School Administrators, Council of Chief State School Officers, National Association of State Boards of Education, National Education Association, and National School Boards Association)

A list of organizations with statements supporting school health education is printed below. To obtain a copy of the statement, contact the organization; copies are not available from the SHEP office. However, the staff welcomes any information about other organizations that may be added to this list.

NATIONAL ORGANIZATIONS HAVING STATEMENTS IN SUPPORT OF SCHOOL HEALTH EDUCATION

AMERICAN ACADEMY OF PEDIATRICS
1801 Hinman Avenue
Evanston, IL 60204
(312) 869-4255

AMERICAN ALLIANCE FOR HEALTH, PHYSICAL EDUCATION, RECREATION AND DANCE
1900 Association Drive
Reston, VA 22091
(703) 476-3400

AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS
1801 N. Moore Street
Arlington, VA 22209
(703) 528-0700

In Joint Statement with
NATIONAL SCHOOL BOARDS ASSOCIATION

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS
One East Wacker Drive, Suite 2700
Chicago, IL 60601
(312) 222-1600

AMERICAN DENTAL ASSOCIATION
211 East Chicago Avenue
Chicago, IL 60611
(312) 440-2500

AMERICAN FEDERATION OF TEACHERS
11 Dupont Circle, N.W.
Washington, DC 20036
(202) [illegible]-4485

AMERICAN HEART ASSOCIATION
7320 Greenville Avenue
Dallas, TX 75231
(214) 750-5300

AMERICAN LUNG ASSOCIATION
(Respiratory Disease)
1740 Broadway
New York, NY 10019
(212) 245-8000

AMERICAN MEDICAL ASSOCIATION
535 N. Dearborn Street
Chicago, IL 60610
(312) 751-6000

AMERICAN MEDICAL ASSOCIATION AUXILIARY
535 N. Dearborn Street
Chicago, IL 60610
(312) 751-6166

AMERICAN NURSES ASSOCIATION
2420 Pershing Road
Kansas City, MO 64108
(816) 474-5720

AMERICAN PUBLIC HEALTH ASSOCIATION
1015 18th Street, N.W.
Washington, DC 20036
(202) 789-5000

AMERICAN SCHOOL HEALTH ASSOCIATION
1521 S. Water Street
P.O. Box 708
Kent, OH 44240
(216) 676-1601

EDUCATION COMMISSION OF THE STATES
300 Lincoln Tower
1860 Lincoln Street
Denver, CO 80295
(303) 830-3650

MARCH OF DIMES BIRTH DEFECTS FOUNDATION
1275 Mamaroneck Avenue
Box 2000
White Plains, NY 10602
(914) 428-7100

NATIONAL ASSOCIATION OF ELEMENTARY SCHOOL PRINCIPALS
1801 N. Moore Street
Arlington, VA 22209
(703) 528-6000

NATIONAL ASSOCIATION FOR MENTAL HEALTH
1800 N. Kent Street
Rosslyn, VA 22209
(703) 528-6405

NATIONAL CONGRESS OF PARENTS AND TEACHERS (PTA)
700 N. Rush Street
Chicago, IL 60611
(312) 787-0977

NATIONAL EDUCATION ASSOCIATION
1201 16th Street, N.W.
Washington, DC 20036
(202) 833-4000

In Joint Statement with
AMERICAN MEDICAL ASSOCIATION

NATIONAL SCHOOL BOARDS ASSOCIATION
1055 Thomas Jefferson Street, N.W.
Suite 600
Washington, DC 20007
(202) 337-7666

SOCIETY OF STATE DIRECTORS OF HEALTH, PHYSICAL EDUCATION & RECREATION
c/o Secretary Treasurer
9805 Hillridge Drive
Kensington, MD 20795
(202) 245-8407

NATIONAL ASSOCIATION OF ELEMENTARY SCHOOL PRINCIPALS

In Joint Statement on "The Essentials of Education" with:

AMERICAN COUNCIL ON THE TEACHING OF FOREIGN LANGUAGES
ASSOCIATION FOR SUPERVISION AND CURRICULUM DEVELOPMENT
INTERNATIONAL READING ASSOCIATION
MUSIC EDUCATORS NATIONAL CONFERENCE
NATIONAL ART EDUCATION ASSOCIATION
NATIONAL COUNCIL FOR THE SOCIAL STUDIES
NATIONAL COUNCIL OF TEACHERS OF ENGLISH
NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS
SPEECH COMMUNICATION ASSOCIATION

The National PTA

700 North Rush Street
Chicago Illinois 60611-2571
312 787 0977

December 15, 1981

Larry M. Bridges, Ph.D., Chairman
Health Department
School of Health, Physical Education and Leisure Services
Oklahoma State University
Stillwater, OK 74078

Dear Dr. Bridges:

Per your request of December 3 for the National PTA statement supporting health education, I am enclosing a copy of the 1973 convention resolution on that issue.

Thank you for contacting the National PTA. If we can be of further service, please do not hesitate to call.

Sincerely,

Joan Kuersten
Division of Communications

:jmk
Enc.

NATIONAL CONGRESS OF PARENTS AND TEACHERS

700 North Rush Street, Chicago, Illinois 60611

R E S O L U T I O N

Adopted by the 1973 Convention of the National PTA

COMPREHENSIVE SCHOOL HEALTH EDUCATION PROGRAM

WHEREAS, The National PTA is vitally interested in the teaching of health in the public schools, and

WHEREAS, The school health curriculum has been fragmented into separate programs in such areas as drug abuse, venereal disease, environmental health, and family life education, and

WHEREAS, Many local school districts have combined health education and physical education programs, and

WHEREAS, There is a need for a comprehensive program of health instruction in our schools which will meet the total needs of all children and youth, therefore be it

Resolved, That the National PTA lend its full and active support to the development of an identifiable comprehensive school health education program to include dental health, disease control, environmental health, family life, mental health, nutrition, safety, and substance abuse, and that the National PTA reaffirm the 1970 position statement of the National PTA Board of Managers relating to Federal and State Support to Comprehensive School Health Education Programs* while giving wide publicity to the similar position statement adopted by the Big Six** (National Congress of Parents and Teachers, American Association of School Administrators, Council of Chief State School Officers, National Association of State Boards of Education, National Education Association, and National School Boards Association); and be it further

Resolved, That the National PTA urge its state branches to cooperate with their state departments of education and health, and with local school districts, to develop such a program.

*FEDERAL AND STATE SUPPORT TO COMPREHENSIVE SCHOOL HEALTH EDUCATION PROGRAMS

Adopted by the National PTA Board of Managers, January 29, 1970

The National Congress of Parents and Teachers has consistently supported the inclusion of various health topics in the school curriculum. Resolutions and programs at both national and state levels have indicated PTA concern for alcohol and drug abuse education, smoking and health, physical fitness, mental health, family life and sex education, the need for continuous health supervision, consumer health, venereal disease education, nutrition, and accident prevention. Other health issues have received attention periodically through the years.

Support for a comprehensive school health education program with a specified time allotment, qualified teachers, and an adequate budget has been growing in acceptance among educators as they have endeavored to include in instructional programs the many facets of health. From time to time, national, state, and community agencies and organizations have encouraged attention to particular health problems. In recent years, additional health problems, such as air and water pollution and other environmental health concerns, have been presented to school administrators for inclusion in the curriculum. The net result has been a proliferation of specialized health interests that individually and exclusively could not be included in the curriculum without the exclusion of many other important health topics.

Limitations of time and the already overcrowded school curriculum do not permit separate courses for each of the health topics. Therefore a unified, planned program of health instruction with scope, sequence, progression, and continuity becomes necessary for a coordinated total approach to the health of man. In some states, such programs have been developed within the framework of "critical health problems." Provision has also been made for inservice and preservice education for teachers, updated teaching materials, and other factors in strengthening the school health instruction program.

State laws and state board of education regulations (either permissive or mandatory) influence the nature of educational programs offered in schools. Some states have recently revised outmoded laws and regulations to meet current needs, including the provision of definite time in the curriculum and qualified leadership. Funding from governmental agencies at federal, state, and local levels also has great bearing on the quality of educational offerings. Often such funding has not included the subject-matter area of health as a part of the instructional program.

The National Congress of Parents and Teachers supports the concept of comprehensive school health education programs and believes these programs should be given higher priority at national, state, and local levels. It urges educators to develop such programs and governmental agencies at all levels to provide the necessary funds. Further, it urges members of Congress, the Secretary of Health, Education, and Welfare, the U.S. Commissioner of Education, state departments of education, and local school districts to establish higher priorities for these programs on a level comparable to other curricular subjects.

**POSITION STATEMENT BY THE BIG SIX

(National Congress of Parents and Teachers, American Association of School Administrators, Council of Chief State School Officers, National Association of State Boards of Education, National Education Association, and National School Boards Association)

We urge that federal legislation give support to a comprehensive (K-12) health education program that will combine needed attention to such health problems as alcohol and drug abuse, smoking and health, physical fitness, mental health problems as alcohol and drug abuse, smoking and health, physical fitness, mental health, family life and human development, human ecology, the need for continuous health supervision, venereal disease, nutrition, accident prevention, and consumer education. We urge provision for inservice and preservice teacher education, updated teaching materials, and other factors in strengthening a comprehensive health instruction program. We further urge the Congress, the Secretary of Health, Education, and Welfare, and the U.S. Commissioner of Education to establish a higher federal priority for this program.

AMERICAN DENTAL ASSOCIATION

211 EAST CHICAGO AVENUE, CHICAGO ILLINOIS 60611 • AREA CODE 312 440-2500

440-2596

December 14, 1981

Larry M. Bridges, Ph. D.
Chairman, Department of Health
Oklahoma State University
Stillwater, Oklahoma 74078

Dear Doctor Bridges:

As you requested, I have enclosed a copy of the American Dental Association's endorsement of school health education.

We are more than happy to provide necessary information for the dissertation you mentioned. If you are in need of additional assistance, please let me know.

Sincerely,

Denise S. LeBloch
School Program Specialist
Bureau of Health Education
and Audiovisual Services

DSL:lb
enc.

DENTAL HEALTH EDUCATION

The community program should make specific provision for the education of the public in matters relating to dental health hazards and diseases and to desirable and undesirable health habits and practices. Instructions in dental health for school children should be an integral part of the school curriculum. Dental health facts and proven methods for imparting them to children should be available to all school teachers. Speakers should be furnished for meetings of special groups which can be interested in dental health. Factual, simple and attractive dental health pamphlets should be provided and the press, radio, posters, motion pictures, television, newspapers and magazines should be employed in a continuing program of education for the general public. Whenever possible, dental health education activities should be directed or supervised by a person qualified in the field of health education. (From A Dental Health Program for the Community, State and Nation, Trans.1949:264; see Appendix I)

Dental health education should be carried on through appropriate state and community agencies to provide authentic information on health practices, to motivate people to assume personal responsibility for health and to inform them of the facilities available for dental health care. (From A Dental Health Program for the Community, State and Nation, Trans. 1949:264; see Appendix I)

Resolved, that the American Dental Association approve and support a strong program of health education as a basic part of the school and college curriculum and that constituent and component dental societies be encouraged to work with the appropriate health and education officials and agencies in their communities to achieve this end. (Trans.1960:234)

Resolved, that constituent and component dental societies be encouraged to support the dental health education efforts of the American Dental Association by actively promoting the use of Association dental health education materials and professional aids. (Trans.1963:288)

Employment of Trained Health Educators and Public Relations Counsel

Experience has shown that when the services of professional educators and public relations counsel are utilized by dental societies, there is a marked improvement in their dental health education programs and their effectiveness in relations with the communications media. The American Dental Association recommends, therefore, that dental societies give

(Over)

consideration to the employment of such personnel to assist in the specialized problem of communicating the dental profession's recommendations for improving the health of the public and motivating it to action. (Trans.1963:288)

This program should be designed to encourage the appreciation of dental health and the practice of proper oral hygiene. Dental health education for parents, children and personnel working with children should be an essential component of all programs. (From American Dental Association Dental Health Program for Children, Trans.1966:306; see Appendix II)

Resolved, that the American Dental Association explore and implement a nationwide public relations effort directed toward dental health education with emphasis on prevention so that the public will be better able to seek oral care that is in its best interest for immediate and long range health and comfort. (Trans.1970:491)

Resolved, that constituent and component dental societies work with school boards and other appropriate groups to assure that dental health education programs in schools are based on current information on oral hygiene and preventive dentistry, and be it further

Resolved, that component dental societies make available teacher training programs on prevention. (Trans.1972:670)

NATIONAL
CENTER
FOR THE
IMPROVEMENT
OF LEARNING

AMERICAN ASSOCIATION
OF SCHOOL ADMINISTRATORS

December 15, 1981

Larry M. Bridges, Ph.D.
Chairman
Department of Health
Oklahoma State University
School of Health, Physical Education
and Leisure Services
Stillwater, OK 74078

Dear Professor Bridges:

Enclosed you will find two sheets containing official 1981 Resolutions of the American Association of School Administrators. Resolutions 45, 48, and 54 speak directly to issues associated with school health education.

We are pleased to be of assistance to you.

Sincerely,

William G. Spady

William G. Spady
Director
National Center for the Improvement of Learning

cc: Paul B. Salmon

Enclosures

WGS/lv

(703) 528-0700
1801 North Moore Street • Arlington, Virginia 22209
An Equal Opportunity Employer

tary multi-district efforts to provide more efficient and effective educational services.

35. Native Americans

AASA recognizes the complexity and diversity of the Native American population throughout the nation, and in this recognition realizes that Native Americans must be involved in local decision making regarding schools operating with public funds when applicable.

36. Organized School Volunteer Programs

AASA recognizes the value of organized school volunteer programs and the ability of trained school volunteers to assist with solutions of many of the problems facing educators today.

37. Advocacy for the Aging

AASA recognizes the complexities of the issues of gerontology and urges all administrators and boards of education to become advocates of programs that develop an awareness of the issues and problems related thereto. AASA supports the participation and involvement of retired persons in schools and will support research concerning the issues and problems of aging in our society and the impact upon school administration.

EDUCATIONAL/ INSTRUCTIONAL PROGRAMS

38. Minimum Competencies and Basic Skills Examinations for Students

AASA recognizes that programs for establishing minimal competencies and basic skill examinations for promotion and/or graduation have been instituted both by legislative action and by mandates of local school boards. AASA believes that such programs should be based upon the acknowledgement that multiple levels of individual differences exist among all students. Such programs should not limit expectations of student performance by establishing single standards of achievement, but should provide assessment including professional judgments of the students' cumulative experiences and acquisition of basic skills consistent with their identified learning abilities. AASA believes these programs should reflect concern for student needs beyond expected minimal competencies and should consider their goals beyond high school.

39. Curriculum

AASA believes that curriculum decisions are best made at the level of governance closest to the delivery of services.

AASA, recognizing the continued need for a high level of attainment in skills and knowledge, encourages Association members to continue to place priority on:

- Reading, with special emphasis on the needs of the individual.
- Other basic skills and knowledge necessary for effective societal functioning including written and verbal communications, mathematics, the arts of citizenship.
- Critical thinking.
- Recognizing the need for multi-cultural education.
- Competency based programs where individual student needs can be assessed and programs implemented to meet those individual needs.
- Application of economic and environmental knowledge.
- The effective area of student development which encourages appreciation and understanding of the pluralistic culture, particularly an understanding of those indigenous to the local region.
- Career education at all levels with adequate funding for the expansion and improvement of programs aimed at preparing young people for the world of work. AASA feels that the community, labor, management, and other interested groups must be involved in building broad-based support for these activities.

AASA encourages educational leaders to study the applications of technology. AASA encourages its members to exert leadership in the development and implementation of new instructional management technologies with the view toward their effective and practical use in education.

40. Inmates of Correctional Institutions

AASA endorses, supports, and encourages expanded educational opportunity within correctional institutions and urges that both the state and federal governments provide the necessary funding to meet the educational needs of the inmate population.

41. High School Athletic Competition

AASA opposes the concept of national sports competition among high school teams and the efforts of any organization, agency or individual to establish such competition. Administrators and school boards throughout the nation are encouraged to resist invitations to all high schools within their jurisdiction to participate in such national competition or in play-off events destined to lead to such national competition.

42. Evaluation of Educational Programs

AASA believes that the evaluation of all educational programs is a vital responsibility of educational administration. Such evaluation must:

- Be systematically done.
- Involve those affected in the design of the system.
- Include evaluation criteria that are thoroughly understood by those involved prior to evaluation.
- Provide for the evaluation results to be used for the improvement of the educational program.

43. International Education

AASA urges the establishment of educational programs which:

- Reflect an international point of view and engender respect for and appreciation of the diversity of the world's cultures and its people.
- Promote knowledge concerning various peoples and problems that relate to the world community.
- Provide opportunities to acquire competence in foreign languages.

AASA supports efforts to help developing countries establish meaningful educational systems.

AASA urges better communications among the communities of the world.

44. Bilingual Instruction

AASA recognizes bilingual instruction as a useful educational strategy for students whose home language is other than English. Bilingual instruction should be transitional in nature.

45. Drug Education

AASA urges every school district to provide students with programs of drug education which include alcohol and tobacco.

46. Early Childhood Education

AASA supports preschool education and urges state organizations to work with state legislatures to enact laws which provide adequate funding for educational opportunities for preschool children and programs for parent involvement and training.

47. Equality in Education

AASA urges school districts to continue to promote equality, to eliminate sterotyping in educational materials, and to correct all procedures which use human differences to limit opportunities for students.

48. Education for Parenthood

AASA encourages educational leaders to design and implement effective programs for the education of present and future parents.

49. Continuing/Adult Education

AASA believes that learning is a lifelong experience and urges the schools of America to pursue avenues that foster continuing learning and retraining where needed for all citizens.

50. Community Education

AASA urges its members to develop community education programs serving a broad cross section of their constituents. Such programs should be oriented to the unique needs of diverse populations within the school community.

STUDENTS

51. Student Testing

AASA recognizes the need to account for the educational progress of individual learners. Recognizing the limitations of standardized

testing procedures, AASA urges its members to:

- Point out the strengths and weaknesses of standardized tests and work to prevent their misuse.
- Work for the development of viable, individually-based alternatives such as criterion-referenced tests.
- Secure and publish information related to the full understanding of test results.
- Make constructive use of test results to improve the educational program, avoiding misleading comparisons of schools based upon test results.
- Oppose any form of national testing which is constructed or administered by the federal government. Truth in testing concerns should be resolved at the local/state level.

52. Student Behavior, Discipline, Suspension, and Expulsion

AASA encourages school administrators to continue to provide leadership in developing school environments that enable students to meet appropriate citizenship standards.

These environments must be supported by policies and procedures developed through involvement of staff, students, parents, and community leaders.

AASA is concerned with suspension and expulsion of students from the schools of our nation. AASA urges school administrators to give positive leadership in developing alternative practices. Such alternatives must provide opportunities that focus on the educational needs of students and guarantee due process.

Students who do not comply with policies and procedures must be confronted with consequences appropriate for violations and designed to improve behavior.

53. Child Abuse

AASA urges administrators to set up systematic monitoring procedures which will reveal the victims of child abuse. Administrators must be among the active protectors of children, using the resources of the district, other agencies, and the law to stop child abuse.

54. Student Needs and Societal Concerns

AASA urges its membership to seek cooperation with other child advocacy groups to develop and/or to implement programs of instruction and strategies to assist students to recognize, understand, and cope with the following societal concerns:

- Increased teen-age pregnancies.
- Venereal disease.
- Violence in our everyday life including that presented by the news media.
- Addiction to alcohol, drugs, narcotics and tobacco.
- Varied family structures.
- Parental absence from the home.
- Excessive and indiscriminate television viewing.
- Unhealthy nutritional intake.
- Child abuse.
- Unemployment.
- Life-time physical fitness.
- Immunization and communicable diseases.
- Comprehensive health screening programs.

55. Education for Students with Exceptional Needs

AASA supports the establishment and strengthening of free and appropriate public educational programs for students with exceptional needs. AASA believes health services essential for life maintenance should be the responsibility of agencies established to provide those services. Sufficient additional federal and state financial resources must be made available to appropriate agencies so that educational and other essential services are not adversely affected.

PERSONNEL

56. Retirement Systems

AASA recognizes that there are a variety of retirement programs affecting those in the educational profession. The various retirement programs should permit school personnel to pursue their profession in any state or overseas assignment without restriction or penalty.

AASA urges its membership and state associations of school administrators to encourage legislation at the state and federal levels that establishes a reciprocal retirement system.

AASA encourages, when desired, the availability of social security on a nondiscriminatory basis to all eligible personnel, but opposes the enforced merger of teacher retirement systems with the federal social security program.

AASA is urged to continue research of existing retirement systems and to study and report the feasibility of developing a model retirement system for school personnel which includes credit for military service.

57. Tax Treatment of Overseas Educators

AASA supports an amendment to PL 95-615 (the Foreign Earned Income Act of 1978) returning exemptions to American educators employed by the State Department sponsored overseas schools to which such educators previously have been entitled.

58. Collective Bargaining

AASA supports the position that the direction of collective bargaining should be retained at state and local levels where provided for by state law. Collective bargaining should be limited to salary, directly related financial conditions of employment, and grievance procedures. Arbitration should be limited to matters of contract interpretation. Management personnel should not be part of any formal bargaining unit. Collective bargaining legislation and/or contracts should include adequate provision for the resolution of unfair practices and provide for adequate protection of employer and employee rights.

59. Work Stoppages

AASA opposes the strike as a weapon in stalemated negotiations. Sanctions and other types of withdrawal of services have the same deleterious effect upon school operations and are equally objectionable. If a school district experiences a work stoppage, the administrative team has an obligation to remain on the job to protect the students who report to school; to maintain communication within the community among parents, teachers and the public; and to seek, through reasonable methods, the protection of school property.

AASA recommends that all school districts develop an administrative plan to be used in the event of a work stoppage.

60. Evaluation of Personnel

AASA believes that the evaluation of all personnel is an essential part of good administration and encourages each educational system to design and carry out a systematic evaluation of all personnel. Prior to the evaluation the design of the evaluation process to be used must involve all who are affected.

AASA urges boards of education to adopt systems of evaluation of administrators and to assume their responsibility for the evaluation of the superintendent of schools. AASA urges superintendents to assume responsibility for the evaluation of all administrators. AASA believes that the confidentiality of evaluative reports should be guaranteed.

61. Staffing

AASA believes that program considerations, student needs and staff competence should be the major priorities in retention of staff when reductions in personnel are required.

62. Inservice Education for Educational Leadership

AASA believes that school governance and administrator leadership skills must be maintained and advanced in a regular program of inservice education in order to ensure a quality educational program. NSBA, AASA and state school boards and administrators associations are in a unique position to design such inservice education programs that are sensitive and responsive to the developing leadership needs of school board members and administrators.

AASA with the support of NSBA encourages local school boards and superintendents to support and participate in adequate inservice education programs for school board members and school administrators that are designed and offered by NSBA, AASA, and state school boards and administrators associations. Such inservice education programs are an essential district expense.

NATIONAL SCHOOL BOARDS ASSOCIATION
1055 Thomas Jefferson Street, N.W., Suite 600, Washington, D.C. 20007/ (202) 337-7666

December 18, 1981

Dr. Larry M. Bridges, Chairman
Department of Health
Colvin Physical Education Center
Oklahoma State University
Stillwater, OK 74078

Dear Dr. Bridges:

Thank you for your December 3 letter seeking a statement from the National School Boards Association concerning school health education.

The most authoritative response is to refer you to the enclosed booklet detailing resolutions adopted by our policy-making Delegate Assembly at NSBA's annual convention last April. Those resolutions relating to safety and health are checked on Pages 7, 9, 12, 15, 17 and also in the Beliefs & Policies section on Page 38.

Since NSBA represents the nation's 16,000 local school boards, it is axiomatic that NSBA is vitally interested in maintaining a safe and healthful environment in the public schools. An important aspect of this is school health education. Since NSBA is dedicated to perpetuating local lay control of public education through duly-constituted school boards, the Association believes that specific policies and practices in school health education should be determined by local school boards in response to the needs and wishes of their constituents and in compliance with federal, state and local law.

I hope that this information serves your needs.

Sincerely,

Philip A. Smith
Director, Public Information

PAS:la
enclosure

SCHOOL HEALTH NURSING

WHEREAS school nursing is a specialized service contributing to the process of education, and

WHEREAS nursing provided as part of the school program for children is a direct constructive and effective contribution to building a healthful and dynamic society, and

WHEREAS the health status of children has a direct influence upon their educational achievement, and

WHEREAS for many children in the United States, the school nurse is the only contact the child has with the health care system, and

WHEREAS the professional school nurse, with his/her experience and knowledge of growth and behavioral patterns of children, is in a unique position in the school setting to assist children in acquiring health knowledge, in developing attitudes conducive to healthful living and in meeting their needs resulting from disease, accidents, congenital defects and/or psycho social maladjustments; therefore, be it

RESOLVED that the ANA actively seek legislation to mandate nursing services as an integral part of every school basic services, and, be it further

RESOLVED that school nurses participate in school health education programs both in teaching segments of the curriculum and as a resource to teachers and administrators in the school system, and be it further

RESOLVED that ANA and its constituent associations work with institutions of high learning to provide opportunities for school nurses to supplement and update their preparation in health education so that they may actively participate in school health education programs.

House of Delegates 1974

COMPREHENSIVE SCHOOL HEALTH EDUCATION PROCESS

WHEREAS each school-aged child and adolescent in the United States should have the opportunity to develop his/her potential to the fullest, and

WHEREAS education for personal health and health citizenship assists the individual to make his/her maximum contribution to the welfare of his/her community and country, and

WHEREAS advances in health sciences can only be utilized when people are properly informed about them, and

WHEREAS in many schools, health education programs are fragmented and crisis oriented to meet a current need, as veneral disease, drug abuse, etc.; therefore, be it

RESOLVED that the American Nurses' Association promote and support a unified, integrated, sequential approach for comprehensive school health education program, grade K through 12, and, be it

RESOLVED that ANA promote and support health education programs as a basic segment of college curriculums, and be it further

RESOLVED that ANA, state and local nurses' associations work coorperatively with the NEA and other appropriate educational officials and agencies and representatives of federal, state and local governments to secure legislation and funding for school health education programs.

House of Delegates 1974

National Mental Health Association
1800 North Kent Street • Arlington, Virginia 22209 • (703) 528-6405

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RICHARD C. HUNTER

March 24, 1982

Larry M. Bridges Ph.D.
Chairman, Department of Health
Colvin Physical Education Center
Oklahoma State University
Stillwater, OK 74048

Dear Dr. Bridges:

I apologize for the long delay in responding to your letter of December on health education. You should have heard from us at a much earlier date, but unfortunately conditions beyond our control made that impossible. In any event, I don't know that we could have been or now will be very helpful.

This organization has taken no formal position of endorsement concerning school health education. We do support the concept of health education and like to think that a great deal of what we do could be so classified. If one believes in education on any topic, certainly it would be difficult to conceive of any reason why health would not be an appropriate subject on which to educate.

Similarly, since the primary function of a school is to educate, it is not unreasonable to think that health education might be a part of any school curriculum, having in mind student readiness to deal with specific aspects of health education.

What I've stated above is only my personal opinion. It does not represent any official stand of the Association. However, it would seem difficult to find any basis for challenging such obvious statements.

Your letter does not indicate why at this point in time there is a need for the preparation of a dissertation on the topic. I can only assume that the issue arises out of some conflict related to the respective roles of family and church. It is also not unreasonable to assume that the precipitating concern may be sex education under the title of health education. Attached is a statement developed in 1970 dealing with this issue. I do not offer it as the current position of the Association, since the subject has not been subsequently reviewed. Any statement made

now might be worded differently. Therefore, the document should not be quoted as our current position. The language, however, may prove useful as a position held in 1970. It is a position which might still be held today, but unfortunately I have no way of knowing whether that is true.

Sincerely yours,

Richard C. Hunter (rpp)

Richard C. Hunter
Deputy Executive Director

A-6

The National Association for Mental Health, Inc.

POSITION STATEMENT ON FAMILY LIFE AND SEX EDUCATION

Adopted by the Board of Directors on June 19, 1970

The mental health implications of family life and sex education programs are self evident. Examination of the current scene as it affects young people, parents and families as well as the community at large, with all its attendant suffering, leaves little doubt about the need for responsible, relevant and effective education programs in family life and sex education. Indeed, it is one of the most practical mental health issues upon which a position can be taken. In supporting such, NAMH joins an impressive list of major educational, religious, medical and health organizations throughout the country who are endorsing responsible family life and sex education.

The increasing controversy surrounding the introduction of family life and sex education programs in public schools has extended itself to a degree where it poses a serious threat to this essential aspect in the health education of children and young people. Responsible programs directed towards improving knowledge about this critical phase of human development as well as bettering understanding between young people and their peers, young people and adults, are being subjected to strong opposition stemming from a variety of sources.

The primary source of family life and sex education should be in the home. For a variety of reasons, evidence indicates that in many, if not most instances, children do not receive this type of essential information given in a comfortable, accurate and relevant form by their parents. Presentation of this essential component of health education under public educational auspices requires especially the participation (i.e., sanction) of parents not only to endorse such programs, but also to share in the matter of material to be presented, when and how such will be carried out and who shall teach the matter. Family life and sex education programs without this essential contribution of joint participation by parents and educators are subject to misunderstanding, suspicion, attack, and early failure.

In addition to the parent role and effective pedagogical techniques including special teachers, family life and sex information programs require the support of a variety of helping agencies and individuals. Mental Health organizations with their awareness as to the importance of these matters have an unusual opportunity to support and aid in the direction of family life and sex education programs in cooperation with other appropriate groups. A considerable number of national, state and local organizations have developed program materials or actual programs which may be useful to local mental health associations in their role as a resource group to a community's effort to develop an appropriate program in family life and sex education.

It is recommended by the NAMH Professional Advisory Council that the local professional advisory committee of the mental health association be consulted when the Association considers programming in this field.

References

Sex Information and Education Council of the U.S.
1855 Broadway, New York, New York 10023

Guidelines for developing School Programs in Sex Education
New Jersey Department of Education
225 West State Street, Trenton, New Jersey 08624

Family Life and Sex Education Course Outlines for Grades Seven Through Twelve
Anaheim Union High School District
1765 West Cerritos Street, Anaheim, California 92805

American Medical Association
535 North Dearborn Street, Chicago, Illinois 60610

Family Service Association of America
44 East 23rd Street, New York, New York 10010

Family Life Literature and Films - an annotated bibliography
Minnesota Council on Family Relations
1219 University Avenue, S.E., Minneapolis, Minnesota 54414

The National Association for Mental Health
1800 North Kent Street
Arlington, Virginia 22209

Committee on School Health

Health Education

The American Academy of Pediatrics believes that it is necessary to reaffirm its support for the concept of school health education, from kindergarten through grade 12, for all schoolchildren in the United States.

A basic concept of pediatrics is prevention, and health education is a basic element in the delivery of comprehensive health care. The public is continually bombarded by the media about the high cost of medical care and the overutilization and incorrect use of medical facilities. The media also writes about the problems of increasing promiscuity and illegitimacy; the money wasted on quackery; practices that are detrimental to the health of people in the United States; and the lag in the dissemination of new health information and facts to the public. The Committee on School Health believes that community health education programs, of which school health education programs from kindergarten through grade 12 are an integral part, are one of the most viable methods to help alleviate these and similar problems. Therefore, the Committee on School Health makes the following recommendations and urges action for them at state and local levels.

1. Health education is a basic education subject, and it should be taught as such. Health education is compatible with other traditional subjects and can enhance the contribution that other basic subjects make to general life experience, understanding, and skills.

2. Planned, integrated programs of comprehensive health education should be required for students from kindergarten through grade 12. Instruction should be given by teachers qualified to teach health education. The health curriculum should be planned and be appropriate for the age and maturity of the children at each grade level. A comprehensive health education program should include the following subjects: courses that yield an understanding of basic biology, physiology, and genetics; accident prevention; venereal disease; alcoholism; mental health; parenting; sex education; drug abuse; environmental and consumer health; and preventive medicine.

3. The health education program should help teach students to use the facts and the concepts discussed for healthful living and for making knowledgeable decisions to solve personal, family, and community health problems.

4. Financial support must be assured for health education programs because proper funding is critical in developing effective programs. Local boards of education and state and federal government bodies dealing with education must be convinced to continue or increase their portion of funding for health education programs. Funding should also be sought from corporations, foundations, and private and governmental agencies that have specific interests (such as heart, cancer, alcoholism, or mental health). The most effective way to provide education about these specific subjects is to incorporate them into a well-planned, comprehensive health education curriculum.

5. Comprehensive health education programs in elementary and secondary schools should be directed by qualified health educators functioning in consultation and cooperation with school personnel, parents, students, physicians, and health agencies in the community.

6. Health education should be a part of every elementary and secondary teachers' training program. Professional preparation programs in health education should be developed in the schools of education. These schools should set high standards and have requirements as exacting as those requirements for other fields of instruction. All teachers should be required to complete courses in health science.

7. School districts, other public agencies, the medical community, and private agencies should intensify their health education programs for adults as part of a coordinated community health education effort.

COMMITTEE ON SCHOOL HEALTH

Donald E. Cook, M.D., *Chairman*; Conrad L. Andringa, M.D.; Karl W. Hess, M.D.; Leonard L. Kishner, M.D.; Samuel R. Leavitt, M.D.; Stanley F. Novak, M.D.; Kenneth D. Rogers, M.D.; J. Ward Stackpole, M.D.; Casper Wiggins, M.D.

This statement has been reviewed and approved by the Academy's Council on Child Health.

AAHPER POSITION STATEMENT

A Unified Approach to Health Teaching

Association for the Advancement of Health Education

12

Health education—particularly that aspect identified as health instruction—is of greater concern in contemporary society than ever before. The variety of choices and decisions to be made by the individual and society have multiplied in number and increased in consequence. Sporadic educational efforts, isolated "once-a-year lectures," in a haphazard or "spur of the moment" fashion, are both difficult to administer and virtually ineffective. *A unified approach to health teaching—that is, a planned, sequential curriculum in health education throughout the school years—is necessary to help attain the objective of education, the healthy, educated man.*

Discussion

Today many people enjoy a higher level of health and a greater life span than ever before. This has been brought about primarily through the development of new drugs, research, better public health programs, improved medical care, and health education. In spite of these advances in medicine and personal well-being, millions of people are not living at their optimal level of health. Modern patterns of living have intensified health problems such as heart disease, obesity, cancer, mental illness, alcoholism, drug addiction, and venereal disease. Moreover, some of these diseases loom larger than before because of our aging population.

In their enthusiasm to find solutions to existing health problems and most immediate needs, many official and voluntary health agencies and organizations have developed teaching materials especially for school use. Both official and voluntary agencies are to be commended for making these teaching aids available to schools. Many are well planned and have been most helpful in filling a void. However, the number of health problems deserving special consideration in the curriculum has become so great that these very teaching aids and materials often interfere with the development of a comprehensive and sequential health instruction program required to meet the many health needs and problems of today's children and youth.

School administrators, in the absence of well planned health instruction, and in their willingness to cooperate with local groups, have incorporated these materials in their curriculum. This is especially true when pressure builds in a community to have the schools "do something" about drugs, sex, smoking, and alcohol. This results in the hastily scheduled two-week unit or one-lecture type of health offering to cover a specific problem—a problem "shot down" this year and forgotten next year in order to concentrate attention on something else. This kind of scheduling may lead to overemphasis on a health problem or it may be responsible for the neglect or omission of a number of other pertinent health problems. Health instruction, to be effective, must be on a continuing basis and not a crash program.

Recommendations

In view of the need for a comprehensive program of health instruction, it is recommended that:

1. There be a unified approach to health teaching, a program of health instruction organized and scheduled in such a way that there is scope and sequence through the school years (K-12).
2. A program of curriculum development be undertaken which will involve (a) the identification of specific courses with content, learning activities, and evaluation activities and (b) coordination and integration with other subject matter areas.
3. The health curriculum be developed by school personnel and curriculum directors who work closely with the lay public, with individuals from the voluntary and official health agencies, and with consultants from the state and national level when available.
4. Those who teach health be specifically prepared and have a genuine interest in the field of health education.

This statement, prepared by a committee of the School Health Division, was approved by the School Health Division Executive Council and officially approved and endorsed by the AAHPER Board of Directors.

A POINT OF VIEW FOR SCHOOL HEALTH EDUCATION

In 1960 the Division of Health Education of the American Association for Health, Physical Education, and Recreation under the divisional vice-presidency of Edward B. Johns appointed a Commission on Philosophy for School Health Education. It was the task of this Commission to prepare a statement of "health education principles that are fundamental to curriculum development" or to develop a "statement of beliefs for the whole field of health education to serve as a platform for the field." To this end the Commission addressed itself and early in its deliberations became convinced that it would be impossible to develop a "philosophy for health education" as something different from a philosophy of education itself. Thus the Commission has prepared "A Point of View for School Health Education" which it hopes will serve as an appropriate guide for teachers, administrators, and others interested in the field of health education.

Philosophy is concerned with questions pertaining to the nature of truth, goodness, and beauty, questions that seek to describe the characteristics of the good life. It is defined in Webster as "a systematic body of general conceptions or principles, ordinarily with implication for their practical application."

Philosophy of education is concerned with questions that relate to the nature of the educational process and to the scientific study of education. It asks: What is education? What is knowledge, and what knowledge is of most worth? How shall human nature and the world or society in which we live be perceived? What are the ultimate purposes for being? It is within this context, a context of probing and inquiry into questions that affect the basic direction and character of education, that the purpose and practice of health education must be sought. Health education does not stand alone.

At the present time educators in all fields are discussing the need for a clearly defined philosophy *of* or *for* education. Health educators are no exception. All wish to provide better direction for the total educational process and programs. But to what extent should such a philosophical approach accept, say, the concepts of pragmatism, realism, idealism? And do specific applications to school practices flow in a kind of one-to-one relationship from each of these philosophies?

A philosophy of education is basic to the systematic development of objectives and programs in health education. Philosophy should provide a foundation for values. The philosophy accepted by a teacher or school group concerned with the health education of children and youth may become a guide and stabilizing force for program development. Insofar as it does, and in this sense, a philosophy of health education emerges. Each teacher and each school group has the responsibility for developing a philosophy for education. Most teachers, however, need some help in doing this.

The discussion which follows is intended to stimulate and give direction to thinking about a philosophy of health education. It represents an effort to synthesize a series of beliefs about the nature of health, education, the educational process, schools, people, and society into a coherent and reasonable philosophy for health education, the acceptance and refinement of which may provide a basis for program development.

A Statement of Position

Health education as both process and program implies changes in individual development, attitudes, and behavior. It seeks no ends other than the improvement of individual and community health. Because the emphasis is upon health, both the process and the program become personal in their focus. A philosophy of health education may be said to originate in an understanding of the nature of health as it relates to the personal.

The term "health" does not relate to a wholly measurable quality or condition. It can best be described in terms of the degree to which the composite or aggregate powers of the the human organism are able to function. The term becomes fully meaningful only when we are confronted with its opposite, disease or defect.

This concept of health embraces

Association for the Advancement of Health Education

Adopted by the Representative Assembly of the American Association for Health, Physical Education, and Recreation, meeting at the 84th Anniversary Convention, Boston, Massachusetts, April 15, 1969

Resolutions

22

HEALTH EDUCATION FOR ALL STUDENTS

Whereas, The health problems and values of inner city youth and youth in other problem areas have certain unique characteristics, and

Whereas, Health education for students from such areas presents a distinct type of challenge and focus, and

Whereas, Often health teachers have cultural values and mores different from those of such students, therefore be it

Resolved, That teacher preparation in health education for both the elementary and secondary level give special consideration and emphasis to the professional preparation needed for effective teaching of all students.

Resolution

ADOPTED BY THE AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES
AND REFERRED TO THE BOARD OF TRUSTEES

JULY, 1980

HEALTH EDUCATION

Resolved, That the American Medical Association increase its activity in the promotion of health education in kindergarten through grade 12 and the physician's office in the following ways:

1. Encourage and assist physicians on patient education/information programs for their offices.
2. Encourage physicians to support comprehensive health education programs in kindergarten through grade 12.
3. Seek out and identify good health education programs from throughout the nation and provide a mechanism of informing and sharing these programs or projects.
4. Provide information and methods for physician organizations to take leadership roles in their communities in regard to health education and risk reduction; and be it further

Resolved, That the AMA provide sufficient staff, materials and financial support to assure successful achievement of these goals.

Resolution

ADOPTED BY THE AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES
JULY, 1980

AMA SUPPORT OF FAMILY LIFE EDUCATION IN THE SCHOOLS

Resolved, That the American Medical Association recognizes that the primary responsibility for family life education is in the home and additionally supports the concept of a complementary family life and sex education program in the schools at all levels, at local option and direction; such program should (1) be part of an overall health education program, (2) be presented in a manner commensurate with the maturation level of the students, (3) have professionally developed curriculae, (4) include ample involvement of parents and other concerned members of the community, and (5) utilize classroom teachers and other professionals who have shown an aptitude for working with young people and who have received special training.

APPENDIX B

LETTER TO JURIST

PLEASE NOTE:

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

These consist of pages:

P. 100-106

University Microfilms International

300 N. ZEEB RD., ANN ARBOR, MI 48106 (313) 761-4700

May 21, 1982

As a doctoral student working toward completion of my degree, I am asking you to complete the enclosed form that expresses your opinion of the 50-item test that is accompanying this letter.

This test was administered to approximately 450 ninth grade students during 50-minute class periods. One half of these students attended required health education classes and the remainder, the control group, were students in Oklahoma history classes. The latter group only had exposure to health knowledge indirectly, through attendance in related subject area classes. The purpose in conducting this research was to determine by which instructional method students better acquire health knowledge.

Through pre- and post-testing procedures, it was determined that there was a significant difference in the knowledge acquired by students who attended health classes and the students who were exposed to health information indirectly through attendnace in classes in related subjects.

The 50-test items were taken from a 100-item test. They were selected in order to coincide with the major areas taught in the health classes. The following table reveals the percentage of time spent teaching a particular topic and the percentage of the test that dealt with the same topic. Please note that questions concerning sexually transmitted diseases were designated as communicable disease questions by the author of the test, as opposed to being classified as sex education questions.

	Health Classes		Health Test (50 items)		
Drugs	3.5 wks.	15%(.1562)	Drugs	16%	(8 questions)
Mental Health	3 wks.	18-19%(.1875)	Mental Health	18%	(9)
Fitness	3 wks.	18-19%(.1875)	Fitness	10%	(5)
Disease	3 wks.	18-19%(.1875)	Disease	22%	(11)
Consumerism	1 wk.	6%(.062)	Consumerism	12%	(6)
Nutrition	3 wks.	18-19%(.1875)	Nutrition	14%	(7)
Safety	3 days	<1%(.0312)	Environmental	8%	(4)

I would very much appreciate you taking the time to complete the enclosed questionnaire and, if possible, to return it in the enclosed envelope by June 18, 1982. Any comments concerning the test or the study would be appreciated.

Thank you in advance.

Sincerely,

(Mrs.) Danny Ballard

APPENDIX C

COMPLETION FORM FOR JURIST

I. General Information Concerning Test:

1. Type of test: Comprehensive Health Knowledge Test
2. Publication Date: 1981
3. Length of Test: 50 items
4. Administration Time for Test: 50 minutes

II. Opinion of Test: (Please make comments following each question)

1. In your opinion is the test appropriate for purpose of this study?

2. In your opinion does the test evaluate the topic content of the health course? (see table in letter)

3. Is the length of the test, both for number of questions and administering time appropriate?

4. Is the vocabulary appropriate for ninth grade level?

5. Considering the content of the course and of the test, in your opinion does this test possess content validity and, if so, to what degree?

APPENDIX D

TESTING INSTRUMENT

HEALTH KNOWLEDGE TEST

1. The earliest sign of breast cancer is usually:

   a. A severe pain in the breast.
   b. A lump in the breast tissue.
   c. A persistent ache in the breast.
   d. Bleeding from the nipple.

2. An agent that produces cancer is referred to as a:

   a. Carcinoma.
   b. Sarcoma.
   c. Carcinogen.
   d. Netastasis.

3. When a heart attack is termed a myocardial infarction, it means that:

   a. No structural damage was done to the heart.
   b. A clot in the artery caused the attack.
   c. Part of the heart muscle has died.
   d. Disease has affected one of the valves of the heart.

4. The medical term for high blood pressure is:

   a. Hpyertension.
   b. Inflexanemia.
   c. Cystic fibrosis.
   d. Atherosclerosis.

5. A Papanicolaou test is used to detect:

   a. Stomach cancer.
   b. Cancer of the breast.
   c. Cancer of the cervix.
   d. Lung cancer.

6. Angina pectoris:

   a. A substance that induces the production of antibodies.
   b. Pains in the chest.
   c. Sudden paralysis with partial or total loss of consciousness.
   d. Hardening of the arteries.
   e. One of the upper chambers of the heart.

7. All of the following statements regarding strokes are true except:

   a. They are often caused by blood clots.
   b. They may cause paralysis on one side of the body.
   c. They often cause permanent brain damage.
   d. They are sometimes called cerebrovascular accidents.
   e. They are never a cause of death.

8. Of all the environmental effects on the circulatory system, the three that seem to have the closest relationship to increased risk of cardiovascular disease are:

   a. Smoking, obesity, and insufficient exercise.
   b. Hypertension, high serum cholesterol, and obesity.
   c. Smoking, hypertension, and high serum cholesterol.
   d. Urban residence, insufficient sleep, and smoking.
   e. Hypertension, obesity, and smoking.

9. Of the following possibilities, how will a woman with gonorrhea be most likely to find out she has the disease?

   a. Her doctor will tell her when she sees him for a physical examination or other illness.
   b. She can tell from her own discomfort and other symptoms.
   c. A man who has sexual contact with her will notice symptoms and may tell her.
   d. There are no reliable signs of having honorrhea in either men or women.

10. Syphillis is most likely to cause serious damage to the body of a person infected:

   a. During the first three months after he is infected.
   b. Between three months and six months after he is infected.
   c. Between six months and two years after he is infected.
   d. More than two years after he is infected.

11. The most common drug used in the treatment of syphillis is:

   a. Cortisone.
   b. Tetramyocin.
   c. Penicillin.
   d. Not yet discovered.

12. Stamina training:

   a. Involves continuous rhythmic cardiovascular respiratory overload.
   b. Promotes collateral circulation.
   c. Improves peripheral circulation.
   d. Does all of the above.

13. A major cause of obesity is:

   a. Inactivity.
   b. Poor posture.
   c. Inability to produce muscle tissue.
   d. Lack of adequate protein in the diet.
   e. Extreme hypothyroidism.

14. Someone who is in condition and who is active may have a resting heart rate of:

   a. 80 to 90 beats per minute.
   b. 14 to 20 beats per minute.
   c. 70 to 120 beats per minute.
   d. 55 to 70 beats per minute.
   e. The average for the general population.

15. Aerobic capacity is the:

   a. Maximum carbon dioxide release.
   b. Amount of energy produced by the body.
   c. Maximum oxygen intake of a person.
   d. Point of fatigue.
   e. Amount of energy needed to perform daily activities.

16. In Cooper's 12-minute run/walk test, a person's fitness category is determined by:

   a. The ratio of running to walking.
   b. The distance covered.
   c. The pulse rate at the end.

17. Tobacco addiction and most of the cardiovascular damage done by smoking are caused by:

    a. Nicotine
    b. Tar.
    c. Carbon monoxide.

18. The characteristic drug of tabacco is known as:

    a. Tar.
    b. Nicotine.
    c. Phenol.
    d. Benzopyrene.

19. The most extensively used of all mind-altering drugs in America is

    a. Nicotine.
    b. Caffeine.
    c. Marijuana.
    d. Carbonic acid.

20. Which of the following drugs is the most responsible for acute poisoning cases admitted to hospitals, for the largest percent of suicides, and the largest percent of accidental deaths?

    a. Alcohol
    b. Nicotine
    c. Amphetamines
    d. Barbiturates.

21. When an immediately pleasurable feeling, or euphoria, is experienced after taking a drug, the feeling is termed a

    a. rush
    b. run.
    c. rise
    d. bummer.

22. When the dosage of a drug must be continually increased to achieve the same effects, the user is developing a :

    a. continuous vertigo.
    b. tolerance.
    c. cyton projection.
    d. spasm.
    e. habit.

23. The withdrawal syndrome of the alcoholic is known as:

    a. cold turkey.
    b. coming down.
    c. a bummer.
    d. delirium tremens.

24. The food value of alcoholic beverages could be described as:

    a. High in vitamins, proteins, and calories.
    b. Low in vitamins, proteins, and calories.
    c. High in vitamins and proteins, low in calories.
    d. High in proteins, low in vitamins and calories.
    e. High in calories, low in vitamins and proteins.

25. An individual suffering psychological pain but able to cope with his environment and function is likely to be considered:

a. crazy.
b. psychosomatic.
c. psychotic.
d. neurotic.

26. When we give plausible reasons for some behavior that stems from other causes we are using:

a. rationalization.
b. repression.
c. projection.
d. substitution.

27. Automatic responses that help one alleviate or avoid stress, rather than solve the problem causing it, are known as

a. allegations.
b. repressive behavior.
c. defense mechanisms.
d. the displacement syndrome.

28. The act of transferring an emotion from the situation that caused it to a less stressful situation is called:

a. avoidance.
b. denial.
c. compensation.
d. displacement.

29. Phobia:

a. an unrealistic fear of an external object or situation.
b. the unconscious and conscious mental processes.
c. self-love.
d. a sin.

30. Self-actualization means:

a. to be totally independent of others.
b. to reach one's full potential.
c. to be self-educated.
d. to be a "self-starter".
e. about the same as narcissism.

31. Regarding ego-defense mechanisms:

a. their use is a sign of weakness.
b. their use is recognized as necessary and valuable in dealing with stress.
each mechanism can be classified as either desirable or undesirable.
c. each mechanism can be classified as either desirable or undesirable.
d. their use is a sign of emotional illness.
e. most people never have to use them.

32. Which of the following would not be classified as a psychosomatic reaction?

a. asthma.
b. epilepsy.
c. peptic ulcer.
d. tension headaches.

33. Schizophrenia:

a. rape.
b. self-love.
c. split from reality.
d. pleasure by inflicting pain.
e. unusual motor activity.

34. Most common cause of obesity is:

a. heredity.
b. lack of adequate exercise.
c. endocrine dysfunction.
d. a diet high in calories.

35. The principal use which the body makes of proteins is:

a. for quick energy.
b. to aid digestion.
c. for growth and replacement of tissue.
d. to add bulk to the diet and thus prevent constipation.

36. Which one of the vitamins is found in citrus frutis, tomatoes, green peppers, and broccoli and is necessary for the prevention of scurvy?

a. thiamine.
b. riboflavin
c. pyridoxine
d. ascorbic acid

37. Some amino acids are called essential because:

a. every protein molecule must include one of these.
b. they do not contain nitrogen.
c. they cannot be produced within the body.
d. they can be produced within the body.
e. a person really does not need these in his diet.

38. Because water is considered so essential to the body, a safe guide to water consumption shoude be:

a. drink 2 quarts of water every day without exception.
b. drink at least one glass per 25 pounds of body weight per day.
c. drink merely what one's thirst dictates.
d. drink slightly in excess of what one's thirst dictates.
e. drink as little water as possible, especially while eating.

39. If a housewife generally overcooked her food, she would be apt to destroy:

a. vitamin C.
b. vitamin B.
c. vitamin D.
d. niacin.
e. any two of the above.

40. Carbohydrates include sugars and starches.

a. true b. false

41. Water pollution can be caused by

    a. sewage contamination.
    b. chemical agents.
    c. nitrates.
    d. all of the above.

42. The science that studies the realtionship between living things and their environment is:

    a. ecology.
    b. biology.
    c. zoology.
    d. physiology.

43. Which of the following contributes the most to noise pollution?

    a. motorcycles
    b. subway trains
    c. jet planes at takeoff
    d. average traffic

44. Thermal inversion refers to:

    a. the production of pollutants by heat.
    b. the entrapment of polluted air in an area as a result of atmospheric conditions.
    c. the production of carbon monoxide by the internal combustion engine.
    d. al of the above.

45. Which federal agency actively fights fraudulent health practices?

    a. the federal bureau of investigation.
    b. the food and drug administration.
    c. the bureau of Indian affairs.
    d. the department of labor.

46. Your best line of protection against suspected health frauds, fakes, quacks, and rackets is:

    a. to study their statistics.
    b. to talk to people who have presumably benefitted by them.
    c. to review their literature carefully.
    d. to check their claims against reliable sources.

47. Health food faddists have a legitimate concern, because it has been scientifically established that:

    a. food that is not grown organically or naturally is of little nutritional value.
    b. there are a certain few products that contain essential nutrients not commonly found.
    c. the American farmer's soil is sadly depleted of most essential minerals and that food grown on such soil will lead to malnutrition.
    d. none of the above.

48. In contrast to the quack, an ethical physician:

a. never guarantees a cure.
b. publishes a letter of testimony from someone he knows he has really cured.
c. belittles the use of surgery and drugs.
d. not uncommonly rents space in a department or discount store.

49. Which of the following professions requires a medical degree?

a. clinical psychologist
b. medical-social worker.
c. social psychologist.
d. psychiatrist.

50. The best trained person for treating problems of the eye is the:

a. optician.
b. optometrist.
c. ophthalmologist.
d. otologist.

VITA 2

Danny J. Ramsey Ballard

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARISON OF DIRECT AND INDIRECT HEALTH INSTRUCTION AND ITS EFFECT ON STUDENTS' ACQUISITION OF HEALTH KNOWLEDGE

Major Field: Higher Education

Minor Field: Health, Physical Education, and Recreation

Biographical:

Personal Data: Born in Carthage, Texas, February 10, 1944, the daughter of Mr. and Mrs. Hershell Ramsey.

Education: Graduated from Garrison High School, Garrison, Texas, in May, 1962; received Associate of Arts degree from Lon Morris Junior College in 1964; received Bachelor of Science in Education degree from University of Houston in 1966; received a Master of Science degree from University of Houston in 1975; completed requirements for the Doctor of Education degree at Oklahoma State University in December, 1982.

Professional Experience: Public school educator in Houston School District, 1966-1968; Pasadena, Texas School District, 1969-1974 and 1975-1977; teaching assistant University of Houston, 1975-1976; Instructor in the School of Health, Physical Education and Leisure Science at Oklahoma State University, 1977-1982; member of American Alliance of Health, Physical Education, Recreation and Dance, Association for Advancement of Health Education and Oklahoma Alliance for Health, Physical Education, Recreation and Dance.