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A study of school health programs in selected public schools in Iowa, kindergarten through twelfth grade

by

Earl Prentiss Murphy

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
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DOCTOR OF PHILOSOPHY

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TABLE OF CONTENTS

LIST OF TABLES

DEFINITION OF TERMS

Health education	...the process of providing learning experiences which favorably influence understandings, attitudes, and conduct in regard to individual and community health (28, p. 7).
School health services	are the procedures carried out by physicians, nurses, dentists, teachers, and others to appraise, protect, and promote the health of students and school personnel. Such procedures are designed (a) to appraise the health status of pupils and school personnel; (b) to counsel pupils, teachers, parents, and others for the purpose of helping pupils obtain needed treatment or for arranging school programs in keeping with their abilities; (c) to help prevent communicable diseases; (d) to provide emergency care for injury or sudden sickness; (e) to promote optimum sanitary conditions and to provide proper sanitary facilities; and (f) to protect and promote the health of school personnel (55, p. 3).
Healthful school environment	is a phrase that embraces all efforts to provide at school physical, emotional, and social conditions which are beneficial to the health and safety of pupils. It includes the provision of a safe and healthful physical environment, the organization of a healthful school day, and the establishment of interpersonal relationships favorable to mental health (55, p. 2).
Correlation	The program of correlation involves the use of other areas within the curriculum as vehicles by which health material is taught. There is much of personal and public hygiene which may be taught in the biological sciences, the social sciences, home economics, and other curricular areas (31, p. 55).

Integration	Integration differs from correlation in that it infers by definition an organization of learning experiences around a central objective. It has three applications in contemporary education: integration applied to the curriculum, integration applied to the total school program, and integration applied to the developing child or to the student (31, p. 55).

PREFACE

I have long been desirous of researching the character of School Health Programs in a state school system.

I spent a total of seven years working in the field of health education with a state health department. During this tenure I attended many conferences, seminars, and workshops that had as their major emphasis an exploration of the status of school health.

I spent several years pursuing graduate training in the field of health education with some emphasis on school health. I have participated extensively on various health councils and committees involved with public and school health. Opportunities were made available to me to observe and participate in the work of health and education departments in three states.

As a result of this training, exposure and experience, I developed the principal rationale for this study, viz., that there is a serious gap between what is proposed in school health, and what is actually being done.

One has only to attend a major conference of any professional health organization to hear the frequent mandates for improving school health. One has only to sample the writings in professional health and education publications for any given month to read a variety of exhortations for improved or expanded School Health Programs. Many lament the prevalence of health problems that require remediation, and cite the school as the medium through which improvements can be effected.

All stress the value of education in preventing health problems.

The textbook market is flooded with materials extolling the virtues of "effective" and "meaningful" School Health Programs. A constant stream of health literature emanates from official and voluntary health agencies, all stressing the necessity of preventing dangerous health conditions.

Special health programs are offered continually through the major networks, ETV, and radio. The message has even appeared in Playboy. It is evident that there is no dearth of health messages and proposals for consumption by the American people. But somehow, somewhere, something seems to be missing. The missing "something" is a well-planned, organized, and coordinated School Health Program dedicated to and capable of effecting changes in health behavior and attitudes that will produce optimum health opportunities for the student.

This study is dedicated to the proposition that health in the schools is vital and important and can be effective in changing health attitudes and behavior. Hopefully the results of this investigation will prove useful to people interested in health education.

INTRODUCTION

Health--the Historical Perspective

Health, as one of the basic axiological dimensions of life, is certainly not a new concept. Evidence of its importance pre-dates recorded history in the form of artifacts and evidence uncovered by archeologists and paleopathologists. Early man made rather elaborate provisions for the health-related aspects of his day-to-day life. Special places were set aside for burial of the dead, for menstruating and parturient women, for disposing of human excreta, for food storage, etc. These provisions stand as mute testimonials to primitive man's recognition of their importance to his health and well-being.

The study of recorded history provides us with further evidence of the importance of the health dimensions in early civilizations. All of the original civilizations--the Nile Valley, the Fertile Crescent, and the Indus Valley--placed a high priority on health. According to Wain, (51, pp. 3-6) they all built some forms of cisterns, fresh water transport systems, sewers, and drains. In the medical arts they opened skulls, set bones, trephined, and bled. Theology and medicine became hopelessly entwined. Men attributed illness and injury to demons and spirits. They believed the gods had to be placated or famines and epidemics would be widespread. Man was evil, and the gods were wrathful, jealous and vengeful. As a result, a caste of priest-physicians arose. They devised elaborate rituals to ward off the visitation of sickness and death--a practice that was to last for

thousands of years among the peoples of the major civilizations. The contributions of some of these civilizations should be considered.

The Hebrews gave us the Bible, parts of which are probably the first sanitary code ever written. Rules of hygienic conduct are to be found in Leviticus, Numbers and Deuteronomy. Referred to as the Mosaic Code, they contain regulations governing circumcision, foods that should not be eaten, disposal of human wastes, hygiene of the camp site, etc. The wrath of Jehovah, instead of demons and spirits, was believed to be the cause of disease and death (51, pp. 7-11).

The Greek civilization first developed the concept of naturally caused diseases, and our modern scientific practice of medicine can be traced to them. To be sure, the Greeks did not completely dispense with the mystical. The prime example of this is the "cult of Asclepius". Asclepius was a chthonian god who had distinguished himself as a soldier-healer in very early Greek mythology. As a reward, he had been deified, whereupon he produced two daughters: Hygeia and Panacea. He also gave us the caduceus, which is still the symbol of the medical profession today. The Greek who figured most prominently in health was Hippocrates. A philosopher-physician and Asclepiad, he was the first to engage in the scientific approach to health and medicine; although, to be sure, he never divorced himself from the mystical. He was known to have consulted the oracle on occasions for guidance in his medical practice. Even though his observations were replete with error, he was the medical and health source authority until the middle ages (51, pp. 12-16).

The next great Western civilization to make contributions to health were the Romans. They took what the Greeks had developed, and added their amazing organizational ability. They developed the first hospitals, instituted insurance plans, and appointed health officers and sanitation inspectors. They built water transport systems that brought fresh mountain water for many miles. It was also the Romans who gave us the idea of preventive medicine, although we did not really apply the concept until the modern era (51, pp. 17-28).

Constantine declared Christianity the official religion of the Roman Empire in 313 A.D. From this point on, matters of this world became secondary. Man began to look toward eternity. Consequently health and hygiene declined in importance, even to the point of fanaticism. It was, for example, considered a serious offense for one to look upon one's own body. Bathing had to be done in the dark, or with clothes on. Animals inhabited the same dwellings with people. Human excrement and household wastes were thrown in the streets. Where health was concerned, it truly was the "dark ages".

Not all was dark, however, for as the barbarian hordes threatened the gates of Rome, Constantine and his entourage managed to salvage most of the accumulated knowledge, in the form of manuscripts and scrolls, which he transported to the Eastern Empire, where the learned men of science and their works remained virtually unmolested until the Seljuk Turks conquered the Eastern Empire in 1453.

Meanwhile, Western Europe began to slowly regain some of its former light in the eleventh century. There was renewed interest in man as an

individual. There was a concomitant renewal of interest in the Liberal Arts and Sciences. Health, hygiene and medicine were once again given priority largely as a result of the great epidemics that followed the course of the Crusades and decimated populations on every continent (51, pp. 54-85).

Then came the modern era with its catalog of discoveries: Van Leeuwenhoek, with his interesting avocation of grinding glass, gave us the first practical microscope; Vesalius began dissecting the human body to get a closer look at how it really worked; Harvey introduced us to the real function of the heart and circulation; Lavoisier described the process of respiration; Jenner perfected a vaccination for smallpox (which was, by the way, not put to use for over a half century later); Pasteur firmly established the "germ theory" of disease and gave us vaccinations for rabies and a process for purifying milk; Pinel, Charcot and Freud performed fascinating experiments with the mind. And in even more modern times, the names of Salk, Sabine, Cooley, Barnard, Watson, Crick, and others deserve honorable mention (51, pp. 100-120; 132-249; 359-391).

And so, each generation adding to the discoveries of previous generations has provided us the wherewithal to prevent and treat disease, to rehabilitate residual capacities, and otherwise live a quality of life virtually undreamed of a scant fifty years ago. We are now entering an era of organ transplants, genetic manipulation, test-tube fertilization, and space medicine, and the final chapter is not yet written.

One of the most interesting aspects surrounding the whole developmental process relating to health is a rather recent phenomenon, "Health Education". In all that has been mentioned before, from antiquity to the present, it was only slightly over two hundred years ago that anyone suggested teaching the ordinary citizen about health and hygiene. How this came about, and what has happened since merits further consideration.

Health Teaching Enters the School

A definitive history of how health education entered the school has never been written. The reason for this is perhaps based on the fact that so many developments took place almost simultaneously that it would be rather difficult to pinpoint any single etiological factor. A consideration of some of the causative factors will prove beneficial.

In the U.S. one of the first references to the consanguinity of health and education comes from Benjamin Franklin in the 1749 proposal for his Academy.

> That to keep them in health, and to strengthen and render active their Bodies, they be frequently exercis'd in Running, Leaping, Wrestling, and Swimming, etc. (9, p. 402).

Granted, the major emphasis was on the physical, which is only one dimension of health education, but at least it was a beginning.

The next most notable recommendation for including health education in the schools came from Horace Mann in 1842. His suggestion, however, was not well received. The gradual inclusion of health education in

the schools actually began as a result of a report made to the Sanitary Commission of Massachusetts in 1850 by Lemuel Shattuck, a friend of Mann's (44b, pp. 178-179).

Shattuck had been commissioned by the legislature to make a survey of the Boston area to determine its health status. His report, by pointing out the filth and general poor level of health and sanitation, spurred the beginning of the public health movement in the United States. Chief among his recommendations was an emphatic proviso for health instruction to alleviate and prevent health problems. Shattuck's recommendation, like Mann's did not generate immediate enthusiasm. However, his report led to emphasis on public health, which, in turn, led to important developments in getting health education in the schools.

Developments From the Turn of the Century to the Present

A signal event in the development of health education was the child study movement. This movement began in the early 1880's and 1890's as a result of the introduction of the educational theories of Rousseau, Froebel, Pestalozzi, and Herbart. The impact of this kind of education was on understanding the needs of children and meeting these needs through suitable educational methods. The systematic study of physical needs was also included.

Another factor to be considered would have to be the influence of the temperance movement of the 1880's. Largely as a result of the work of Carrie Nation and her colleagues, many states made teaching physiology

and hygiene mandatory in the schools, and by 1910 every state in the nation required teaching about alcohol, narcotics and other poisons of the human body (12, pp. 13-14). Still the emphasis was only on the physical dimension of health.

Other factors deserving mention are the inclusion of physical education (due to the influence of the Turnvereins gymnastic movement in the late 1800's) and home economics (introduced as a factor consequent to the industrial revolution) (28, p. 17).

Another factor of considerable importance in the development of health education in the schools was the school medical inspection program. Begun in Boston in 1894, its major purpose was to control contagious diseases. It has since been expanded into a program of school health appraisal and health counseling--two activities of the health services aspect of the School Health Program.

The work and influence of the Committee of Ten (1893) must also be taken into consideration. Their recommendations for school health are summarized in the following:

> Instruction in hygiene adapted to the capacity of young children may be profitably given on the subjects of personal cleanliness; pure air, and the relation of the carriage of the body to healthy respiration; wholesome foods, and moderations and regularity in their use; regular and sufficient sleep; regularity in the body habits; care as to temperature, and prudence concerning exposure; and abstinence from narcotics and stimulants and from drugs generally. The instuction in hygiene for the high-school course may ... discuss matters advantageously which concern the adult,

> though beyond the control of the child; as examples, may be mentioned the subjects of dietetics; of heating and ventilating; of water supply and drainage. Such instruction should now include a consideration of the reasons which underlie the rules of hygiene ... (48, pp. 158-161).

This last sentence is probably the first mention made by a national organization of the importance of the "practicality" of health instruction in the school.

There are other factors, perhaps more subtle, but nonetheless focal, in any consideration of the development of health education in the schools. Not the least of these was political in the presence of American Progressivism. According to Cremin,

> ... progressive education began as a part of a vast humanitarian effort to apply the promise of American life--the ideal of government by, of, and for the people--to the puzzling new urban--industrial civilization that came into being during the later half of the nineteenth century. The word 'progressive' provides the clue to what it really was: the educational phase of American Progressivism writ large. In effect, progressive education began as Progressivism in education: a many-sided effort to use the schools to improve the lives of individuals. In the minds of Progressives this meant several things ... it meant broadening the program and function of the school to include direct concern for health, vocation, and the quality of family and community life (5, p. viii).

Professional and lay people alike seem to have been caught up in this wave of humanitarianism. Settlement houses appeared on the scene as a result of the work of such people as Stanton Coit, Jean Fine, Jane Robbins, Lillian Wald, and perhaps the most famous of all, Jane

Addams of Hull House. These centers became a kind of oasis in the middle of filth and squalor. They were combinations of things: museums, recreational centers, arts and crafts centers, and first-aid stations. They offered hope to people who had none (5, pp. 58-65).

The mood was contagious, and events moved swiftly. In 1909, the American Association for the Study and Prevention of Infant Mortality was formed. Its major objective was the promotion of health education aimed at reducing the numbers of infant deaths through better child care. Its scope was later broadened to include children of school age, and the name was changed to the American Child Hygiene Association. The organizations began to proliferate, and soon another was added to the growing list--the Child Health Organization (46).

The avowed purpose of this latter organization was to place emphasis on the positive side of health education. Literature which would encourage this idea was developed. Instead of making a crusade against disease, the organization instituted a drive for a positive approach to health. Prevention was the key word.

Health education was considered by them to be an essential part of the school curriculum. They stressed the integral relationship that existed between health education, physical education, home economics, school lunches and other school activities in providing a total School Health Program.

One of the original needs found by the organization was for better teacher preparation. As a result, beginning in 1920 and continuing for several years afterward, there was a series of conferences aimed

at teacher improvement.

In 1921, Herbert Hoover became president of the organization, and moved for consolidation of the two major child health organizations; viz., the American Child Hygiene Association and the Child Health Organization. The merger produced the American Child Health Association, and until it was disbanded in 1935, the organization worked diligently through special studies, conferences, seminars, training programs, demonstration, etc., to make better health and better quality of life a realization (46, p. 43).

One of the most interesting activities of the Association was its publication of the Child Health Magazine (4). Although published for only three years, it reads like a diary of everything that was taking place throughout the world in the field of health education in the schools and slum communities.

Induction physicals for World War I turned up an inordinately large number of men who were both physically and mentally unsuited for the draft. This provided some of the impetus for promotion of health education both in schools and through community health agencies. When World War II was declared, there was renewed concern for better school health education. As a result, in 1943, the U.S. Office of Education appointed a committee on War-time Health Education for High Schools. This committee prepared a widely used publication called "Physical Fitness through Health Education" (50). Subsequently, there were a number of publications prepared under the sponsorship of this committee as well as committees of similar organizations.

Another pivotal occurrence in the development of school health education was the convocation of a Mid-Century White House Conference on Children and Youth in 1950. Since that time, there have been similar conferences held about every five years. The conferences are devoted to analyzing progress and laying plans for future accomplishments in the field of health and health education. Out of them have come some rather far-reaching projects that include health teaching methods and concepts and experiments in an effort to up-date health education programs that are relevant and most effective in an age of rapid change.

From the late nineteenth century there has been a close association between education and health professionals. Both fields are dedicated to the premise that health is indeed propaedeutic and indispensable if the most effective learning is to take place. Its importance has either been implied or expressed in every major pronouncement of every major national education association since the turn of the century.

It was expressed specifically in the 1918 report by the Commission on the Reorganization of Secondary Education appointed by the National Education Association. This document designates "Health" as one of the seven cardinal principles or outcomes of education.

More specifically, they had this to say:

> Health needs cannot be neglected during the period of secondary education without serious danger to the individual and the race. The secondary school should, therefore, provide health instruction, inculcate health habits, organize an effective program of physical activities, regard health needs in planning work and play, and cooperate with home and community

> in safe-guarding and promoting health interests ... (49, p. 11).

In 1938, the Educational Policies Commission issued a statement entitled: "The Purposes of Education in American Democracy". Under the educational objective "Self-Realization", the Commission stated that:

> The educated person understands the basic facts concerning health and disease.... The educated person protects his own health and that of his dependents.... The educated person works to improve the health of the community (30, p. 157).

In 1944, the American Council on Education prepared a report called: "A Design for General Education". In this report, "Health" is placed first on the list of school objectives, and the council's feelings are expressed as follows:

> In the committee's judgment, general education should lead the student: To improve and maintain his own health and take his share of responsibility for protecting the health of others (1, p. 186).

A Mid-Century Conference on Children and Youth was held in Washington in 1950. Dedicated to the "American ideal of a fair chance for every child", the conference set itself the task of identifying the needs and problems of American youth. It also sought solutions to these problems, as well as the wherewithal to meet their needs in terms of identifying the various community responsibilities and resources. Chief among their recommendations was health education.

In summarizing their recommendations, the conferees concluded that:

> ... since health is recognized as an important objective of education, the teaching of health ought to be given more time in the curriculum, and the teachers of health ought to be better prepared. 'Health Coordinators' or teachers especially trained in the field of health should be appointed for counties or school districts (35, p. 176).

This statement confirms the same kind of recommendations made by the American Child Health Association in 1909.

The group concurred in the opinion:

> ... that the school as a whole has an opportunity and a responsibility to detect the physical and mental disabilities which have escaped parental or preschool observation and which prevent the development of a healthful personality, and to initiate the necessary health service through the various agencies and resources of the community (35, p. 176).

In 1955, representatives of health and education from over the nation met in Washington, D.C., for a White House Conference on Education (28). As past committees had done, they attempted to define the objectives of education.

Once again, a group of nationally prominent educators, physicians, and public health professionals convened to wrestle with the age-old question: "What should the school accomplish?"

In answering the question it was agreed that "the schools should continue to help each pupil develop (as one of its prime objectives) ... physical and mental health" (28, p. 4). And, once again, a long list of recommendations and objectives were advanced for the nation to

see and warm to. Many of the same pronouncements of former national commissions were reaffirmed, and many others generated. And, as before, health was presented as one of the major desired outcomes of education.

And in 1959 the Educational Policies Commission in its publication, "An Essay on Quality in Public Education", emphasized the importance of teaching the essentials of safety, personal health, and physical coordination in the elementary curriculum. In a further statement about the essentials of secondary curriculum, the Commission said that "The programs of all secondary-school students should include ... physical and health education" (29).

The Contribution of the National Education Association and the American Medical Association in the Development of the School Health Program

As early as 1924, the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association published a kind of manual for the development and application of health teaching in America's schools. The publication was called Health Education, and was subsequently revised five times, the last revision coming in 1961 (28).

A second book in the NEA/AMA trilogy entitled, School Health Services, appeared in 1954 (later revised in 1964). This work

> ... describes the health responsibilities of the schools and emphasizes the need for coordination

> of school efforts with those of parents, departments of health, private practitioners of medicine and dentistry, and community health agencies. Particular attention is given to the role of the teacher in school health services and to the desirability of utilizing service activities for health education purposes (55, p. iii).

The final companion piece, Healthful School Environment, was compiled by the same joint committee, and released in 1957, with a complete revision in 1969. The stated purpose of this book is:

> ... to emphasize the importance of ecology of pupils' school experiences and to fit more closely the familiar triumvirate of education, services, and environment. In this context, environment includes the activities carried on in the classroom and other instructional areas and the experiences and relationships that give the school its emotional climate (56, p. iii).

Together, these three publications represent the most authoritative sources extant for planning, developing and implementing the "total" School Health Program.

We are a far cry from the emphasis on health education alone, to be found during the several decades before and after the turn of the twentieth century. In the gradual development from this early period to the present, increasing emphasis has been placed on the three-dimensional character that health education, health services, and healthful school environment collectively give to produce the most effective School Health Program; a program designed to produce the desired objectives of providing the opportunity for every student to realize optimum physical, mental and social well-being.

Of course, the National Education Association and the American

Medical Association are not the only organizations which have contributed to the development of the School Health Program. Nor are they the only ones interested in this area. Granted, they have been the pioneers and are perhaps the most authoritative sources, but there have been other organizations who have made invaluable contributions. They include: The American School Health Association; The American Association for Health, Physical Education and Recreation; The American Public Health Association; The American Association of School Administrators; The School Health Council; and the American College Health Association. In addition, most of the voluntary health agencies are interested in school health; e.g., Heart Association, Cancer Society, TB Association, Birth Defects Foundation, etc.

More recently, federal agencies have become involved in School Health Programs. These include the various agencies under the Department of Health, Education and Welfare, the Office of Economic Opportunity, VISTA, and particularly the U.S. Office of Education, and the various Task Forces promulgated by the President's office to do periodic studies in this area.

This brief historical summary of the work of national commissions and their pronouncements, as well as an inventory of the many agencies and organizations that dedicate their efforts to the advancement of school health, seems to lend credence to the supposition that there is certainly no paucity of interest in the development and maintenance of meaningful and effective School Health Programs. The remainder of this study will address itself to an analysis of this supposition.

REVIEW OF LITERATURE

In the introductory chapter, historical and developmental highlights were presented to establish a continuity between the characteristics of school health as it was in its inception in this country, and the nature of school health as it is today.

In light of the historical and descriptive nature of this study, along with the actual application of the investigative technique, the review of related literature will assume a twofold character: 1). literature that describes the development of health emphasis in the school; and 2). a sampling of works related to current research, developments, and proposals in the field.

One of the earliest health textbooks to appear on the school health scene was Mary Hunt's Hygiene For Young People in 1884 (21a). The tone of the book is set in the preface statement:

> An act relating to the Study of Physiology and Hygiene in the public Schools (New York) Section 1. Provisions shall be made by the proper local school authorities for instructing all pupils in all schools supported by public money or under State control, in physiology and hygiene, with special reference to the effects of alcoholic drinks, stimulants, and narcotics upon the human system (21, Preface).

The rhetorical flavor of the introduction by A. B. Palmer strengthens the focus of this act when he says,

> Being profoundly impressed with the enormous evils to our race produced by the habitual use of narcotics, including alcohol, opium, and tobacco, I can but rejoice at the promising effects to make obligatory in the public schools the teaching of Physiology and Hygiene, with special

> reference to these narcotics.... Of the diseases, degeneracy, the vices, and the general ill-being produced by the alcohol habit, all observers must be aware.... The evils of the opium habit are scarcely less.... The tobacco habit ... is doing an amount of mischief, especially with boys ... (21, pp. 5-6).

A list of some of the book's contents is worth viewing: Alcohol, Fermentation, Distillation, Tobacco, Opium, Bones, Muscles, Food, Digestion, Respiration, The Skin, Animal Heat, and Special Senses. Almost all of the chapters, regardless of the chapter heading, are concerned with the "evils" of alcohol and tobaccco.

In 1914, one of the first textbooks with a broader scope for school health appeared. It was Lewis Terman's The Hygiene of the School Child (47) and was more comprehensive than Hunt's textbook. Elwood P. Cubberly edited it, and his introductory remarks reflect my sentiments in establishing a rationale for this study:

> The editor of this series has long held that an efficient teacher should know something as to the fundamental principles of child hygiene, and that a school principal should, in addition, know the fundamentals of schoolhouse hygiene. For the schoolhouse hygiene we have, for some time, had a number of fairly serviceable texts, but of books relating to child development and the hygiene of instruction we have had but little in any form that teachers could use. Only recently may we be said to have come into the possession of such knowledge, and most of it is still locked up in medical and psychological journals and books (45, Editor's introduction).

Some of the health topics in the book show the expanded scope of textbooks of this period: The Broader Relations of Educational Hygiene, The Physical Basis of Education, The General Laws of Growth, Disorders

of Growth and the Hygiene of Posture, Malnutrition, Tuberculosis, Physiology of Ventilation, The Teeth of School Children, Hygiene of Nose and Throat, Headaches, Preventive Mental Hygiene, and Some Evil Effects of School Life.

Another exemplary health textbook of the same period was Dresslar's School Hygiene (6a). Somewhat more extensive than Terman's work, it focused on student health and schoolhouse hygiene. It is also one of the earliest textbooks to stress the importance of the school's physical plant and its relationship to learning; e.g., lighting, ventilation, open-air schools, humidity, safe water, plumbing, and desk size.

Even more comprehensive a work than Dresslar's was Rapeer's Educational Hygiene (36). The author's prefacing statement sets the focus for the book:

> The remarkable movement for the improvement of school and community health in the last decade has brought the school into such close and intimate relationship with the health work of the home and the community that 'school hygiene' is hardly broad enough as a term to include the various health aspects of bringing up children.... Educational hygiene ... is desirable as a term, since the subject is now taking its place in professional schools for the training of teachers as correlative with educational psychology, educational sociology, educational philosophy, educational history, educational administration, and the like (36, p. v).

With this statement, it becomes apparent that the movement in school health is beginning to take on new dimensions. It is a far cry from emphasis on alcohol, narcotics, and tobacco--the sources of so much concern in the textbooks just prior to and shortly after the turn of the twentieth century. The emphasis was now swinging to a burgeoning

new phenomenon: total community involvement in all aspects of health.

Topics such as sex education and education of the mental deficient began to appear with greater frequency, and by 1928, a most voluminous and encyclopedic health textbook was published: Kerr's The Fundamentals of School Health (23). This work contained 853 pages, and covered almost every conceivable health-related topic to that date: heredity, the foot and spine, tonsils, school sites and buildings, stammering, left and right-handedness, sex education, sleep, and even a chapter on statistics. It rivals modern textbooks for content and readability.

In 1936 a signal work was published and represents a milestone in the development of school health. The work, by Hardy and Hoefer, was entitled Healthy Growth, A Study of the Influence of Health Education on Growth and Development of School Children (15). The longitudinal study was begun in 1923 and completed in 1935, and involved a research project

> ... undertaken by the Elizabeth McCormick Memorial Fund at the request of superintendant of the city schools of Joliet, Illinois.... The specific problems of this research were to determine: (1) the extent to which participation in a broad health-education program during childhood tends to influence rate of growth and development; (2) the effectiveness of present methods of health education as a means of improving health condition; and (3) the importance of positive health as a factor in the course of growth during the last twelve years of the developmental period-(eight to twenty years) (16, p. 2).

With the advent of this work, the dimension of school health research was added.

In 1937 when Chenoweth's and Selkirk's School Health Problems (3)

appeared, the school health movement had been going on long enough for the authors to include a chapter on its history. Directives and program suggestions for school health administration activities also began to appear about this time. In addition, school nurses and audio-visual teaching aids were becoming more a part of the School Health Program. This work was also representative of a newer category of publications: viz., those directed toward the preparation of education students anticipating the responsibility of teaching health.

No noticeable changes had occurred in school health textbooks for almost a decade, when Oberteuffer's School Health Education (31a) appeared in 1949. His work focused mainly on the teaching aspect itself, with emphasis on planning for effective teaching, specific and direct teaching, correlation and integration of health teaching with other areas of the school health program, course organization, teacher preparation in health, etc. More than anything else, it was a guide for School Health Program development and implementation, as opposed to a textbook devoted exclusively to health education content.

A noticeable development at this time, and perhaps the turning point in emphasis in the field of health, was the beginning use of the World Health Organization's definition of health. It represented a newer "philosophical" premise upon which community and school health would be based. It stated that "Health is the state of complete physical, mental, and social well being, and not the absence of disease or infirmity" (34).

In the 1950's, and continuing to the present, a large number of textbooks similar in scope and content to those published in the preceding two decades were published. Random examination of the tables of content of any of these will produce essentially the same topics and emphases. Many of the newer textbooks in use today are revisions of previous editions by such outstanding workers and authors in the field of health as Grout (12), Haag (13), Harnett and Shaw (16), Irwin et al. (22a), and Kilander (24). Their works represent a group of health textbooks that could be labeled "modern" in terms of up-to-date content, and broadened scope based on the World Health Organization's definition of health.

It must be emphasized that these are not the only health textbooks that appeared in the late forties, fifties, and early sixties. They are only samples of the period. Most of these works have been revised several times, and are in active use in many colleges and some public schools.

More recently, several outstanding health books have appeared, some new, and some revisions of previous works, but outstanding enough to deserve mention: Mayshark's and Shaw's Administration of School Health Programs (27); Mayshark's Health Education in Secondary Schools (26); Creative Teaching in Health, by Read and Greene (38); Health and Social Problems in the School, by Morris and Marian Hamburg (14); Teach Us What We Want to Know, by Byler, Lewis, and Totman (2); Fulton and Fassbender's Health Education in the Elementary School (10); and Wilgoose's Health Teaching in Secondary Schools (53).

This is not an exhaustive list of current textbooks in health being used today, but is only a representative list of works felt by the researcher to be the most relevant, readable and effective.

Paralleling the development of school health textbooks was the growth of a number of professional organizations, each with its own publication, interested in promoting both public and school health. In an address made before the 1873 annual meeting of the American Public Health Association, the Honorable Andrew D. White, President of Cornell University, had this to say:

> The proposition to which I ... speak especially is this--that provisions shoud be made for instruction in Human Physiology, Hygiene, and Sanitary Science in all departments of Public Instruction (52, p. 140).

President White's remarks are representative of a number of such recommendations and exhortations appearing in conference proceedings and other meetings of such organizations of that period.

A number of contributed articles began to appear in professional journals; generally accounts of work and/or experiences encountered in school health. One such article appeared in the 1918 edition of Public Health Journal, and expresses the sentiments of one Winnifred Read, a school nurse in Halifax, Nova Scotia:

> The primary object of school nursing is health education. The nurse endeavors to teach the child the laws of health and to train him in practical hygiene, right habits of living and the importance of a clean life.... If you could but come with me to the many miserable and dirty homes of some school children where morals seem unknown you would realize that by giving them a school nurse you were at least sending a ray of sunshine to many weary and lonely little hearts (39, pp. 431-433).

A 1908 article entitled "Medical Inspection of Public Schools", gives a vivid account of the beginnings of this practice in Michigan schools in 1906. The author, Dr. Elliott Herdman, had this to say:

> The medical inspection of schools is a marked stride in advance in modern sanitation, for it not only means establishing and preserving the health of this, but of the coming generation.... The government of this and other states makes it compulsory for a child to attend the public school, and should therefore supervise the physical welfare, as well as the mental development of the child (19, p. 19).

Other developments were unfolding in the field of school health, particularly in school sanitation. A rather humorous account of "The Perils of Education in New York and Brooklyn" appears in an 1879 issue of The Sanitarian. A city sanitarian, and inspector of sanitary conditions in the schools, laments his unsuccessful attempts to eradicate the filthy conditions. In a letter of resignation, couched in appropriately diplomatic but caustic rhetoric, he recounts his five-year attempt to get school board cooperation in removing pigeon coops from ventilators, repairing out-houses, patching cracks in walls and replacing fallen bricks, all to no avail. One can surmise that these insanitary conditions of which he speaks served as the stimulus and "ammunition" for those who were beginning their campaigns for improved school health conditions in the several decades preceding the twentieth century.

The entire 1892 issue of Pedagogical Seminary was devoted to health in the schools. In the words of its editor, G. Stanley Hall,

> Sooner or later everything pertaining to education, from site of the buildings to the contents of every

> text book, and the methods of each branch of study must be scrutinized with all the care and detail at the command of scientific pedagogy and judged from the standpoint of health. What shall a child give in exchange for his health, or what shall it profit a child if he gain the whole world of knowledge and lose his own health? (32, pp. 7-8).

This said, Hall and his colleagues proceeded to outline in great detail all the things necessary and minimal for the protection of the health of the school child.

The national government became involved about this time. Beginning in 1919 and continuing until 1927, the United States Bureau of Education began publishing a series entitled Health Education. Each issue was devoted to a separate topic in the school health program, and presented such topics as: Health Teaching in the Elementary Schools, Diet for the School Child, Summer Health and Play, Teaching Health, The Lunch Hour at School, Health Teaching in High School, and Better Teeth.

It is also noteworthy that a number of national and international organizations dedicated to promoting child and school health were formed about this same period. All had their publications, journals, and reports. A sample of these organizations includes:

> The American Public Health Association (1873)
> The American Association for the Study and Prevention of Infant Mortality (1909)
> International Congress on School Hygiene (1913)
> American Student Health Association (1922)
> World Federation of Education Associations (1923)
> The American Child Health Association (American Child Hygiene Association) (1923).

And the committee which formulated the standards on which this study is based--the Joint Committee on Health Problems in Education of

of the National Education Association and the American Medical Association--was formed in 1918, when the two major national organizations felt the need for a combined approach to school health problems.

The number of organizations promoting school and child health has proliferated in the intervening years since the above organizations were formed. Some of these include:

The American Association of Health, Physical Education, and Recreation
The American School Health Association
The International Society of Public Health Educators
The Association of School Administrators
The Association of School Boards
National Elementary Principals Association
The American College Health Association
The various state Public Health Associations
(Most of the above organizations have state affiliations).

This developmental and historical presentation of textbooks, professional publications, and organizations devoted to school health is combined with a sampling of current works related to the research aspect that is the main focus of this study.

An exhaustive search was made in all of the recommended research indexes in an effort to bring to light research with similar focus and emphasis as the present study. The search produced only one research project in the last ten years directly related to the study at hand. There were, however, several studies conducted within that same period that were, while not directly related, of such significance that they should be included as preambles that are exemplary in laying the groundwork for this study.

First, the directly related study. In 1967, the United States

Office of Education sponsored a project to study the administrative patterns of School Health Programs in six states. The project, entitled "A Descriptive and Comparative Study of the Administrative Patterns Operative in Six School Health Programs", was conducted by Cyrus Mayshark and sought

> ... to fill, in part, a void which has persistantly existed in the literature regarding a most important aspect of school health programming. To wit, there is very little descriptive and comparative data now available to the practitioner or researcher about the administration of on-going school health programs. It is hoped that as the data of this and subsequent studies are contributed to the literature, effective patterns of administrative practice will emerge and that the relative effectiveness of each in context of varying and accelerating community change may be ascribed (25, p. 2).

An analysis was made of the six School Health Programs in the context of traditionally accepted program components: health instruction, health services, and healthful environment. The analysis centered around four major points:

1). the relationship of administrative organization to the quality of the School Health Program,

2). the relationship of the quality of school health programs to the source and extent of fiscal support,

3). the relationship between administrative organization and the maintenance and/or improvement in student health,

4). the effect of administrative organization and the relationships on the effective integration of the three phases of the School Health Program.

The major finding of the study centered around the highly varied character of the six state programs; most differing particularly in the administrative organization and source of funding for health programs.

In every instance, the study schools failed to provide, in the opinion of the author and other leaders in the field of health, adequate administrative support to their school's health program.

A number of recommendations were made. Chief among them was that a course in the administration of School Health Programs be included among requirements for public school superintendency.

While the main focus of Mayshark's study was on the administrative aspect, many of the same conclusions were drawn for his study as for this one.

Another study of import that relates only to one phase of this study, viz., health education, is of such impact that it also deserves special consideration. In 1960, three outstanding representatives of health and education in the United States, Drs. Granville Larimore, Irving Tabershaw, and Edward Sheckman--the latter two associated with the Samuel Bronfman Foundation--met to discuss the establishment of priorities in health and education. Dr. Larimore, having just completed a term on the NEA/AMA Joint Committee on Problems in Education, suggested School Health Education as the top priority, and proposed a national study to determine the status of this area in the nation's schools as a basis for developing reliable data on which to base a relevant and effective program of school health instruction. Thus, with funding from the Bronfman Foundation, the School Health Education Study (SHES) was begun.

Ole Sand, Director of the Center for the Study of Instruction, National Education Association, aptly describes the thrust of the study:

> The School Health Education Study is a demonstration of theoretical and practical thinking. Wherever the thinking which guides this study is shared, the meaning of health education will be deepened. This volume represents ... the most thorough analysis yet made of the field. It marks an important milestone in the progress and development of health education and is, therefore, of great interest to everyone concerned with curriculum and instruction.
>
> Phase One of the curriculum reform movement is over. It focused on academic scholarship, on the structure of separate disciplines, on comprehensive packages of instructional materials, and on in-service training of teachers. The School Health Education Study ... is an excellent example of rational planning in curriculum and teaching.... A conceptual system is clearly delineated by identifying major questions to be answered in developing an instructional program, key concepts that tie the questions together in a system, subordinate questions, and sources of data to be used in answering the questions posed by the system....
>
> The curriculum is viewed as a whole rather than as bits and pieces. At least five essential steps in rational planning are followed: (1) a nationwide survey to determine the state of the field; (2) a statement of priorities, educational outcomes defined as behavioral objectives; (3) the development of three key concepts to serve as a framework, which are in turn broken down into ten concepts that serve as organizing elements for thirty-one subconcepts or substantive points; (4) the designing of instructional materials at four levels: lower elementary, upper elementary, junior high, and senior high; (5) built-in plans for evaluation....
>
> Experimentation in health education bespeaks the vigor of its search for more effective ways of preparing more effective citizens. The search conducted by the School Health Education Study yields rewards of nationwide significance (42, pp. x-xi).

The data-gathering phase of the study was done between 1960 and 1963. Following are some of the general problems uncovered by the study:

1). An unawareness on the part of the general public of the important role of the school in the development of proper health attitudes and skills.

2). Lack of effective communication between schools and medical organizations.

3). Poor and inadequate preparation of teachers in health education.

4). A lack of sincere interest by administrators and curriculum supervisors of the need for health instruction and/or a tendency to regard health education and physical education as one and the same.

5). Little or no working relationship between public and related health agencies and school health personnel.

6). A tendency for people responsible for curriculum planning to give health education low priority.

7). Content areas of health curriculum were repetitious, and specific areas such as venereal disease, consumer awareness, and sex education were completely neglected in the health classes across the nation (38, pp. 7-8).

The data gleaned from this study served as the stimulus for developing the second phase of the study: a textbook entitled Health Education: A Conceptual Approach To Curriculum Design (17), this work serves as a guide to the development and implementation of health curriculums, kindergarten through twelfth grade.

Mayshark's study and the School Health Education Study, while being two of the most significant national studies conducted in the past ten years, are not the only developments of significance. Health and education organizations have increased their activities in this area in notable proportions in recent years. A sample of some of the more recent program activities, recommendations and innovations in the broad field of School Health Programs are presented as evidence of the interest and accelerating work in this field. The following articles

will touch on some of the areas of emphasis in this study such as: physical examinations, follow-up programs, in-service and continuing health education programs, new designs for health education, health certification programs, and teacher preparation and training in health.

Eisner and Oglesby (7) stress the value of physical examinations as part of the school's health service program. They take issue with what they term the prevailing opinion on the part of many physicians that these examinations are a waste of time. They feel that most physicians give only a perfunctory examination, and miss the true value of such a procedure:

> We see that a physical examination can be more than a case-finding mechanism or an educational experience. It becomes an essential part of establishing a productive doctor-patient relationship.... The purposes of routine health assessments are to enable a physician to carry out his broader objectives of providing each child with the opportunity for optimal growth and development (7, pp. 239-242).

And while Eisner and Oglesby insist on the importance of medical examinations, Ratliff (37) sees little value in them unless there are follow-up procedures. She has this to say:

> The school nurse should indeed 'pursue closely and steadily'. For her the contact may be one or many ... there is little need for a physical examination or a screening program in the schools unless a policy exists for 'follow-up' of all defects (37, p. 430).

A vice principal of an elementary school, Barbara Fossett, sums up her convictions about the need for "new" health education, saying:

> For too long we have thought of health education as a state in which we were simply free from disease.... The health curriculum has been a series of actions performed on cue to demonstrate knowledge of facts-- limited facts--without

> interest or understanding, without the quality of personal knowledge being controlled, modified or adapted to environment.... Enter ... the School Health Education Study. Health Education: A Conceptual Approach to Curriculum Design appears on the horizon. This is the most exciting example of curriculum design on your desk today. It not only offers a long overdue stimulant for health education; it also opens the door to a systematic interdisciplinary approach to planning the total school curriculum (8, pp. 61-64).

On the subject of in-service and continuing education, Paul Hillar says:

> One of the most important responsibilities of a school administrator is the development and maintenance of a well-planned program of continuing education for the staff ... the preparation provided for health instruction is usually much less adequate than that which is given for other areas of the elementary school curriculum continuing education.

He goes on to offer suggestions for methods that can be effectively utilized:

> ... some promising procedures for in-service education are: programed instruction, teaching with a master teacher, commercial and educational television, the micro-mini course, closed circuit television, simulation, etc ... (20, pp. 26-29).

In 1968, the School Division of the American Association for Health, Physical Education, and Recreation sponsored a national conference on "Teacher Preparation in Health Education". The conference participants developed recommended minimum standards and guidelines for teacher preparation in health education in secondary schools, and the opening statement of the meeting reflects the concern of this national health organization about the status of health education in the nation's schools:

> Health education in the schools has not had a chance to demonstrate its great potential in many communities because

> of the lack of well-trained teaching personnel.... Schools and colleges offering professional curriculums in health are urged to study the recommendations carefully ... evaluate existing curriculums, and take appropriate actions (40, pp. 31-38).

Having made this assessment and having called for re-evaluation of teacher preparation programs, the committee published a lengthy and detailed list of competency areas deemed basic in any prospective teacher's training in order to insure adequate exposure to needed experiences for teaching health.

One of the members of the conference, Wilfred Sutton, Professor of Health Science at San Fernando Valley State College, presented a report on the results of his 1967 research endeavor in the area of health certification of teachers. A summary of his findings includes the following:

1). Health education is recognized as a teaching major for elementary school certification in only fifteen of forty-three states, for secondary school in thirty-two of forty-three states, and for both levels in fifteen of forty-three states.

2). Health education is recognized as a teaching minor for elementary school teacher certification in twenty of forty-three states, and at both levels in twenty of forty-three states.

3). Health education is recognized as a separate subject in teaching certification in twenty-five of forty-five states, is combined with another subject or subjects in thirty-four of forty-five states, and is recognized as both a separate subject and in combination in seventeen of forty-five states.... Health education can be combined with safety; biology or biological science; physical education and safety; physical education and recreation; and physical education, recreation, and safety in some states.

4). As for preparation in health education being a requirement

> for certification, twenty-one of forty-four states have no requirement at the elementary level ... and twenty-seven of forty-three states have no requirement at the secondary level in health content, the school health program, or health instruction (45, pp. 8-9).

And, finally, this prophetic statement from Willgoose about the condition of health education as he sees it in 1977:

> In its fullest sense school health education in 1977 will have become effective in promoting the health and well-being of pupils because of adequate school health services, a healthful school environment in which physical and human factors are controlled, and health instruction which is carefully geared to the immediate and long range needs of those to be educated. It will be an accepted subject matter area in the curriculum of all elementary and secondary schools.... These programs will require better prepared teachers--teachers with a multi-disciplinary approach to education and willingness to go far beyond the classroom for a continual in-service education. These programs will also require innovation--a kind ... that has hardly been seen today (54, pp. 30-31).

Activities in school health have moved swiftly since Mary Hunt's health textbook first appeared in 1884. But swiftness is not always the criterion that insures success. Much of what has occurred has the aura of "bandwagoneering"--the haste to become a part of the "in" group. It appears, from a review of books and journals, that health was in vogue at the turn of the twentieth century; child health was particularly in vogue.

In searching for a rationale for this phenomenon, one might attribute a great influence to the work of Hall et al. and the "Child Study Movement". A great deal of credit must go to Dewey and the Progressive Education Movement. Certainly the Temperance Movement and the German

gymnastics societies (Turnverein) had their influence.

Another phenomenon was the rapid growth of organizations dedicated to inaugurating and/or improving School Health Programs.

More and increasingly comprehensive textbooks appeared, and health journals proliferated.

National committees composed of outstanding representatives of education and health were formed, and they formulated standards and goals that were the paradigms to be emulated by the schools.

State laws were enacted that required the teaching of physical education, home economics, physiology, and about alcohol, tobacco, and other narcotics.

Government agencies added their authority to the growing phenomenon, and the United States Bureau of Education published its own series devoted to health education in the schools.

New dimensions were added to school health such as: school physicians, school nurses, health screening programs, health teacher preparation programs, newer teaching methods, and health committees.

School health was on its way, or was it?

There can be no denying that advances and improvements have been made in School Health Programs, but certainly not in proportion to the energy expended. It must be admitted that they fall short, in general, of what they could be; far short! The School Health Education Study, and the studies done by Mayshark and Sutton support this statement.

One searches for answers to explain why, when considering the

present effort expended by health and education organizations from local to national levels, and when considering the groundwork laid from Hunt, Dewey, Hall and co-workers to Kilander, Oberteuffer, Grout, Slipcievich and co-workers, School Health Programs are generally inadequate, irrelevant, poorly planned and coordinated, poorly administered and financed, and in some cases nonexistent?

One can raise questions but answers are illusive:

1). Who is responsible for planning and administering School Health Programs?

2). Who establishes the health priority in the school?

3). Who makes the decisions about School Health Programs, and what criteria do they use in their decision-making?

4). What is the source of funding for school health, and who decides how it is spent?

Many more questions can be asked. These are some of the more challenging ones.

STATEMENT OF THE PROBLEM

The preceding chapter emphasizes the importance of health as one of the basic vital dimensions in the life of man. The provisions, attitudes, and contributions of Western civilizations apropos health were highlighted historically and developmentally in order to focus on its importance in the scheme of things as our culture developed through time.

From antiquity to the present, health has been a sine qua non accorded varying emphasis depending on the cultural epoch and unfolding technology. Whatever the era, whether viewed in the perspective of ancient Greece, or the American space age, health has been and is presently a topic of high priority and the subject of great controversy, its true meaning often confusing and illusive.

Especial emphasis was focused on the rather recent development of the concept of education as a means of imparting beneficial health knowledge, attitudes, and encouraging beneficial health practices.

Particular note was made of this development in the schools in the United States as a result of the work of national health and education organizations, as well as the various movements and crusades that lent much needed support to the idea that health could and should be taught as an integral part of the schools' curricular offerings.

This groundwork laid, the previous chapter closed with the rhetorical implication that all of these combined efforts to the contrary

notwithstanding, perhaps there were some significant shortcomings in our School Health Programs today.

The latter statement constitutes the crux of the problem of this study.

It is proposed that an analysis of selected public schools, kindergarten through twelve, in the state of Iowa will elicit differences in their School Health Programs from the School Health Program recommended by the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association.

This joint committee was formed in the early nineteen hundreds for the express purpose of studying the health curriculums of the nation's schools and to make recommendations for improvement. Its later work expanded the purpose of school health to include provisions for health screening programs, safety, environmental conditions, etc.

Over the years, the committee has produced a series of three publications: Health Education, (1924), School Health Services, (1953), and Healthful School Living, (1957), revised to Healthful School Environment (1969). This trilogy has become the most widely accepted official compilation of School Health Program recommendations and standards in the United States.

Thus, it is proposed that despite the voluminous discourses found in professional health and education publications, and despite the extensive work of national organizations, and despite frequent national conferences devoted to the promotion of School Health Programs, these programs in actuality leave much to be desired when compared to the

NEA/AMA committee's recommendations for effective programs.

The question is frequently raised about the need or the value of health education in the schools. To answer the detractors and those who raise the question, a list of current health needs and problems is presented as "evidence" of the poor status of the nation's health. The list will examine these needs and problems in terms of the World Health Organization's definition of health as "... the state of complete physical, mental and social well being, and not just the absence of disease or infirmity" (34).

This definition of health has gained most in acceptance probably because it implies "totality" in the health perspective, and because of its "positive" point of view. Its "totality" includes all of the dynamic dimensions of man's life as confluent, equally important, and interdependent in his day-to-day existence. Recall that early emphasis on health in our schools was only on the physical. It has occurred only recently that growing emphasis has been placed on the other two dimensions in the World Health Organization definition.

Its "positive" dimension is inferred in the phrase "state of complete ... well being." Implied in this statement is the Promotion (through education, mass communications, life experiences, etc.) of beneficial health practices hopefully to Prevent the occurrence of as many health problems as possible.

With this three-dimensional aspect of health in mind, it seems germane to the focus of the study to consider some of the extensive and

increasing health problems that prevail on an individual, community, and national level. These are only samples of health problems that exist, and represent the raw material out of which a fabric of effective health programs in the school may be woven.

The following data represent statistical occurrences within the past three years:

A. Some problems that affect physical well-being:

1. More than 1,000,000 deaths occur each year from heart disease, and it is estimated that three times that number are under treatment (21b, p. 2).

2. More than 300,000 people die each year from cancer, and it is estimated that approximately 900,000 are under treatment (22b, pp. 453-454).

3. One in 50 people are diabetics. Diabetes is among the top ten causes of death (31b, p. 388).

4. Venereal diseases and drug addiction are of epidemic proportions and increasing (44a, pp. 294-295).

5. Dental problems are of epidemic proportions, and the average American has lost half of his teeth by age 40 (31b, p. 9).

6. Approximately 6,000,000 persons have hearing problems, and about 3,000,000 have eye problems (31b, p. 9).

7. As insignificant as it may seem to those who do not have the problem, about 85 percent of the population has some kind of foot problem (31b, p. 9).

8. The annual accident toll amounts to approximately 100,000 fatalities and 9,100,000 injuries, 120,000 of which result in permanent disability (31b, p. 404).

9. There are approximately 70,000,000 chronically ill persons with such health conditions as: heart disease, cancer, arthritis, emphysema, muscular dystrophy, etc., and more than 1,000,000 of these are confined to bed (31b, p. 9).

B. Some problems associated with and affecting mental well-being:

1. About 17 percent of the population have mental disorders (31b, p. 9).

2. Alcoholics and other drug dependents represent a large percentage of persons under treatment for psychological problems (31b, p. 242).

3. Suicides are the fourth leading cause of death in the 15 to 24 age group (31b, p. 11).

4. Mental health problems are occurring in the younger age groups, and 16 percent of all admissions to state mental hospitals are between 16 and 29 years of age (31b, p. 10).

5. Emotional pressures and the fast pace of life have recently been implicated as variables associated with heart attacks, strokes, ulcers, and neuroses (31b, pp. 208-230).

C. Problems associated with and affecting social well-being:

1. One half of the dwellings in the United States have basic deficiencies, such as overcrowding, poor lighting, inadequate toilet or bathing facilities, lack of heat, or open gas burners (31b, p. 8).

2. The birth rate exceeds the death rate in this country, and it is predicted that the population will double in the next 35 years (6b, pp. 17-35).

3. There is extensive hunger and malnutrition in this country, and farmers are paid not to grow crops (5a, p. xviii).

4. Approximately 22,000,000 Americans are below the proverty level of $3,500 annual income (5a, p. xviii).

5. Pesticides are being isolated in man's tissue; radioactive materials in his bones; and carbon, asbestos and silicone in his lungs (5a, p. xviii).

This representative sample of extensive and increasing health problems is cited for two reasons: 1). to illustrate the magnitude

of poor health conditions that exist in an age when man has walked on the moon; and 2). to establish a realistic basis from which to project a logical rationale for implementing School Health Programs as one medium through which many of these problems may hopefully be prevented.

A large percentage of the population is generally unaware of the extent of the arrant health conditions that prevail in this country, and many of those who are aware (generally the victims) have a feeling of powerlessness to prevent or correct the conditions, if one can believe the substance of congressional hearings, and pronouncements of major national organizations concerned with health, education, and welfare.

Perhaps the most notable "health problem" involves the general ignorance about health in this country. Prime evidence of this lack of knowledge was vividly presented on the National Health Test sponsored by CBS in 1966. The largest percentage of the American population was grossly uninformed, and in many instances misinformed about some of the most elemental health facts.

Admittedly, the task is much too monumental for any single agency or institution to solve. Solutions require multi-dimensional approaches on the part of official and voluntary health agencies, education departments, governmental agencies at all levels, and research on local, state and national levels by all agencies concerned with the well-being of the nation. All agencies in the community must assume the initiative in their sphere of expertise and influence. Solutions will depend on coordinated and innovative approaches in an advancing technological age.

Education particularly has proven its capability in the diffusion of knowledge and in changing attitudes and behavior. It is this dimension and an analysis of its provisions for School Health Programs in Iowa that will be the focus of this study.

STUDY OBJECTIVES

The major objective of this study was to conduct an in-depth analysis of School Health Programs in 90 public schools in Iowa, kindergarten through twelfth grade.

A profile of the School Health Programs of the study schools is presented, and detailed analyses made in terms of their comparison to the recommended standards of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association.

The above named committee's recommended standards for effective school health programs are stated in the aforementioned trilogy, and represent the most widely accepted authoritative source extant in school health. These three companion pieces contain the combined research, experience and expertise of some of the most respected health and education professionals in the nation. In light of these credentials, their publications were used as the standard of measurement against which the data retrieved from the study schools were compared.

Each of these three areas--education, services, and environment--were studied. A fourth category--General School Health Activities--was also considered, and while the latter category is not available as a separate work by the committee, its substance is contained in various segments of all three works.

The important element to be noted at this point is the fact that despite separate consideration accorded each of the four elements in

the total School Health Program, each must be viewed in its relationship to the other. They all overlap and interrelate to produce what the committee terms the "total school health program". The synergic effect prevails.

First, health education. The committee summarized its importance in the school by stating:

> Health education for the improvement of our children's health involves organized health teaching, co-ordination of health learnings and experience, counseling and guidance.... The full potential of health education can be realized only when school, home, and community are interrelated (28, iii).

This statement expresses in summary form the committee's concept of what health education should include. The committee proceeded to detail specifically those things necessary as minimum offerings to produce effective health education, and the study addresses itself to these specifics by examining the following in Iowa public schools (k-12):

a). The nature of health instruction. Is health taught as a separate course, or is it included as a unit in another area of the curriculum? Is it required or elective?

b). The general content or subject-matter areas of health instruction.

c). The average time devoted to health instruction per year.

d). Who teaches health? What is the nature of their teaching preparation in health?

e). What is the nature of planning for continuity in health instruction, and the School Health Program in general?

f). Sex education and drug education represent two of the most emotionally charged and most critical health problems today. The general nature of their inclusion in the curriculum is studied.

In describing the importance of a second major need in the general School Health Program, the committee has this to say:

> School health services describes the health responsibilities of schools and emphasizes the need for coordination of school efforts with those of parents, departments of health, private practitioners of medicine and dentistry, and community health agencies. Particular attention is given to the role of the teacher in school health services and to the desirability of utilizing service activities for health education purposes (55, p. iii).

More specifically, the committee recommendations for an effective program of school health services were used as a basis for examining the following elements of the study schools' health service activities.

a). Provisions and/or requirements for physical examinations of students.

b). Provisions and/or requirements for discovering and correcting student hearing and vision problems.

c). Provisions and/or requirements for identifying physically handicapped students.

d). Provisions and/or requirements for immunizing students against communicable diseases.

e). Provisions for caring for students who have been injured, become suddenly ill, or suspected of having a communicable disease.

f). Provisions for health counseling with parents, students, and others concerned when health problems of students arises.

g). Services of a school nurse, and the average number of hours the nurse spends in the school per week.

The committee had this to say about the third traditional area--healthful school environment--and its role in the total School Health Program:

> The word 'environment' is used ... to emphasize the importance of the ecology of pupils' school experiences ... environment includes the activities carried on in the classroom and other instructional areas and the experiences and relationships that give the school its emotional climate (56, p. iii).

This statement is a rather broad-ranging one that includes everything from the emotional climate of the classroom to the technicalities of constructing the most healthful physical plant.

For the purposes of this study, only one area of this part of the School Health Program was considered--the school lunch facility.

The researcher felt that to do justice to all facets of this part of the school health program would require special training, experience and competency; qualifications he lacks.

It was felt, however, that some representative data should be forthcoming from at least one area of healthful school environment, to present some idea of its status in the health program.

The reader should bear in mind that although only one area is examined, all of the other elements recommended by the NEA/AMA committee play an equally important role in producing an effective health program.

Since insanitary conditions that prevail around food services, and among those responsible for the handling and preparation of food are extremely conducive to communicable diseases, the following were studied:

a). Did the health department inspect the food service facility? How often?

b). Did any other community agency inspect the food service facility? If so, how often?

The last major objective was to analyze some of those things that fall into the category of general activities in the School Health Program. Specifically, they included the following questions:

a). Did the schools have health councils or committees?

b). What was the nature of the relationship between the the school and official health agencies in meeting the schools' health needs?

c). What was the nature of the relationship between the school and voluntary health agencies in meeting the schools' health needs?

d). What was the nature of the relationship between the school and the various civic, social and service organizations in the community in meeting the schools' health needs?

e). What was the nature of the relationship between the school and the Department of Public Instruction in meeting the schools' health needs?

f). What kinds of provisions for in-service education existed in the schools?

Several other objectives were in the purview of the study which cannot be compared to recommendations made in the NEA/AMA trilogy.

It was felt that some determination should be made about the respondents' feelings concerning school health:

a). Did they feel school health to be important? If so, did the school's health program reflect that conviction?

b). Did they feel school health and physical education to be synonymous?

Questions of this import were posed in an attempt to determine the

prevailing attitude among administrators responsible, or at least greatly influential in determining the school's activities and priorities.

The final objective to be accomplished was the prevalence of knowledge about the 1967 School Health Education Study. This study represents the most up-to-date approach to health education extant, and is considered by health professionals to be a classic in its field. It is felt that any school with an effective School Health Program should at least be aware of it, or utilizing the results as resource material in the school's program.

With the above stated objectives as criteria, the following method and design were used.

STUDY DESIGN

An effort was made to derive a study sample that was representative of the public schools in Iowa from kindergarten through grade twelve.

It is felt that the study design and method meet these criteria, and that the results can be generalized as representative of the state's school districts. It was decided that a stratified sample of school districts--based on size of enrollment--would satisfy the sampling requirements for the study. The arbitrary designation of "class" was assigned to the study schools since it was felt that such terms as "small," "medium," "large" and "urban" were difficult to define. Delineating the study sample on the basis of "class" avoids semantic complications, and allows for analyses of schools with larger enrollment, some with smaller enrollment, and some with middle-range enrollment. However, even these designations do not represent finite demarcations since some overlapping does occur among the classes. A more specific presentation of the method of selecting study school districts follows and will clarify the relationships that exist among the various classes.

It was determined that representativeness could be obtained by dividing the 453 public school districts in Iowa into three approximately equal classes. Thirty school districts were selected from each class in order to give equal balance and equal opportunity for school districts in each class to be studied.

Thus, the following design was applied:

a). Total enrollment data were obtained for all 453 public school districts from the Department of Public Instruction's publication, "Data on Iowa Schools, School Year 1970-71, Part 1, Pupils-Public and Non-Public."

b). These 453 districts were divided into three approximately equal classes (I, II, III) based on the size of enrollment.

c). According to the above named publication, a total of 659,576 were enrolled in Iowa schools for the 1970-71 school year. (This is the most recent figure available at the time the study was conducted).

This total was divided by three and produced three approximately equal classes of 220,000 pupils in each class.

Beginning with the largest school district in the state (Des Moines School District), total enrollments were cumulated until the sum of 220,000 accrued (to Marshalltown School District). This group was designated "Class I".

The same process was applied to obtain school districts for Class II (Muscatine School District to West Marshall School District), and for Class III (Central Lee School District to ACL School District).

d). Every school district in each of the three classes was given a number. A table of random numbers was used to select the 30 study school districts from each class.

e). Within each class, the study design included an analysis of schools at the various "levels"-- senior high, junior high and elementary. Three groups of ten schools from each level in each class were considered appropriate to meet the study objectives.

All of the schools in each level and in each class were given a number. Once again, a table of random numbers was used to select the ten study schools in each level.

Thus, the following study sample was derived:

1). Three classes of approximately 220,000 pupils in each class.

2). Thirty school districts in each class.

3). Ten schools at each level-senior high, junior high and elementary.

4). A total of 90 school districts to be studied out of the 453 school districts in Iowa.

Limitations of the Study

It was decided at the outset that some limitations must be placed on the study. Thus, the following must be considered when interpretations of findings and conclusions are made:

1). While it was felt that a number of persons could have been respondents in the study, the school prinicipal was selected as the respondent most likely to be familar with the schools' activities.

2). The criterion used in determining whether or not the study responses met or failed to meet the NEA/AMA committee recommendations was a percentage figure. An arbitrary figure of 85 percent was set as this minimum standard deemed necessary to meet the committee recommendations.

3). Most determinations concerning the study schools' meeting or failing to meet the committee's recommended standards are based on the combined percentage responses for all three classes. The study was conducted in such a fashion that data would be forthcoming from schools at all levels, and for schools with varying student enrollments (Class I, II, III). The reader is urged to consult the tabular material for more specific data when making interpretations more pertinent to his or her interests.

4). All of the NEA/AMA committee recommendations were not included in the study. To have done so would have resulted in a rather ponderous tome, and probably would not have been productive. Only those areas considered to be the most important and productive of responses that reflect the prevailing character of the study schools' health programs, were included in the study.

5). The healthful school environment aspect of the School Health Program was limited to one area--food service facility inspection activities. It was felt that this one area was more conducive to study and analysis. There are certainly more elements in this area of the School Health Program deserving study and analysis such as the status of heating,

ventilation, air conditioning, fenestration, water supply, plumbing, safety hazards, etc. It was felt that these were so involved as to require specialized expertise on the part of the researcher, and that in-depth analysis was not in the purview of this study, or in the capability of the researcher.

Study Method

A questionnaire was designed to satisfy the study objectives. It was pretested by mailing questionnaires to 35 principals in non-study schools that closely approximated the characteristics of the study schools. In addition, four personal interviews were conducted to ascertain differences that might exist between the two techniques. It was also felt that personal contact with principals and schools afforded opportunities for on-the-spot observation that mail-out procedures do not. While the personal interviews were fruitful, they did not elicit any important differences in response from the mail-out questionnaires.

Twenty-four of the mail-out questionnaires were returned and combined with the four personal interviews producing a total of 28 or 71 percent response from the group field testing the questionnaires.

Based on pretest data, the questionnaire was revised for application in the study schools (see Appendix B).

Eighty questionnaires were mailed to the study schools, and ten

personal interviews were conducted. Sixty-four of the mail-out instruments were returned and combined with the ten personal interviews to produce a total of 74 or 82 percent response from the sample.

A detailed breakdown shows:

1). Twenty-five of the Class I schools responded for 34 percent of the total.

2). Twenty-three of the Class II schools responded for 31 percent of the total.

3). Twenty-six of the Class III schools responded for 35 percent of the total.

The data from the 74 respondents were processed by computer and the results analysed and presented in tabular form in Appendix A.

DATA ANALYSIS

Format

Each question on the study instrument is considered individually in terms of class and level. Raw scores are presented and translated to percentages to facilitate analyses and comparisons. The tabular data are presented in such a way that raw scores and percentages are calculated for each level and totaled for each class. In like manner, grand totals are listed for raw scores and percentages for the complete study sample. Utilizing this method of presentation, the reader can make a variety of comparisons at a glance.

It was predetermined by consultation with statisticians, that some reasonable measurement criterion be used to determine whether or not the study school responses met or failed to meet the recommended standards of the Joint Committee on Health Problems in the Schools of the National Education Association and the American Medical Association. In addition, it was felt that the measurement technique should not only be reasonable, but one which could best be interpreted by the reader. Thus, the percentage technique was selected, and 85 percent was set as the minimum standard necessary to meet the recommendations. This standard seemed high enough to demand a reasonable level of School Health Program development, and low enough to permit a realistic level of nondevelopment.

A narrative analysis is also made in order to highlight the most salient features of the study responses.

Most of the questions submitted on the study instrument are also

analyzed according to a specific format. This format includes: 1). a statement of the study question; 2). a statement of the NEA/AMA committee recommendation apropos the particular area of the School Health Program under consideration; 3). presentation of the study findings; and 4). a summary and analysis of the findings and their relationship to the committee recommendations.

Instrument Analysis

Questions No. 1 and 2. Does your school have a health council or committee? (see Tables 1 and 2, Appendix A).

NEA/AMA committee recommendation:

> A school health council, school health committee, or other type of advisory group affords opportunities for widespread discussion of school health problems and for the use of democratic procedures in establishing school health policies and responsibilities.... The individual school council or committee (may have) persons connected with the health program in a particular school--the principal, one or more teachers, a medical adviser, the school nurse, the health educator, parents, and others, such as a dentist, the cafeteria manager, the custodian. Pupils may be a separate pupil health committee (56, pp. 261-262).

Study findings

Class I Twenty percent of the respondents for this group of schools said they did have a school health council; 80 percent said they did not. A look at the individual levels indicates the same general response. The only statistic worth noting was the response for the senior high school. Thirty-seven percent said "Yes". This is approximately three times greater than for the other two levels.

Class II Thirteen percent of the respondents for the total

group said "Yes"; 87 percent said "No". The significant percentage in this class is for the senior high level. One-hundred percent said "No".

Class III Nineteen percent of the respondents for the total group said "Yes"; 81 percent said "No". There were no noteworthy differences in the responses among the three levels.

Further consideration of this question includes an analysis of the general composition of the school health councils. In the schools where health councils do exist, the following persons are found to appear on the councils most frequently for all classes and levels (Table 2): Nurses (18 percent); principals (15 percent); physical education instructors (9 percent); classroom teachers (7 percent); local physicians (4 percent); assistant principals (3 percent); and parents (one percent).

Sixteen percent of the Class I schools indicated "other" members of the councils such as: Athletic director, attendance clerk, counselor psychologist, Federal Government nurse, school district nurse, and a city-wide health committee.

There were no "other" council members indicated by the Class II schools.

One Class III school indicated the existence of a Title I committee as the school's health committee.

Summary and analysis

The response for all three classes shows only 18 percent indicating the existence of a school health council, while 82 percent said they did

not have one. Comparing the responses among the various classes produces no notable differences.

The magnitude of the negative response to this question indicates that the study schools, all classes and levels, do not meet the NEA/AMA committee recommendations for this part of the School Health Program.

Question No. 3 (a). Is there a specific health course taught as a separate subject in your school? (Table 3, Appendix A).

NEA/AMA committee recommendation:

> The importance of health has been consistently recognized in the stated purposes of education in American democracy and in the 'personal and social needs and problems of living' approach to curriculum development. In many schools, however, there is yet a vast difference in practice and professed beliefs regarding the importance of health education in the curriculum, and the school administrator is faced with practical problems of fitting it into an already overcrowded curriculum.... As the majority of schools are currently organized, there are several ways of including health education experiences in the curriculum. For schools that are organized on a subject-centered basis, definite provision needs to be made for direct health teaching, either as a separate subject or as specified units or topics within other courses which are required of all pupils (28, p. 124).
>
> A second (curriculum) pattern is the organization by 'broad fields' or 'groups of related subjects'.... The content of the curriculum is a broad organization of subject matter of closely related subjects. Emphasis is placed in this design on basic principles and generalizations rather than on information and facts.... Designs in which related subjects are grouped are more widespread in the elementary school.... Health education is likely to become a part of the social studies or of the science curriculum in this pattern of organization (28, p. 120).

Study findings

Class I Fifty-two percent of the schools in this category said "Yes"; 48 percent said "No", showing no notable trend in either

direction. The most significant phenomenon is found in the comparison at the various levels: A larger percentage said "Yes" at the elementary level, with decreasing percentages for positive responses at the middle and upper levels.

Class II Twenty-six percent of the schools in this class said "Yes", and 74 percent said "No". This represents a large difference between this class and the Class I schools. There is no identifiable pattern at the various levels, with 100 percent of the senior high schools responding "No"; 78 percent of the junior high schools responding "Yes"; and 56 percent of the elementary schools responding "Yes".

Class III Nineteen percent of the schools in this class said "Yes"; 81 percent said "No". This also represents a large difference between the response of this class and the Class I schools, and a slight difference between this class and the Class II schools.

From the perspective of the various levels, there seems to be a slight difference in response with the highest percentage of negative responses at the elementary level (90 percent "No"). These data indicate that the size of enrollment might be influential in determining the presence or absence of health education as a separate subject.

Summary and analysis

The overall response to this question indicates that a relatively small percentage of the study schools do have specific health courses. However, the view must be objective. The NEA/AMA committee recommendations

call for both specific health courses as well as for health instruction as units or topics in other courses. Another part of this question will provide a more accurate picture of the nature of health instruction in the study schools.

Question No. 3 (c). If the answer to (a) is "No", is health instruction included as unit or topic in another course(s)? (Table 3, Appendix A).

Study findings

Class I Total percentages for this class show that 64 percent said "Yes"; 12 percent said "No"; and 24 percent did not respond to the question.

Class II Total percentages for this class show that 87 percent said "Yes"; and 13 percent said "No".

Class III Total percentages for this class show that 96 percent said "Yes"; and four percent did not respond to the question.

All three classes combined show that 82 percent of the study schools said "Yes"; nine percent said "No"; and nine percent did not respond to the question.

Summary and analysis

Combining the results of Questions No. 3 (a) and (c), one must conclude that the majority of schools in the study, regardless of class, do provide some kind of health instruction, either as a specific health course, or as units or topics in other courses (Table 4 indicates the locus of this instruction).

A closer analysis of the data indicates results that one might

expect at the various levels: Generally, health instruction in specific health courses occurs more often at the elementary level, while health instruction occurs as units or topics in other courses at the junior and senior high levels.

One point that might serve to cloud the issue, as far as a realistic look at health instruction in the schools goes, is the fact that many schools indicated having specific health courses, as well as providing health instruction in other courses.

Perhaps the most salient feature of the entire health instruction profile is the amount of time devoted to health instruction in the overall curriculum. This point will be discussed further in the study.

Question No. 3(d). If the answer to (c) is "Yes", please check the other courses in which health instruction is included (Table 4, Appendix A).

Study findings

The findings for all classes combined reflects closely the findings for each individual class. The following percentages indicate the locus of health instruction either as units or topics in other courses: Physical education (61 percent); general science (49 percent); home economics (39 percent); biology (23 percent); social studies (16 percent); and 27 percent in "other" areas such as: Social science, contemporary affairs, physiology, family living, human development, investigations in science, foods, reading, physical science, sociology, senior science, elementary science, life science, and some occurs in talks given by nurses and dental technicians.

Summary and analysis

The data for this question indicate what one might expect; i.e., that health instruction as units or topics occurs in those subject matter areas most closely related to health.

And, while it appears that extensive health instruction is taking place in the study schools, the reader is once again referred to the findings in Table 6, which show the number of hours per year devoted to health instruction.

Question No. 3 (e). Other than as a unit in physical education, is health instruction required or elective in other courses in your school? (Table 5, Appendix A).

Study findings

These findings are presented for all classes combined since no important differences exist between classes, and levels within the various classes.

Fifty-nine percent of the schools indicate a requirement for health instruction; nine percent offer it as an elective; and 32 percent did not respond to the question.

Summary and analysis

The response to this question relates closely to the response for Questions No. 3 (a) and (c); where 32 percent of the respondents said they did offer a specific health course, and 82 percent said that health instruction was offered as units or topics in other courses.

It would be extremely difficult to correlate the response

of 3 (d) to 3 (a) and (c), due to the fact that those schools offering specific health courses might not require them, or specific health courses might not be offered at all, or students may be required to take courses that have health units included.

Another consideration involves the nature of physical education in the curriculum. Since it is required in the Iowa school systems, and since the largest percentage of the schools indicate that health instruction is included as topics or units in this course, it would follow that health instruction would be required of all students. This would produce a rather high positive response to this question.

The same condition prevails for other courses at the junior and senior high levels, where such courses as science, home economics, physiology, etc., are required. This would, in turn, make health instruction required, if it happens to be included as a unit or topic in any of these curricular offerings.

A summary of the study findings shows that comparatively few students elect to take health courses when given the option.

Question 5. If health education is taught either as a separate course or as a unit in another course, please answer the following: Grade health is taught. Number of weeks taught. Number of semesters taught. Number of hours taught per week (Table 6, Appendix A).

NEA/AMA recommendations:

> It is recommended that in the elementary school the time allotted to health education should at least equal the time devoted to other major areas in the curriculum. In the junior high school the minimum time allotment for health teaching is set at one period daily for at least two semesters, during the seventh, eighth, or ninth grades.

> In the senior high schools a similar minimum time allotment of a daily period for at least two semesters is recommended, preferably during the eleventh or twelfth grades (28, p. 124).

Study findings

There are no generalizable patterns of major differences in comparing the levels within the various classes. There seems to be a pattern discernible within each of the classes to the effect that more hours per year are devoted to health instruction as one rises from elementary levels to junior and senior high levels.

Comparing the grand averages by class, it is noteworthy that only a slight difference exists between Class I and Class III schools; whereas a rather large average difference is noted between Class II schools and the schools in the other two classes. Thus, the mean number of hours devoted to health instruction for the Class I schools is 19 per year, with a median of 20. The mean number of hours devoted to health instruction for Class II schools is 11 per year with a median of 14 hours. The mean number of hours devoted to health instruction for all Class III schools is 17 per year, with a median of 13.

The mean and the median for all classes and levels combined is 16 hours per year. These means and medians include health instruction both in specific courses and as units or topics in other courses.

Summary and analysis

Using the standard 36 week school year as a basis for computation, at the elementary level, approximately 90 hours are devoted to instruction in the standard curricular topics such as language arts, social

science, reading, etc. This figure was derived by multiplying an average class period of 30 minutes duration by the five day school week for a total of 150 minutes per week. This figure was divided by 60 which produced two and a half hours per week. Multiplying this figure by 36, a total of 90 hours was computed for the approximate yearly average devoted to each topic.

The study data indicate that the mean number of hours devoted to health instruction for the elementary grades, all classes combined, is 13 hours per year, with a median of 15 hours. Comparing this figure with the average number of hours devoted to other curricular subjects, it is rather obvious that the study findings do not meet the NEA/AMA committee recommendations.

Using this same standard 36 week school year, but computing on the basis of 50 minute class periods, a total of four hours per week or 144 hours per year is generally devoted to subjects in the upper levels.

Analyzing the study findings, the mean and median number of hours devoted to health instruction in the junior and senior high schools is 18 per year. Comparing this to the average number of hours given traditional subjects, it is obvious once again that the study schools fall far short of the NEA/AMA recommendation.

Question 6. Which of the following teaching specialities applies to those on your school's staff who teach health: Physical education, elementary education, child development, social studies, health education, biology, family environment, health and physical education, nursing, home economics, other? (Table 7, Appendix A).

NEA/AMA committee recommendation:

It is recommended that the general education of every prospective teacher include experiences which enable him to protect his own health and to understand the principles for promoting the health of individuals and groups. In addition, the person preparing to teach needs certain understandings which focus directly on helping a child to realize his potentialities. These objectives for the health education of teachers can be translated into competencies which are related to the main parts of the school health program. The following statement is typical of those which have been developed in many states:

It is reasonable to expect that, in addition to knowing what constitutes an adequate school health program, every teacher at both elementary and secondary levels has competencies in:

1. Health Instruction--so that he can:

   a). Appreciate the importance of health education as a positive influence upon present and future health of the child in the home, school, and community.
   b). Understand how the human organism operates physically and psychologically and the means by which optimum health can be attained and maintained.
   c). Keep abreast of new developments in health education and the health sciences.
   d). Provide an example of healthful daily living.
   e). Identify the health interests and health needs of children and use them as a basis for health teaching.
   f). Organize and administer a variety of learning experiences ... which are adapted to the developmental levels of boys and girls.
   g). Evaluate, select, and use available teaching materials and resource personnel.
   h). Encourage each pupil to accept increasing responsibility for the protection and promotion of his own health and the health of others.
   i). Evaluate health instruction in terms of pupil health status (understanding, attitudes, interests, behavior). (A Joint Report of the Wisconsin Association for Health, Physical Education, and Recreation and the Wisconsin State School Health Council, Committee on Teacher Preparation in Health Education).

> These competencies require that the teacher know the basic facts of health and safety, be familiar with a wide variety of teaching materials and methods, and be acquainted with appropriate types of health instruction for various age levels (28, pp. 373-374).

This is only a portion of the recommendation. The entire recommendation is rather lengthy, and the reader is referred to the cited publication for the remainder of the committee's suggestion. This citation does, nonetheless, establish the general tone for the suggested basic requirements for the preparation of teachers of health.

Study findings

The specific study data are presented in Table 7, and comparisons can be quickly made for the individual classes and levels. Only data for all three classes combined will be discussed. It should also be noted that this question permits more than one response, and in most instances, more than one answer was given.

The following responses were given for teaching specialities for the teachers of health in the study schools: Physical education 69 percent; home economics 41 percent; biology and nursing 34 percent each; health and physical education 31 percent; elementary education 31 percent; social studies 22 percent; child development and health education 15 percent each; and for the "other" category, 11 percent. The teaching specialities for the "other" category include: Science, elementary guidance, physical science, life science, and general science.

Summary and analysis

The NEA/AMA committee recommendation for teacher preparation for health teachers is rather specific, extensive and comprehensive. In fact, one could say that to fulfill these recommendations would require major concentration in the area of health education.

Study data indicate that only a small percentage of the teaching specialities listed were in health education--15 percent. The majority have teaching specialities in physical education--61 percent, and feedback in personal interviews showed that most respondents did not feel their physical education teachers to be adequately prepared to teach health.

The state of Iowa has no requirement for health certification. Those who are certified to teach are certified to teach health.

A cursory review of the basic requirements for obtaining major teaching specialities in those areas indicated most frequently as teaching specialities for those teaching health, would substantiate the thesis that only limited exposure to health education, or to any of the other proficiencies recommended by the committee is provided by most teacher preparation institutions.

This considered, it is proposed that the study schools do not meet the NEA/AMA committee recommendations for teachers of health.

Question No. 11. Does your school provide or require any of the following health services for the student: Physical examinations? Screening for visual or hearing problems? Identification of the physically handicapped? Examination to take physical education?

NEA/AMA committee recommendation:

> Screening tests are useful procedures in health appraisal. Although not diagnostic, they, like teachers' observations, 'screen out' those who need further attention. Performed by teachers, nurses, or technicians, they provide a preliminary evaluation of the state of development or functioning of various body organs. Screening tests may uncover health problems not identified by observation of pupil appearance and behavior (55, p. 44).

a). Physical examination (medical examination) (Table 11, Appendix A).

NEA/AMA recommendation:

> Periodic medical examinations are an important part of a health appraisal program. At the time of such examinations the physician reviews the reports and records of other appraisal procedures.... Such information ... provides a fairly complete picture of a pupil's assets and liabilities (55, p. 57).

Study findings

Thirty-nine percent of the study schools, all three classes combined, require physical examinations for their pupils. The same percentage require these examinations prior to entering school. Twelve percent require examinations every year, and four percent require them every three years. Five percent of the schools provide the medical examinations, and the remainder are done by private physicians or by physicians hired by the school system in the case of medically needy pupils.

b). Screening for visual problems: (Table 12, Appendix A).

NEA/AMA recommendation:

> Procedures for appraising each pupil's eye health, closely integrated with other appraisal procedures, should be a part of school health services.... Responsibility for programs ... is shared by administrators, physicians, nurses, and

> teachers.... To help identify pupils having eye problems, school programs rely primarily on two procedures: (a) observations and (b) screening tests (55, pp. 71-75).

Study findings

For all three classes combined, the large majority (72 percent) provide for vision screening, while only a small percentage (15 percent) require them. Eight percent require and/or provide testing before the student enters school; 46 percent require and/or provide testing every year; 12 percent require and/or provide testing every three years; and 24 percent responding in the "other" category made such responses as: "only upon entry to district and not each year," "done by joint county specialist," "provided upon request", and "done by family doctor."

c). Screening for hearing problems (Table 13, Appendix A).

NEA/AMA recommendation:

> School health services should include efforts to help pupils maintain good hearing, to identify those who have hearing difficulties, and to help those with hearing problems obtain the help they need.... Ideally, the hearing of all pupils should be checked annually by means of a screening test (55, p. 94, 105).

Study findings

The majority of the schools (73 percent) indicated that they provided testing for hearing problems and only a small percentage (15 percent) required the testing.

A small percentage (five percent) said they required and/or provided the testing before the student entered school; the largest

percentage 23 and 27 percent respectively) said they required and/or provided this testing every year or every three years. The "other" category responses were generally the same as for Question No. 11.

d). Identification of the physically handicapped: (Table 14, Appendix A).

NEA/AMA recommendation:

> Two groups of pupils may find it particularly difficult to profit fully from the regular school program: one, the physically handicapped, and the other, those who are significantly below or above average mentality.... Efforts to meet the needs of physically handicapped and mentally retarded pupils requires coordination of health and education procedures including case finding, diagnostic treatment services, social services, special education, and vocational counseling. There needs to be the closest possible cooperation between education and health departments and among parents, practicing physicians, and voluntary health organizations (55, p. 129-130).

Study findings

A small percentage (four percent) of the study schools require screening to identify physically handicapped students; 43 percent indicate no requirement; 39 percent provide screening; and eight percent indicate a variety of "other" responses such as: "picked up in kindergarten roundup;" "nurses at one level alert nurses at other levels for possible handicapping conditions;" "on-going observations are made by teachers, coaches, nurses, etc.;" and "family doctor or parents inform the school."

e). Examination to take physical education: (Table 15, Appendix A).

NEA/AMA recommendation:

> Before a pupil is permitted to participate in a vigorous activity program, sufficient information should be obtained about his health to assure his proper placement. Such information may be obtained from a review of the pupil's health

> history including the results of pre-medical examinations and other appraisal procedures as recorded on his cumulative health card. In some cases a special medical examination may be required. For physical education classes and intramural programs the former procedure is customary; for those engaging in strenuous interscholastic sports, preseason medical examinations are recommended (55, p. 270).

Study findings

A small percentage (nine percent) require physical examinations for placement in physical education; the largest percentage (66 percent) have no requirement as such; eight percent of the study schools do provide the examinations; and 14 percent indicate several responses such as: "required only for participation in athletics;" "students urged to get examination from family doctor;" and the largest "other" response indicated that while there was no physical examination required of the students to take physical education, in effect, this was accomplished by requiring the student to have a doctor's statement to exempt taking it.

Summary and analysis

The various parts of Question No. 11 are considered in an overall summary and analysis.

The real status of school health services such as those analyzed in the question may be somewhat illusive due to the fact that there seems to be some confusion as to what is required and what is only recommended.

A conversation with a representative of the Department of Public Instruction elicited some difference in interpretation of what is

required by the Code of Iowa (1971), and the departmental "rules". To further compound the issue, there is also a tenuous relationship between the department and the various school boards and individual schools in the system, with resulting tergiversation, as one might expect. This has the effect of producing a wide range of requirements both in the area of health instruction and in school health services in general.

In the area of physical examinations, a finite analysis is rather illusive due to the various arrangements that prevail. It must be stated, however, from personal interviews and questionnaire responses that the study schools do meet the committee recommendation.

As for screening for visual and hearing problems, the result is somewhat different. With a figure of 85 percent set as the minimum standard for acceptable responses, the study schools do not meet the committee's recommendations. Only 72 percent and 73 percent respectively responded positively to this part of the question.

And while only a small percentage (four percent) of the schools have organized programs for the identification of the physically handicapped, it must be stated that from information received in personal interviews, most handicapping conditions are discovered at kindergarten roundups, from parents or family physicians, and from school nurse and teacher observations. Thus, the study schools do meet the committee's recommendation.

As for physical examinations for certification to take physical education, only a small percentage (nine percent) of the schools have

this requirement. The remainder of the schools work the certification procedure in a kind of reverse fashion: the student is required to have a doctor's statement to exempt physical education. Obviously there are some inherent weakness in this arrangement, since many students do not have regular physical examinations, and covert handicapping conditions could arise in the interim.

It is questionable that the schools meet the committee's recommendation for the overall School Health Service Program.

Question No. 12. (a), (b). Does your school have the services of a school nurse? If "Yes", are her services part time or full time? Approximate number of hours per week spent in your building? (Table 16, Appendix A).

NEA/AMA recommendation:

> The diversity of health problems that afflict children and youth necessitates the availability of special health personnel to advise the teacher and to describe the needs of pupils.... The nurse serving the school is a consultant to pupils, parents, teachers, and administrators. Her important functions include health counseling and health education and assisting school personnel in carrying out agreed-upon school health policies (56, p. 92).

Study findings

Ninety-one percent of the schools claimed the services of a school nurse, while nine percent said they had none.

The greatest percentage (78 percent) said they had the nurse's services only part time, with an overall average of 12 hours per week. Twelve percent indicated full time nursing service, and nine percent did not respond.

Summary and analysis

In this question, several noteworthy patterns are observable: the Class I schools indicate a larger average number of hours of school nurse services, and the same pattern holds true for the upper levels in all classes.

It is suggested that in an average period of 12 hours per week, the school nurse cannot easily or effectively implement the functions and competencies recommended by the committee. It is therefore, proposed that the schools do not meet the NEA/AMA committee's recommendations for this important area of the School Health Program.

Question No. 13. Does your school receive any of the following kinds of health assistance from the health department(s): health consultation, teaching assistance, project funds, educational materials, screening programs, other services? (Tables 17.1, 17.2, 17.3, 17.4, 17.5, Appendix A).

NEA/AMA committee recommendation:

> Two official agencies, the school and health department, are vitally concerned with the health of children and youth ... it becomes apparent that the health of the school child cannot be separated from the health status of the entire community in which he lives. School and health department personnel are increasingly aware that each has much to gain from closer working relationships with the other (55, pp. 314-315).

Study findings

a). Health consultation: For all classes combined, the majority of respondents (45 percent) indicated receiving assistance from city/county departments; a slightly lesser percentage

(36 percent) from the state department; 15 percent from city departments, and five percent from federal sources.

b). Health teaching assistance: For all classes combined, 14 percent said they received this kind of assistance from city/county departments; 11 percent from the state department; one percent from federal sources; and none from city departments.

c). Health project funds: There was very little response in this category. For all classes combined, eight percent said they received this kind of assistance from the state department; seven percent from federal sources; and one percent from city/county departments; and none from the city departments.

d). Health education materials: An equal percentage (43 percent) said they received this kind of assistance from city/county and state health departments; nine percent from federal sources; and five percent from city departments.

e). Health screening programs: Few of the schools responded to this part of the question. For all classes combined, only 22 percent said they received this kind of assistance from city/county health departments; nine percent from the state department; and three percent each for city and federal health departments.

f). Other health services: In summary, these represent a wide variety of responses such as: "VD clinics held"; "Can

receive assistance if we ask"; and "guest speakers".

Summary and analysis

Since there are relatively few large county health departments in Iowa, and even fewer large city health departments, it would follow that few or no schools would receive any assistance from these sources.

An overall consideration of the relationship between the study schools and the health departments at the various levels indicates a rather limited one. This limited relationship is accentuated by the fact that there was no positive response greater than 45 percent, for all classes and levels, to any of the items in this question.

Despite the fact that there are few city and county health departments in the state, the state health department has a number of resources available for the asking. It is obvious that few of the schools request the services available.

These data indicate that the study schools do not meet the NEA/AMA committee's recommendations.

Question No. 14. Does your school receive any of the following kinds of health assistance from the Department of Public Instruction: Health consultation? Health teaching assistance? Health project funds? Health education materials? Health screening projects? Other health assistance? (Table 18, Appendix A).

NEA/AMA committee recommendation:

> Most State Departments of Education have consultants in school health. These people are employed to help school systems improve their health programs. Also, most states have minimum standards and legal requirements for health and safety instruction in schools. Usually the State Department of Education provides guides for elementary and

> secondary health teaching, as well as pamphlets, films, and other teaching materials (28, p. 308).
>
> Fundamental to a successful school health service program is recognition of the importance of cooperative leadership from the health department and the department of education (55, p. 315).

Study findings

The majority of the respondents (41 percent) said they received health education materials from the Department of Public Instruction; 19 percent received health consultation; 15 percent received assistance with health screening projects; and seven percent said they received a variety of other services such as: "tutoring", "transportation", "immunizations", and "assistance on lunch program". None indicated receiving health project funds.

Summary and analysis

There is no identifiable pattern of differences between levels and classes. Once again, the fact that no positive response was greater than 41 percent, and most less than 20 percent, would suggest a limited working relationship between the schools and the Department of Public Instruction insofar as health is concerned. Consultants and other services are available. Many services are provided on a routine basis. Others are available upon request. Data indicate these services are not used to any great extent. Thus, it is proposed that the study schools do not meet the NEA/AMA committee's recommendation.

Question No. 16. Do any voluntary health organizations (e.g., Heart Assn., Cancer Society, etc.) help your school meet any health needs? (Table 19, Appendix A).

NEA/AMA committee recommendation:

> Voluntary health agencies provide education and service as part of their programs.... The teacher usually will find local chapters of the voluntary health agencies concerned with cancer, tuberculosis, heart disease, hearing conservation, and other specific health problems.... Voluntary agencies have served the schools well by furnishing teaching aids, helping in the preparation of teachers guides, assisting with short-term projects, promoting the in-service education of teachers, providing speakers and consultants for pupils and teachers, and participating on school health committees (28, pp. 306-307).

Study findings

Half of the schools, all classes combined, said they received assistance in meeting health needs from voluntary health agencies. Forty-six percent said they did not receive any assistance, and four percent did not respond to the question.

The voluntary agencies named most often were: the Heart Association, the TB and Respiratory Diseases Association, the Cancer Society, and the Birth Defects Association.

The types of assistance received most often were: educational materials (29 schools); guest speakers (six schools); health screening programs (three schools); workshops (two schools); and TB testing (two schools).

Summary and analysis

Probably the most cogent fact elicited by this question is the nature of the assistance received. Far and away the most and easiest

assistance was in providing health education materials. This can be done through the mail with a minimum of contact. It is significant that those kinds of assistance that provide the maximum contact and effectiveness are indicated in only several of the 74 study schools.

This considered, it is proposed that the study schools do not meet the NEA/AMA committee's recommendation.

Question No. 17. Is your school's food service facility inspected regularly by: the health department? How often? By any other official agency? How often? (Table 20, Appendix A).

NEA/AMA committee recommendation:

> Careful application of food sanitation principles is essential for health protection and for education.... Maintenance of hygienic conditions requires close cooperation among health officers, school authorities, and school lunch managers.... Periodic inspections should be made of facilities and procedures, with written reports submitted to the superintendent of schools (56, pp. 133-134).

Study findings

For all classes combined, the largest percentage of the study schools (70 percent) said their food service facility was inspected by the health department; 24 percent said the health department did not inspect their facility; and six percent did not respond to the question.

For schools responding, the average number of times the facilities were inspected was two per year. A significantly large number of respondents (55 percent) did not answer this part of the question, and from responses received during personal interviews, it is felt that

many principals do not know how often the food service facility is inspected.

The data indicate a difference in the inspection profile between the classes by the health department. Fewer Class II and III schools are inspected by the health department. This is to be expected, however, since Class II and III schools are smaller and located in the more remote areas of the state where there are few, if any, local health departments.

Thirty-seven percent said they did not receive an inspection from any other official agency; 36 percent said they did receive inspections from another official agency; and 27 percent did not respond to the question.

For those indicating inspections by another official agency, the majority listed the Department of Public Instruction. Several other replies indicated federal inspections where the schools were participating in federally sponsored programs; several said the principal inspected the facility; one each indicated the city health officer and the state hot lunch program.

For those who indicated receiving inspections, the average number of times per year the inspections were conducted was two. The largest percentage (70 percent), however, did not respond to the question, presumably because they did not know.

Summary and analysis

The data indicate a high positive response to this question, all study schools considered together.

There is one noteworthy point to be made, however, and this relates to the average frequency of inspections for the Class I schools as compared to the other two classes. On the average, Class I schools receive three times as many annual health department inspections as for Class II or III schools. It can be logically proposed that the variable of size of enrollment does have an influence by extension of the fact that larger schools are located in areas of larger population concentrations, with greater accessibility to community health agencies providing the inspections.

Since this question allows for "overlap" responses, a closer analysis shows that 91 percent receive some kind of food service inspection annually, either from the health department, the Department of Public Instruction, the county superintendent, the city health officer, or the school doctor. Two percent have no food service, and five percent receive no inspections.

The study data indicate a large enough positive response to meet the NEA/AMA committee's recommendation for this area of the School Health Program.

Question No. 18. Does your school have written procedures detailing what should be done for the student in the case of: Sudden illness? Injury? (Table 21, Appendix A).

NEA/AMA committee recommendation:

> The school administrator has responsibility for the establishment of policies to guide those individuals who provide emergency care, but it is essential that he obtain competent medical advice and that he confer with others who are concerned with the problem.... Policies should be in written

> form and distributed and interpreted to each teacher as well as to parents, pupils, physicians, and members of hospital staffs (55, p. 221).

Study findings

For all classes combined, the largest percentage (73 percent) said they did have written procedures for the care of students who were injured or who became suddenly ill; 25 percent said they did not have any of these written procedures; and three percent did not respond to the question.

Data also indicate some noticeable differences between the classes; i.e., Class I schools show a higher percentage (84 percent) of positive responses than Class II (70 percent), and Class II schools show a higher positive response than Class III schools (65 percent).

Summary and analysis

The 25 percent negative response to the question is high enough that the study schools do not meet the NEA/AMA committee's recommendation.

Question No. 19. (a), (b), (c). Is anyone (other than the school nurse, if you have one) trained to administer first aid? If "Yes", indicate the number trained. Position on the school staff (Table 22, Appendix A).

NEA/AMA committee recommendation:

> Everyone on a school staff should have the skills and understandings necessary to administer first aid. The principal, the teachers, the secretaries, the maintenance staff, and the bus drivers are all likely to be in a position where they will need to administer first aid (55, p. 223).

Study findings

Eighty-two percent of the study schools, all classes combined, said they did have persons on the staff, other than the school nurse, who were trained to administer first aid. Seventeen percent said they did not; and one percent did not respond to the question.

The overall average number of staff members trained was four, or 18 percent.

A specific analysis of each class elicits more pertinent information. For both categories--persons trained, and average number trained--the Class I and Class III schools showed higher percentages, (96 and 86 percent respectively). They also showed a higher average number trained, (five and four percent, respectively). Class II schools showed only 61 percent trained, and an average of two staff members trained.

Summary and analysis

An analysis of the "position on the staff" trained to administer first aid shows a wide variety of responses: most were physical education teachers, many were classroom teachers, some were coaches, and some indicated principals and bus drivers.

Perhaps the most telling statistic is not the high percentage who indicated they had persons on the staff trained, but the average number of staff trained in the school, which is somewhat low: four, or 18 percent overall. This response is unusually low. Thus, the study schools do not meet the NEA/AMA committee's recommendation.

Question No. 20. Does your school have special facilities designated for the care of students who have been injured or become suddenly ill, or suspected of having a communicable disease? (Table 21, Appendix A).

NEA/AMA committee recommendation:

> In order that emergency care may be administered properly, it is desirable that suitable facilities be provided at each school and that appropriate supplies be available.... A room in each school should be designated as the 'health room' and used as the place where most emergency care ordinarily will be given (55, p. 227).

Study findings

The largest percentage of the study schools (81 percent) said they did have special facilities designated for emergency care. Nineteen percent said they did not.

Summary and analysis

Applying the basic 85 percent minimum for acceptable response, the study schools do not meet the NEA/AMA committee recommendation.

Question No. 21. (a), (b). Does your school district require or recommend any kind of immunizations? Which ones? (Table 23, Appendix A).

NEA/AMA committee recommendation:

> Health authorities agree that infants and children should be immunized against smallpox, diphtheria, whooping cough, tetanus, and poliomyelitis. Recommended practices will vary with respect to the age at which immunization treatments should be given and the choice of immunizing agents to be used ... specific recommendations should be obtained from local physicians or the local health department (55, p. 206).
>
> Many schools, according to law, require immunizations of new or beginning students. By active immunization, smallpox, diphtheria, pertussis (whooping cough), and tetanus (lockjaw)

> have for years been kept under control. In recent years, poliomyelitis immunization has been required, and more recently immunization against measles, German measles, and mumps has been made available. A proper revaccination schedule should be maintained by everyone (56, pp. 238-239).

Study findings

For the Class I schools, the large majority (68 percent) recommend immunizations; 16 percent require them; and 16 percent did not respond to the question.

For the Class II schools, 26 percent recommend immunizations; 22 percent require them; and 52 percent did not respond.

For the Class III schools, 69 percent recommend immunizations; 12 percent require them; and 19 percent did not respond.

For all classes combined, 56 percent said they recommended immunizations; 16 percent said they required them; and 28 percent did not respond to the question.

Summary and analysis

There is no state law requiring immunizations in Iowa schools, either prior to or after entering school.

Data derived from the study schools indicate a variety of immunization practices among the study school districts. Many of the practices are not, in fact, based on requirements, but on recommendations made in the past which have actually become accepted practice. Many parents feel them to be required, and usually have their children immunized prior to entering school. Some schools, however, indicate establishing local requirements, but do not emphasize this. They seem

to place more emphasis on recommendations.

In response to the second part of the question (Which immunizations?), most of those who responded indicated such requirements and recommendations as: "the usual ones"; "all the recommended shots"; "just smallpox"; "TB"; etc. Study responses reflect a wide range of answers, and do not show any identifiable pattern of requirements or recommendations.

This variety in practice suggests a lack of state-wide or system-wide planning for this essential element in the School Health Program. It also suggests that no organized program exists between the schools and those in the community responsible for immunizations to insure current immunization schedules for all students. Somewhere between the "requirements" and the "recommendations" a number of students could be and probably are left out. It is questionable that the schools meet the recommendation.

Question No.22. (a), (b). Does your school provide teachers regular opportunities for in-service health education programs? If "Yes", when was the most recent health program? What health topic was discussed? (Table 24, Appendix A).

NEA/AMA committee recommendation:

> In recent years school administrators and directors of school health have encouraged in-service programs of education as an effective means of helping those engaged in school health activities improve their understandings, skills, and competencies in the teaching and guidance of pupils.... In-service education of teachers takes place in many ways, some formal and some informal. It takes place through organized and informal conferences of teachers and special health personnel... Health problems may be discussed at staff meetings or in conjunction with parent-teacher meetings.

> Interesting books or articles in periodicals may be circulated. Teachers may be encouraged to attend health courses at colleges ... during summer vacations or at other times. In many communities, workshops have been successful in bringing to teachers increased understanding of health problems and of the role of the school in promoting health (55, pp. 322-323).

Study findings

The overwhelming majority (80 percent) responded negatively to this question; 15 percent said they did provide regular opportunities for In-service education for health teachers; and five percent did not respond to the question.

In response to the question about the most recent In-service education programs, the greatest percentage (86 percent) of the schools did not respond. Seven percent indicated they had provided programs in 1971 and 1972; none indicated providing programs prior to 1971.

A statistic deserving some mention is the difference that appears between the several classes. According to study data, only a small percentage (four percent) of the Class III schools indicated providing In-service education opportunities as compared to 20 percent for Class I schools and 21 percent for Class II schools.

Summary and analysis

The key word in this question is "regular". Examining the data in Table 24, Appendix A, one could logically propose that the high percentage of "No responses" (86 percent), and the fact that no schools indicated any programs other than for 1971 and 1972, would indicate that few "regular" In-service health education opportunities are offered

by the study schools.

In addition, this would lead one to conjecture that the 15 percent who indicated providing "regular" opportunities, in point of fact do not.

A summary of the health topics discussed (for schools indicating In-service health education opportunities) include: first aid and drugs (this was the majority response). The remainder of the topic responses include such things as: ecology, health conditions which teachers should recognize, In-service when new health units are selected, venereal disease, and one indicated the teacher had asked to be put on the In-service program to talk on health, but had never been given the opportunity.

The overall positive response data are deemed insufficient to meet the NEA/AMA committee's recommendation.

Questions 23 (a), (b), and 24 (a), (b). (These two questions are closely related, and are considered together). Do the curriculum committees of the elementary and junior high schools in your district meet to plan the continuity of the School Health Program? If "Yes", how often do they meet? Do the curriculum committees of the junior and senior high schools in your district meet to plan the continuity of the School Health Program? If "Yes", how often do they meet? (Table 25, Appendix A).

NEA/AMA committee recommendation:

> As in other areas of instruction, the organization for curriculum study in health is a part of the organization for constant school-wide and system-wide planning. The outcomes sought are attitude and behavior changes resulting in improved living for the individual and the improvement of society.... There can be no substitute for a planned, organized curriculum in health education providing for depth, breadth, and continuity of experiences if the school is to

> fulfill its purposes in attaining self-realization, improved human relationships, economic efficiency, and civic competence (28, p. 137).

Study findings

The largest percentage of the study schools (70 percent for the elementary and junior high, and 77 percent for the junior and senior high) said the curriculum committees did not meet to plan the continuity of the School Health Program.

Twenty-two percent and 12 percent, respectively, said their schools did meet, and eight percent and 11 percent, respectively, did not respond to the question.

Summary and analysis

A closer analysis of the study data shows that the Class I and Class II schools have a far higher positive response to both questions.

A consideration of the frequency of meetings, for those indicating a positive response to question 23 (b), shows an overall average of one time per year for all classes combined. This percentage is deceptive, however, since the data in Table 25, Appendix A, indicate that only Class I study schools gave a positive response. Thus, the average of one time per year is based on the data for Class I schools only.

The response to question 24 (b) repeats the same general pattern as for 23 (b). Considering the high negative responses to both questions (70 percent and 77 percent, respectively) the study schools do not meet the NEA/AMA committee recommendation.

Question No. 25 (a), (b). Does your school provide for health counseling with parents and others concerned when a student is found to have a health problem? If "Yes", does the school follow-up to see that remedial recommendations have been carried out? (Table 26, Appendix A).

NEA/AMA committee recommendation:

> The value of health appraisal of school children and of subsequent counseling may be almost entirely lost if children are unable to secure the care they need.... There is growing community recognition of the need to arrange for treatment and other services for those children whose parents cannot secure it for them.... Where adequate resources are available, counseling can be used effectively to improve the health of school children. It becomes a continuous and vigorous effort to help each child secure the benefits of modern medical and public health knowledge. Through face-to-face conferences with pupils and parents it helps them to learn how to meet and solve health problems (55, pp. 121-122).

Study findings

The overwhelming majority (92 and 86 percent, respectively) indicate a positive response to both parts of the question. Seven percent and eight percent, respectively, indicate a negative response, and one percent and eight percent, respectively, did not respond to the question.

Summary and analysis

Based on the study data, it must be concluded that the study schools do meet the NEA/AMA committee recommendation.

The following questions will be analyzed in a somewhat different fashion. This is done because they do not fit into the above format due to the fact that they are not specifically recommended by the NEA/AMA committee. However, some of them are implied; others alluded to.

It was felt by the researcher, that they were apropos, and deserved consideration because of the implications they have for effective School Health Programs.

Question No. 4. If health is taught either as a separate course or as a unit in another course, please list the specific topics taught (Table 28, Appendix A).

Study findings

The study responses are summarized according to topics listed, either as subject areas taught in a specific course, or as subject areas taught as units or topics in other courses. The number of times the same subject areas are mentioned is also listed. Elementary study school responses are considered individually due to the difference of curricular offerings as one might expect. However, junior and senior high responses are combined because of the similarity in curriculum.

Summary and analysis

The data in Table 28, Appendix A, indicate a multiplicity of curriculum topics in health in the study schools.

Data also indicate that only 27 percent of the 74 study schools responded to this question.

Any conclusions about the depth, breadth, continuity, etc., of health education in the schools would be inaccurate and insupportable due to several factors: 1). many of the principals either did not respond to the question, or did not answer the question completely; and 2). impressions received from personal interviews lead the researcher to conclude that many respondents do not really know the exact nature

and extent of health curriculums in their schools.

A more in-depth study should be made of the health education program as the subject of future research.

Despite the lack of availability of solid data, information gleaned from personal interviews suggests there is little continuity, planning or organization for health instruction in the study schools.

Thus, based on data compared to the NEA/AMA committee recommendations stated in questions 3, 23, and 24, the study schools do not meet the recommendations for the health education aspect of the School Health Program.

Question No. 7 (a), (b), (c). Does your school provide formal instruction about sex education? If "Yes", is this instruction part of: a). a specific health course? b). a unit in another course? Which course? Other? Are boys and girls taught together? (Table 8, Appendix A).

Study findings

The largest percentage of the study schools, (61 percent), said they did not provide formal instruction in sex education; 35 percent said they did; and four percent did not respond to the question.

The Class I schools, considered separately, indicate that 52 percent did provide formal instruction; 44 percent did not; and four percent did not respond to the question.

In contrast, fewer of the Class II and III schools provide this kind to formal instruction, with 57 percent and 81 percent, respectively, responding negatively to the question.

For the schools responding positively to the question, 22 percent

indicate providing the instruction as a unit or topic in other courses; 15 percent indicate providing the instruction in specific health courses; and 61 percent did not respond to the question. The remaining two percent is accounted for by such "other" answers as: talks by nurses, talks by the health department, assembly programs, films on menstruation, films like "Boy to Man", and "Girl to Woman".

Question No. 8 (a), (b), (c). Does your school provide formal instruction about drugs? If "Yes", is this instruction part of: a). a specific health course; b). a unit in another course? Other? (Table 9, Appendix A).

Study findings

The great majority of the schools, all classes combined, (70 percent) said they did provide formal instruction about drugs; 29 percent said they did not; and one percent did not respond to the question.

Some noticeable differences occur between classes. Class I schools show the highest positive response (80 percent); while the Class II schools show a 61 percent positive response; and the Class III schools a 69 percent positive response.

As for the locus of instruction, all classes combined, the highest percentage (47 percent) offer drug education as a unit or topic in another course; 19 percent said they provided formal instruction in specific health courses; a rather high percentage (29 percent) did not respond to the question; and five percent indicated offering instruction in "other" fashions such as: talks by nurse, talks by policeman, assembly programs, and drug mobile.

A closer analysis of the data for this question shows that the Class I schools most often include drug instruction in specific health courses (40 percent); while the Class II and III schools most often provide this instruction as units or topics in other courses (48 and 58 percent, respectively).

Summary and analysis of questions No. 7 and 8

Situations relating to human sexuality and the use of drugs are two of the most emotionally charged and controversial topics affecting the school population today. These questions were included in an attempt to elicit information that might facilitate some conclusions about the schools' interest, involvement, priorities, etc., (see summary, Question No. 9, Table 29, Appendix A).

Study data indicate the relatively limited availability of curricular offerings in sex education (family life, family living, etc.). While the largest percentage of the Class I schools do provide instruction (52 percent) this leaves 44 percent of the schools without any instruction at all; and four percent did not respond to the question.

As for drug education, the picture is somewhat different. A large percentage (70 percent) of the study schools said they provide this kind of formal instruction, but this large percentage is due largely to the high positive response of the Class I schools. One can conclude from these data that a greater need exists for drug education in the Class II and III schools, with only 61 percent and 69 percent positive responses, respectively.

Both areas considered--sex and drug education--data indicate the need for more emphasis in planning, coordinating and continuity in strengthening curricular experiences in these two areas of the School Health Program.

Question No. 9. Please list what you feel to be the most serious health "needs" and "problems" in your school. (A health "need" is defined as anything that would improve your present health program. A health "problem" refers to existing health conditions among your students that affect your students or the school's environment). (Table 9, Appendix A).

Study findings

The study findings are presented in tabular form to facilitate interpretation. All classes and levels have been grouped, since the responses are so general and no particular patterns are identifiable when comparing class and level responses.

Summary and analysis

The raw data presented in Table 29 show a wide range of health needs and health problems as they are viewed by the principal.

Several interesting phenomena are evident that merit closer observation:

1). certain areas involving the Schools' Health Programs are mentioned more frequently than others; e.g., a health education course, a qualified health teacher, sex and drug education, the need for a full time health course, the need for a full time nurse, etc.,

2). certain health problems are mentioned more frequently than others; e.g., poor personal hygiene, drugs, alcohol, pregnancies, smoking, poor nutrition, etc.,

3). a large number of principals (44) felt that their schools had no health needs or health problems.

Conclusions are quite difficult to draw from these data. However, it is proposed that the responses are representative opinions, and that this sample of opinions is indicative of prevailing conditions in the state's schools.

It is further proposed that the large number of principals who indicated the absence of health needs and problems might, in reality, be unaware of their existence, and that they at least make closer observations of conditions, on the chance that they have overlooked some.

It is also suggested that many administrators are not familiar with basic minimum recommendations for School Health Programs, and lack a basis from which to make judgements.

Question No. 10. Which of the following statements most nearly represents your feelings about school health: a). if a school has a good physical education program, it does not need a separate health education program; b). health education is as important as any other part of the school problem and should be taught as a separate course; c). other comment. (Table 10, Appendix A).

Study findings

For all classes combined, the largest percentage (61 percent) felt that health education was as important as any other part of the school program and should be taught as a separate course; seven percent felt

that if the school had a good physical education program it did not need a separate health education program; and four percent did not respond to the question.

Considering the various classes separately, it is noteworthy that the Class I schools showed the highest percentage (72 percent) in favor of a separate health course. This high response was attributable to the high percentages indicated by the junior and senior high levels.

The Class II schools were close behind with a 70 percent response in favor of a separate health course. All three levels in the class showed similar percentages in favor.

The Class III schools, on the other hand, showed the lowest response (42 percent) favoring a separate health course. They did, however, have the highest percentage (38 percent) indicating "other" ways in which the health education program might be included. This should be compared with 28 percent for responses to "other" categories for all classes combined.

Some of the "other" responses are quoted below:

> "If persons available to teach it, may be taught in P.E. or science as a unit."
>
> "Should be integrated with other courses."
>
> "Physical education teachers not qualified to teach health."
>
> "Much health teaching should be done at home."
>
> "Health and science should be together."
>
> "Health education is important but not as important as math, reading, etc."
>
> "Integrated with other courses with definite objectives--not separate."

"Should be a continuous course of study K-12."

"Feel that in elementary school health sould be taught separately, but in secondary school it should be part of physical education."

"Should be taught as a separate course but not the same number of minutes as reading and math."

"Health is important enough to be taught as a solid unit, developmentally, from K-6 for a period of four weeks at the start of the year."

"If special units in home economics and science are taught on health, I doubt that you would need a special course."

"Health education should be involved with related subjects in all classes."

"It is important, but it can be worked in as a part of our science program."

"Health education is of great importance and should be taught at every grade level. It need not, however, be a separate course but an integral part of other courses."

"Should be taught separately as an integral part of other courses."

Summary and analysis

It is rather obvious that this question stimulated responses representing almost every shade of opinion and attitude. It also becomes more understandable why the School Health Programs in the study schools vary so much in their emphases: THERE DOES NOT SEEM TO BE A CONSENSUS ABOUT WHAT CONSTITUTES A SCHOOL HEALTH PROGRAM!

However, the majority opinion (61 percent) indicates the general feeling that health education is important enough to be taught as a separate course, and a number of "other" opinions reflect the same sentiments.

Question No. 15. Do any civic, service, or social organizations help your school meet any health needs? (Table 19, Appendix A).

Study findings

For all classes and levels, the majority (69 percent) said they did receive assistance from these organizations; 26 percent said they did not; and five percent did not respond to the question.

Summary and analysis

While this area of community and school relationships is not specifically mentioned in the NEA/AMA recommendations, it is implied in a number of instances.

It has been the experience of the researcher that these organizations often provide a number of health services when no other agency in the community--official or voluntary--is willing or able to do so.

A summary of the kinds of assistance provided in meeting the schools' health needs follows:

glasses, assistance in health screening programs, prosthetic aids, shoes, clothing, food, dental needs, educational materials, eye examinations, hearing aids, medical needs for the indigent, purchase of eye screening equipment, vision testing, scholarships, athletic physicals, surgery, money, kindergarten screening, mobile Glaucoma testing, etc.

This list illustrates the many services that these organizations can and do offer to the schools. It is, however, a virtually untapped resource for the schools in meeting health needs and solving health problems.

Question No. 26. Did your school participate in the 1967 School Health Education Study? (Table 27, Appendix A).

Study findings

For all classes and levels, none of the study schools indicate having participated in the study. Sixteen percent said they did not; 57 percent did not know if they had; 25 percent had never heard of the study; one school nurse remembered having heard of it; and one school did not respond to the question.

Summary and analysis

The School Health Education Study was begun in 1960 and completed in 1967 in an attempt to determine the status of health instruction in the nation's schools. The results showed, among other things, that health instruction was a "poor relation" in the curriculum in most states.

On the basis of these findings, a committee of nationally recognized professionals in health and education developed a curriculum based on a conceptual approach and designed to concentrate on a health curriculum commensurate with current needs and problems.

The publication has been available for the past five years, and it is somewhat surprising that such a large percentage (62 percent) of the schools were unaware that the study had been conducted, and that the publication was available.

This concludes the analysis of the data based on responses in the study instrument. The following chapter will address itself to

summarizing these findings as well as to offering some suggestions for further research and for improvement in the state's School Health Program.

SUMMARY AND CONCLUSIONS

The major purpose of this study was to present a realistic profile of the current status of School Health Programs in selected public schools in Iowa, kindergarten through twelfth grade.

The 453 school districts in Iowa were divided into three approximately equal groups, and designated Class I, II, and III, depending on the size of enrollment, with Class I schools having the largest enrollment, Class II having medium enrollment, and Class III having the smallest enrollment.

According to the Department of Public Instruction's publication, "Data on Iowa Schools, School Year, 1970-71, Part 1, Pupils-Public and Non-Public", there were 659,576 students enrolled in all districts combined. Using this figure for a computing base, the total enrollment was divided into thirds, producing three approximately equal groups of 220,000 students in each. The same data source was used to cumulate enrollments beginning with the largest school district (Des Moines), and counting toward the smallest school district (ACL).

The Class I schools included 15 districts from Des Moines to Marshalltown, representing a total of 309 public schools; all levels combined.

The Class II schools included 89 school districts from Muscatine to West Marshall, representing a total of 57 public schools; all levels combined.

The Class III schools included 346 school districts from Central

Lee to ACL, representing a total of 41 public schools. A total of 90 schools was judged to be a statistically significant sample, and ten school districts in each class, and one school from each level, to give the needed balance to the study sample.

Each school district in each class was assigned a number. The school district to be studied was selected by use of a table of random numbers. Once the study districts had been selected, every school at all levels within each class was assigned a number. One school from each level (i.e., elementary, junior high, senior high) was selected by also using a table of random numbers. This produced the needed 90 schools for the study sample.

A questionnaire was developed, pretested, and applied to the 90 study schools. Personal interviews were conducted in ten of the study schools to elicit responses that might differ radically from those of the mailed questionnaires. However, none were noted.

Sixty-four of the mailed questionnaires were returned and combined with the ten personal interviews for a total response of 74, or 82 percent.

It was predetermined that some standard of measurement should be used against which the respondents' replies could be compared to satisfy the study objectives. The standard selected was the trilogy of publications by a Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association--Health Education, School Health Services, and Healthful School Environment (28, 55, 56).

This committee and its recommendations represent the most authoritative source of information in the field of health and education today.

The study questionnaire responses were analyzed according to a specific pattern in order to facilitate interpretation of results and formulating conclusions. The general format (except for several questions that did not lend themselves to a comparison with NEA/AMA recommendations) was:

1). a statement of the question;

2). a statement of the NEA/AMA committee recommendation for that particular question;

3). a statement of the study findings; and

4). a general summary and analysis of the findings for each question.

The study data were analyzed in terms of favorable responses on a percentage basis. Eighty-five percent was arbitrarily set as the minimum standard acceptable for positive responses. This figure, although arbitrary, can be viewed as reasonable in accordance with commonly accepted ratios when using percentages as a ratio.

Summary of Study Findings

This Summary of Study Findings is based on findings for all classes combined.

Questions No. 1 and 2

The NEA/AMA committee recommends a school health council or committee both on the state-wide level, the system-wide level, and in individual schools.

Study data for this question show that only 18 percent of the schools said they have health councils or committees. With this low positive response, the study schools do not meet the NEA/AMA committee recommendation.

Questions No. 3 (a), (b), (c), (d), (e), (g) (considered together since they are closely related)

The NEA/AMA committee recommends health instruction in the schools in accordance with the general curriculum design, and considers it equally important as any other part of the curriculum. Specifically, the committee recommends health instruction either as a separate course or as units or topics in other courses.

Study data show that while 68 percent of the schools said they did not offer health instruction as a separate course, 82 percent said they did offer health instruction as units or topics in other courses.

Data also show that the "other" courses in which health instruction is offered are most often physical education, general science, home economics, biology, and social studies.

This question also called for information about the "required" or "elected" characteristics of health instruction. The results are largely inconclusive, since a large percentage (32 percent) of the schools did not respond to the question. In addition, the fact that physical

education is required in the schools, and since the largest percentage of the schools (61 percent) indicated health instruction in this area, health instruction would be automatically required.

In response to the question about the percentage of the student body who elect to take health instruction where an option is available, data indicate a minimal percentage of response to these courses.

Question No. 4

This question attempts to elicit the nature of the subject matter in health, and calls on the respondent to list the actual topics offered either in separate health courses or as units or topics in other courses.

Study data show that the topics most frequently taught in health are: nutrition, family life, veneral disease, drugs, sex education, alcohol and tobacco, first aid, dental health, personal hygiene, communicable diseases, body systems, and physical fitness. A sampling of other topics was included.

Question No. 5

This question was directed toward finding out approximately how much time is devoted, on the average, to teaching health in the study schools.

The NEA/AMA committee recommends devoting the same amount of time to health instruction as for other subject areas in the curriculum.

According to study data, only a mean of 16 hours, all classes combined, is spent teaching health. This compares rather unfavorably with the average amount of time (approximately 90 hours) devoted

annually to teaching other subjects. Data indicate that the study schools do not meet the NEA/AMA committee recommendation.

Question No. 6

An attempt was made with this question to determine who was teaching health in the study schools and their teacher preparation background.

The NEA/AMA committee recommends adequate preparation in specific health competencies for teachers of health.

The majority of the respondents indicated physical education teachers as the teachers of health in the study schools (69 percent). Forty-one percent were home economics teachers; 34 percent were biology teachers and nurses, respectively; 31 percent were health and physical education teachers; 30 percent elementary education teachers; 22 percent social studies teachers; 15 percent child development teachers; and 15 percent health education teachers.

It would involve in-depth analysis of the educational preparation of these teachers to pass accurate judgement on their qualifications to teach health. It is, however, proposed that most of the teachers who teach health in Iowa schools do not have adequate preparation. This proposition is based on responses received in personal interviews, personal experiences, conversations and meetings involving teachers, as well as from responses to other questions in the study questionnaire.

The general teacher preparation programs in Iowa for the teaching specialties indicated in the study schools, for those who are teaching

health, do not include in-depth exposure to the competencies recommended by the committee.

It is, therefore, proposed that the study schools do not meet the NEA/AMA committee recommendations for health-teacher preparation (see Table 29, Appendix A).

Questions No. 7 and 8 (considered together since they are closely related)

Two of the most critical health problems and health needs involving the student today are those associated with human sexuality and drugs. Statistics indicate large and growing problems with illegitimacy, abortion, pregnancy, divorce, emotional health, and the use of mind altering substances. An attempt was made with these questions to determine the extent and nature of instruction in these two areas.

As for sex education, the largest percentage (61 percent) of the study schools said they did not provide formal instruction on this topic. The findings differ for drug education, however, with 70 percent of the schools responding positively to the question.

The conclusion can be drawn that 59 percent of the schools should re-evaluate their curriculum offerings in the area of human sexuality; and 30 percent of the schools need to consider the nature of their drug education program. These conclusions, once again, are based on health data available from a number of sources, such as: the U.S. Bureau of Health Data, local and state health departments, and voluntary health agencies, and show a rising incidence of health problems associated with human sexuality and drug use.

Question No. 9 (see Table 29, Appendix A. Summary of health needs and health problems)

This question was designed to elicit information about what the administrators felt were the greatest health "needs" and "problems" in their schools.

Table 29 lists all of their responses in order of the frequency mentioned. The health "needs" most frequently mentioned were: a health education course, a qualified health teacher, sex education, drug education, a full-time course in health, and a full-time nurse. A variety of other health "needs" were mentioned, and listed on the table.

The health "problems" mentioned most often were: poor personal hygiene, drugs, alcohol, pregnancy, smoking, poor nutrition, overweight, and dental health. A variety of other "problems" are also to be found in Table 29.

Probably the most significant statistic derived from this question is that 21 percent of the administrators felt they had no health "needs", and 23 percent felt they had no health "problems".

Since no specific NEA/AMA recommendations relate to this area of the study, no statement can be made, pro or con, about the study schools' meeting the committee recommendations. It can only be proposed, on the basis of information received in personal interviews, personal experiences, and conversations with administrators and teachers, that more planning, organization and continuity of learning experiences in health is indicated.

Question No. 10

In this question, the administrators were asked to express their feelings about school health. They were asked to decide between health education as a part of physical education only, or as a separate course of study. They were also given the opportunity to express "other" attitudes about the place of health education in the curriculum.

The largest percentage (61 percent) felt that health education was as important as any other curricular offerings, and should be taught as a separate course. Seven percent felt that if the school had a good physical education program it did not need a separate health education program; four percent did not respond to the question; and 28 percent listed "other" responses. These responses can be seen under the "study findings" section for this question (see p. 98).

Once again there is no NEA/AMA recommendation to be used as a standard of measurement for responses. It is obvious from the data for this question that there is a large variety of opinions and attitudes about the place of health education in the curriculum. It is suggested that this large variety of responses is symptomatic of a larger problem, and perhaps the major school health problem today: viz., there is little consensus among administrators about what an effective School Health Program should include.

Question No. 11 (a), (b), (c), (d), (e)

The NEA/AMA committee makes rather elaborate recommendations about school health services. Their principal recommendations focus on services

that should be provided by the school to insure the optimum health of its students. The services studied include: physical examinations, screening for visual problems, screening for health problems, identification of the physically handicapped, and examination (certification) to take physical education. There are other recommended services, but these are the major ones.

In the opinion of the researcher, the study schools generally met the NEA/AMA committee recommendations for physical examinations, screening for visual and hearing problems, and identification of the physically handicapped; but did not meet the committee's recommendations for certification to take physical education.

Question No. 12 (a), (b)

The NEA/AMA committee recommends the services of a school nurse, and stresses her vital role in the School Health Program.

This question was directed toward a determination of the percentage of schools having the services of a school nurse, whether the nurse was employed full-time or part-time, and approximate average number of hours the nurse is available to the school per week.

It was determined that while a large percentage (91 percent) of the schools responded positively to the question, 78 percent of the schools indicated having nursing services only part-time, and nine percent provided no nursing services. An overall average of 12 hours per week, full-time and part-time services combined, was the maximum time spent by nurses in the study schools.

These data indicate the study schools do not meet the committee's recommendations for functions and competencies required if the school nurse is to provide meaningful and effective services in the School Health Program.

Question No. 13

This question attempted to determine the kinds of relationships that exist between the school and the various levels of official health agencies: the local, state, and federal health departments. The major relationships investigated include: health consultation, health teaching assistance, health project funds, health education materials, and health screening programs.

The NEA/AMA committee strongly recommends a close working relationship between the school and community agencies concerned with health.

Study data indicate that a fairly large percentage (60 percent) received health consultation from local health departments; 36 percent from the state health department; and five percent from federal sources.

A very small percentage (26 percent) of the study schools said they received health teaching assistance from city, county, state, and federal sources.

An even smaller percentage (16 percent) of the study schools said they received health project funds.

In reference to health education materials, 91 percent said they received this kind of assistance from local and state departments; and nine percent from federal sources.

Only 37 percent of the study schools said they received assistance in health screening programs from all official health agency sources.

Data considered for all categories, the study schools do not meet the NEA/AMA committee recommendations for relationships that should exist between the schools and official health agencies.

Question No. 14

This question is similar to Question No. 13 in that it attempts to determine the same kinds of relationships that exist between the school and the Iowa State Department of Public Instruction.

The NEA/AMA committee stresses a close relationship between the school and the State Department of Public Instruction in an effort to meet many of the school's health needs. These relationships include: health consultation, health teaching assistance, health project funds, health education materials, and health screening projects.

Study data indicate a limited use of these resources.

Forty-one percent of the respondents said they received health education materials; 19 percent said they received health consultation; 15 percent said they received assistance with health screening projects; and seven percent said they received a variety of "other" types of assistance such as "tutoring", "transportation", "immunizations", and "assistance with the lunch program".

These data indicate that the study schools do not meet the recommendations of the NEA/AMA committee.

Question No. 15

Do any civic, service, or social organizations help your school meet any health needs?

Although the NEA/AMA committee does not specifically refer to these organizations, their role in the relationship between the school and community is implied as an indispensable one in helping the school meet its health need.

A majority of the study schools (69 percent) said they did receive assistance from these organizations (Kiwanis, Lions, Lyons, PTA, Rotary, Elks, Sertoma, 40 and 8, etc.) in meeting the schools' health needs.

The kinds of needs met include: glasses, eye examinations, food, money, athletic physicals, prosthetic aids, education materials, etc.

While it must be noted that a large percentage of the study schools do receive assistance, it must also be noted that 31 percent (negative responses and no responses combined) do not receive any assistance from these groups, and it can be inferred that many have not utilized this important source of health assistance. It is thus concluded that the schools, considered overall, do not meet the NEA/AMA committee recommendation.

Question No. 16

Do any voluntary health organizations (e.g., Heart Assn., Cancer Society, Birth Defects Foundation, TB Assn., etc.) help your school meet any health needs?

The NEA/AMA committee emphasizes the importance of these agencies

in assisting schools with their School Health Programs.

Data indicate about half of the study schools responded each way. Fifty percent said they did receive assistance from voluntary health agencies; 46 percent said they did not; and four percent did not respond to the question.

It is concluded from these responses that the study schools do not meet the NEA/AMA committee recommendations.

Question No. 17

This question relates specifically to the healthful environment aspect of the School Health Program, and attempts to determine the inspection profile of the schools' food service facilities.

The NEA/AMA committee stresses the essential nature of school food sanitation and its importance in health protection.

All data considered, it must be proposed that the study schools do meet the NEA/AMA committee recommendation. An analysis shows that 91 percent of the study schools receive some kind of inspection, either from the health department or some other source in the community responsible for food sanitation inspections. Two percent have no food service facility, and five percent indicate they receive no inspection of any kind.

Questions No. 18 and 20 (considered together since they are closely related)

Does your school have written procedures detailing what should be done for the student in case of sudden illness or injury?

Does your school have special facilities designated for the care of students who have been injured or become suddenly ill, or suspected of having a communicable disease?

The NEA/AMA committee recommends that school administrators prepare and distribute written procedures providing for the care of students who have become suddenly ill or injured.

The committee also recommends that every school have special facilities--a "health room"--where emergency care can be given.

These questions were designed to ascertain the extent of the study schools' provisions for these areas traditionally considered to be essential elements in the School Health Service Program.

Data indicate a large positive response to Question No. 18 (73 percent); all classes combined. However, a significantly large percentage (25 percent) responded negatively, and three percent did not respond to the question. Thus, the study schools did not meet the NEA/AMA committee recommendation for this area of the School Health Program.

As for Question No. 20, the percentages of responses for all classes combined (81 percent) represent a rather high positive response. However, based on the pre-set minimum of 85 percent as the acceptable response level, the study schools do not meet the NEA/AMA recommendations.

Question No. 19

Is anyone, other than the school nurse, trained to administer first aid?

This is another of the school health service areas recommended by the NEA/AMA committee as a necessity in any School Health Program. The NEA/AMA recommendations specifically calls for every member of the school's staff to be trained in administering first aid.

Study results indicate a relatively high percentage of positive responses (81 percent) to this question for all classes combined; however, further analysis shows a relatively low percentage of average numbers of school staffs trained (18 percent).

Based on the pre-set minimum of 85 percent as the acceptable response level, the study schools do not meet the NEA/AMA committee recommendations.

Question No. 21 (a), (b)

Does your school district require or recommend any kinds of immunizations? Which ones?

The NEA/AMA committee recommends maintaining current immunization levels among students.

Study data indicate a wide variety of immunization practices in the study schools, such that no distinguishable pattern exists. For all classes combined, 56 percent of the schools said they recommend immunizations; 16 percent said they required immunizations; and 28 percent did not respond to the question.

The most salient observation concerning the response to this question is that, since there is no state law requiring immunizations of school children in Iowa, the individual school districts generally

feel at liberty to establish practices of their own. Further, there is the observation that with no state-wide or system-wide planning evident, many students could be overlooked in the process, despite mass immunization efforts, and despite school recommendations that students have the "usual" immunizations prior to entering school.

It is questionable that the study schools meet the NEA/AMA committee recommendations.

Question No. 22 (a), (b)

The purpose of this question was to determine the nature of regular in-service health education opportunities provided for teachers by the study schools.

The NEA/AMA committee places strong recommendations on in-service education:

> ... as an effective means of helping those engaged in school health activities improve their understandings, skills, and competencies in the teaching and guidance of pupils....

The greatest percentage of the study schools (80 percent) said they did not provide regular in-service health education opportunities; 15 percent said they did; and five percent did not respond to the question.

The key phrase in the question was "regular opportunities". Data show that even for those responding positively to the question, only seven percent said they had provided health programs in 1971 or 1972, and none indicated providing programs prior to 1971.

It is concluded from this data that the study schools do not meet

the NEA/AMA recommendations for regular in-service health education opportunities.

Questions 23 (a), (b), and 24 (a), (b) (these questions are closely related and are considered together)

Do the curriculum committees of the elementary and junior high schools in your district meet to plan the continuity of the School Health Program? If "Yes", how often do they meet?

Do the curriculum committees of the junior and senior high schools in your district meet to plan the continuity of the School Health Program? If "Yes", how often do they meet?

In the opinion of the NEA/AMA committee,

> There can be no substitute for a planned, organized curriculum in health education providing for depth, breadth, and continuity of experiences if the school is to fulfill its purposes in attaining self-realization, improved human relationships, economic efficiency, and civic competence (28, p. 137).

Analysis of the data for this question indicate that the large majority of the study schools show a negative response for both questions (70 percent and 77 percent, respectively).

It is concluded from this large negative response that the study schools do not meet the NEA/AMA committee recommendations for planning the continuity of the School Health Program.

Question No. 25 (a), (b)

This question sought to determine the health counseling and follow-up practices of the study schools.

The NEA/AMA committee considers health counseling and follow-up

to be an integral part of any school's health service program.

Data indicate an overwhelming positive response to both parts of this question; 92 and 86 percent, respectively.

It must be noted, however, that the NEA/AMA recommendation is that every school provide health counseling and follow-up programs. Data show that eight percent of the study schools have no health counseling programs, and 14 percent do not have counseling follow-up procedures.

However, with this level of positive response it is concluded that the study schools do meet the NEA/AMA committee recomendation.

Question No. 26

Did your school participate in the 1967 School Health Education Study?

This question was included almost as an afterthought, but it is felt that the responses reflect the prevailing familiarity with current trends and standard-setting works in the field of school health.

This study, a classic in the field, was begun in 1960 and completed in 1967. It was conducted and sponsored by nationally prominent agencies and individuals in the fields of health and education.

The major purpose of the study was to develop a health education program, specifically, and a School Health Program, in general, that would meet the health needs and problems in a relevant fashion for students in this age of vast technological change, and in keeping with newer concepts of educational philosophy.

The publication and its accompanying teaching aids have been available for the past five years. Eighty-two percent of the schools were unaware that the study had been conducted; 16 percent said they had not participated in the study; one percent remembered having heard of it; and one percent did not respond to the question.

One can make several assumptions based on these data:

1). that the education administration, either at the district or state levels or both, reviewed the publication and found it not acceptable for use in the schools; or

2). that the school administration, either at the district or state levels or both, had heard of the study, but did not think it any more effective than the existing health education program; or

3). that the school administration, either at the district or state levels or both, have never heard of this nationally acclaimed, classic study.

Whatever the assumption, or the explanation, it is suggested that the study is deserving of at least some review and consideration for use in the School Health Program in the state's schools.

Conclusions

The general procedure for conducting the study was based on formulating questions that would elicit responses for comparison to School Health Program recommendations made by the Joint Committee on Health

Problems in Education of the National Education Association and the American Medical Association.

A total of 29 questions were posed to school principals in 90 public schools (k-12) selected at random from the 453 school districts in the state.

Of the 29 questions, six were not based on the NEA/AMA committee's recommendations, but were included because the researcher felt them germane to areas over and above those of concern to the committee.

There were a total of 23 questions asked that had as their basis of inclusion, specific recommendations made by the committee.

The principal conclusion to be drawn from the study is that the study schools overall did not meet the NEA/AMA committee recommendations for minimum standards for an effective School Health Program. This conclusion is based on the fact that the study school responses to 19 (or 83 percent) of the twenty-three questions did not compare favorably to the NEA/AMA committee recommendations.

Only three (or 13 percent) did meet the recommendations, and one (or four percent) was questionable.

It is felt that these data are significant enough to support the major proposal of the study: that the average public school's provisions for and existing practices in school health do not meet the NEA/AMA committee recommendations.

More specific conclusions are that, all schools considered:

1). planned and organized "total" School Health Programs in Iowa public schools (k-12) are virtually nonexistent;

2). planned, organized and coordinated health education programs in Iowa public schools (k-12) are virtually nonexistent;

3). there is evidently no consensus of opinion on the part of school administrators about what should be included in an effective, meaningful School Health Program, or where health should be included in the curriculum;

4). time allotment for health instruction is less than one-fifth that devoted to other subject matter areas in an average school year;

5). teachers responsible for teaching health are inadequately prepared for this responsibility;

6). in many instances, health topics are included in the school program on a "crisis" basis; e.g., sex and drug education, and not as a part of a continuous health education program;

7). many school administrators are not aware of the real health "needs" and "problems" in their schools;

8). many schools need the services of a full-time nurse, as well as more effective use of the nurse's time, and several study schools have no nursing service;

9). relationships between the school and community agencies such as: the health department, the Department of Public Instruction, voluntary health agencies, etc.,

are limited in many instances, and in some cases they are nonexistent insofar as meeting health needs is concerned;

10). only a small average percentage (18 percent) of the schools' staffs are trained to administer first aid;

11). virtually no opportunities are provided for regular in-service health education programs for those responsible for the school's health program.

Recommendations

Recommendations for this study are made under two major categories; i.e., recommendations for further research, and recommendations for improving the School Health Program in Iowa.

Recommendations for further research

Each of the three traditional areas of the School Health Program is fertile ground for extensive research. While the purpose of this study was to examine the overall School Health Program, many elements involved in the program can be recommended for detailed study and analysis.

These three areas will be presented separately for the purpose of pointing out the research possibilities that exist in each.

Health education It is recommended that personal interviews with health teachers, nurses, administrators, and students and close personal observations of health teaching activities (primary,

intermediate, and secondary levels) be conducted to determine the status of:

1). course content;

2). teaching methods;

3). classroom atmosphere;

4). use of teaching aids;

5). evaluation techniques;

6). health teacher's experience and training;

7). the method of curriculum development and curriculum continuity;

8). the extent of health curriculum coordination and integration with other curricular areas;

9). school curriculum design and the place of health instruction in the curriculum;

10). innovative teaching techniques;

11). the relevance of health instruction;

12). the relationship between health education and other areas of the School Health Program; and

13). provisions for in-service health education programs.

School health services It is suggested that personal interviews with the school nurse and administrators and others in the community responsible for this area of the School Health Program be conducted; and that on-site observations be made of the existing health service program to study the status of the following:

1). emergency care facilities;

2). extent of health screening programs, and kinds of health

screening equipment available;

3). the frequency and nature of health screening activities;

4). community resources available and used in health screening program;

5). school nurse activities and responsibilities;

6). major health needs and problems of students and staff; and,

7). student and staff immunizations.

Healthful school environment While it would involve extended study and specific training and experience, this area of the School Health Program could be the source of fruitful research, particularly in the following areas:

1). general status of the school physical plant; e.g., crowding index, safety hazards, lighting, ventilation, air conditioning, etc.;

2). the nature of facilities for health and physical education activities;

3). programs and facilities for recreation and leisure-time activities; and

4). the status of provisions for hazardous school activities and the general safety programs of the school.

Numerous activities, programs, etc. require further study in the School Health Program. These are only suggested as some sources that could produce beneficial results, and are only limited by the imagination of the researcher.

Several other areas, in addition to the above, might prove valuable for more intensive study:

1). the status and method of communication between the school administrator and staff involved in the School Health Program; and

2). budget allocations for state and system-wide School Health Programs.

Recommendations for improving the School Health Program in Iowa

This study has attempted to point out objectively the nature and characteristics of the School Health Program in Iowa Public Schools, kindergarten through twelfth grade.

Foregoing data, derived from personal interviews and mailed questionnaires, show that most of the responses of the 74 study schools (83 percent) failed to meet the standards recommended by the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association.

Only 13 percent were judged to compare favorably with the recommendations and four percent of the responses were questionable.

This kind of response would warrant some suggestions for improvement. There are no simple solutions to be offered. As is generally the case in worthwhile ventures, a great deal of thought, planning, plan-revision, and coordination are to be expected.

Suggestions for improvement, then, are viewed in terms of a multi-faceted approach. The following are offered for consideration:

The role of teacher preparation institutions No colleges or universities in Iowa offer a major course of study in health education. The extent of most teacher preparation programs involves the availability of several health-related courses, and in some instances, specific courses in health; e.g., Iowa State University offers courses in personal health education, emergency health care, school health education, and special topics in health.

Courses of this kind are usually elective and fall into the category of "service" courses, and are not generally required as part of the teacher preparation program. It is recommended that teacher preparation institutions develop or improve their health course offerings, and, where possible, develop departments of health studies offering a major course of study in health education.

The role of the Department of Public Instruction Iowa has no health certification program. Those who are certified to teach anything are certified to teach health.

It is recommended that the Department of Public Instruction work closely with teacher preparation institutions to develop health certification programs. It is further recommended that the department seek a closer working relationship with other agencies in the community responsible for health in the community and in the schools.

The role of school health advisory councils:

a). A state-wide health advisory council. It is recommended that a state-wide health advisory council be established and co-sponsored by the State Department of Public

Instruction and the Iowa State Department of Health, and that representation from all agencies and organizations interested in or responsible for health in the community and schools be included. A suggested list of representatives would include: the State Health Department, the Department of Public Instruction, the Comprehensive Health Planning Council, the Iowa Health Planning Council, representatives of teacher preparation institutions, voluntary health agencies, state medical and dental associations, and any others felt necessary by the council.

b). The school district health advisory council. It is recommended that advisory councils similar to the state council be established on the school district level, and coordinated by the school superintendent, with representation that might include: the local health department (if there is one, if not, an ex-officio member of the State Health Department), the superintendent of schools, school principals, nurses, teachers, students, representatives of county medical and dental societies, local voluntary health agencies, representatives of civic and service organizations, parents, a psychologist, therapists, and any others felt necessary by the council.

And finally,

c). The individual school health council. It is recommended

> that each school have its own health council, with representation that might include the following: school administrators, health teachers, students, physical education teachers, coaches, parents, the lunch room supervisor, the maintenance supervisor, school bus drivers, a physician, a dentist, a public health nurse a health educator, a consultant nurse from the Department of Public Instruction, special technicians (audiologist, therapists, etc.), and any others felt necessary by the council.

Several things must be borne in mind. First of all, the very size of committees or councils is very often crucial to their success. Therefore, care must be taken to select good representation, but at the same time, not to become so large as to become nonproductive. Secondly, good communication is essential. A system of communication must be developed that will inform members of the date, time, location, and agenda of meetings. In addition, a system of communication must be developed that will operate vertically and horizontally among the various levels of health advisory councils. It would be counter-productive for a council to meet at one level and not inform the councils at other levels of its transactions. And lastly, a planned, written agenda is mandatory when the various councils meet. Nothing kills a meeting or an endeavor like one that is not organized and going somewhere.

It is felt, then, that health advisory councils at these three levels, if they are convinced of the importance of health in the school

program, can effectively plan and implement meaningful and effective health programs in the state's schools.

Working together--teacher preparation institutions, the State Department of Public Instruction, the official health agencies, and advisory health councils at the suggested levels--their combined efforts can produce some unprecedented developments in the School Health Programs in Iowa.

A coordinated effort could produce some of the following:

1). prospective teachers could be better trained to teach health;

2). teachers already in the system could be provided in-service health education programs and opportunities to participate in continuing education programs;

3). workshops, seminars and short-courses in health could be developed and implemented;

4). curriculum planning, development and continuity could be improved, and in some cases developed for the first time;

5). health screening and immunization programs could be improved;

6). teaching methods and teaching materials could be improved;

7). community health resources could be utilized to fullest potential;

8). health consultation programs could be strengthened;

9). health research opportunities and health project funds could be made more accessible, and utilized more efficiently.

These are only some of the many advantages to be derived from cooperative health planning. The school must be considered as much a

part of the community as the home, or the factory, or businesses.

The very nature of the school, with its compulsory attendance regulations, makes it an ideal medium to begin early and to provide continuous health learning experiences so that every student will be given an opportunity to develop his capacities and potentials to the fullest.

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APPENDIX A. TABLES

Table 1. Frequencies and percentages of schools with health councils

Class	Level	n	Yes	%	No	%
I	Sr. Hi.	8	3	37	5	63
	Jr. Hi.	9	1	11	8	89
	Elem.	8	1	12	7	88
	Totals	25	5	20	20	80
II	Sr. Hi.	5	-	--	5	100
	Jr. Hi.	9	2	22	7	78
	Elem.	9	1	11	8	89
	Totals	23	3	13	20	87
III	Sr. Hi.	7	1	14	6	86
	Jr. Hi.	9	2	22	7	78
	Elem.	10	2	20	8	80
	Totals	26	5	19	21	81
	Grand Totals	74	13	18	61	82

Table 2. Frequencies and percentages showing profile of school health council members[a]

Class	Level	n	Prin.		Local physician		Food super.		Classroom teacher	
			No.	%	No.	%	No.	%	No.	%
I	Sr. Hi.	8	2	25	1	13	--	--	-	--
	Jr. Hi.	9	1	11	-	--	--	--	-	--
	Elem.	8	1	13	-	--	--	--	-	--
	Totals	25	4	16	1	4	--	--	-	--
II	Sr. Hi.	5	--	--	-	--	--	--	-	--
	Jr. Hi.	9	1	11	-	--	--	--	-	--
	Elem.	9	1	11	-	--	--	--	1	11
	Totals	23	2	9	1	--	--	--	1	4
III	Sr. Hi.	7	1	14	-	--	--	--	1	14
	Jr. Hi.	9	2	22	1	11	--	--	1	11
	Elem.	10	2	20	1	10	--	--	2	20
	Totals	26	5	19	2	8	--	--	4	15
	Grand Totals	74	11	15	3	4	--	--	5	7

[a]Percentages more or less than 100 are due to the fact that it is possible to have more than one answer to this question. Answers are not mutually exclusive.

Nurse		Phys. Ed. teacher		Parents		Students		Asst. prin.		Dentists		Others	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
3	38	1	13	--	--	--	--	2	25	--	--	2	25
1	11	-	--	--	--	--	--	--	--	--	--	1	11
1	13	1	13	--	--	--	--	--	--	--	--	1	13
5	20	2	8	--	--	--	--	2	8	--	--	4	16
-	--	-	--	--	--	--	--	--	--	--	--	-	--
2	22	1	11	--	--	--	--	--	--	--	--	-	--
1	11	-	--	--	--	--	--	--	--	--	--	-	--
3	13	1	4	--	--	--	--	--	--	--	--	-	--
1	14	1	14	--	--	--	--	--	--	--	--	-	--
2	22	1	11	--	--	--	--	--	--	--	--	-	--
2	20	2	20	1	10	--	--	--	--	--	--	1	10
5	19	4	15	1	4	--	--	--	--	--	--	1	14
13	18	7	9	1	1	--	--	2	3	--	--	5	7

Table 3. Frequencies and percentages showing the characteristics of health instruction

Class	Level	n	Specific health course[a]				Unit in other courses[b]					
			Yes	%	No	%	Yes	%	No	%	No response	%
I	Sr. Hi.	8	3	37	5	63	7	88	1	12	-	--
	Jr. Hi.	9	5	56	4	44	5	56	2	22	2	22
	Elem.	8	5	63	3	37	4	50	-	--	4	50
	Totals	25	13	52	12	48	16	64	3	12	6	24
II	Sr. Hi.	5	--	--	5	100	5	100	-	--	-	--
	Jr. Hi.	9	2	22	7	78	8	89	1	11	-	--
	Elem.	9	4	44	5	56	7	78	2	22	-	--
	Totals	23	6	26	17	74	20	87	3	13	-	--
III	Sr. Hi.	7	2	29	5	71	6	86	-	--	1	14
	Jr. Hi.	9	2	22	7	78	9	100	-	--	-	--
	Elem.	10	1	10	9	90	10	100	-	--	-	--
	Totals	26	5	19	21	81	25	--	-	--	1	4
	Grand Totals	74	24	32	50	68	61	82	6	9	7	9

[a] There is some "overlap" in this question where some schools indicate having both specific health courses and health instruction in other courses.

[b] The "no response" column indicates that those who said they had a specific health course did not need to answer otherwise.

Table 4. Frequencies and percentages indicating locus of health instruction other than in specific health courses

Class	Level	n	General science	%	Physical education	%	Home economics	%	Social studies	%	Biology	%	Other	%
I	Sr. Hi.	8	--	--	5	63	3	38	3	38	4	50	3	38
	Jr. Hi.	9	3	33	4	44	4	44	1	11	--	--	3	33
	Elem.	8	5	63	3	38	--	--	1	13	--	--	2	25
	Totals	25	8	32	12	48	7	28	5	20	4	16	8	32
II	Sr. Hi.	5	--	--	5	100	4	80	3	60	5	100	2	40
	Jr. Hi.	9	3	33	5	56	5	56	1	11	2	22	3	33
	Elem.	9	5	56	2	22	1	11	2	22	--	--	--	--
	Totals	23	8	33	12	52	10	43	6	22	7	30	5	22
III	Sr. Hi.	7	2	29	4	57	3	43	--	--	4	57	4	57
	Jr. Hi.	9	8	89	8	89	7	78	--	--	1	11	--	--
	Elem.	10	10	100	9	90	2	20	1	10	1	10	3	30
	Totals	26	20	77	21	81	12	46	1	4	6	23	7	27
	Grand Totals	74	36	49	45	61	29	39	12	16	17	23	20	27

Table 5. Frequencies and percentages showing the nature of options in health instruction

Class	Level	n	Health instruction required	%	Health instruction elective	%	No response	%
I	Sr. Hi.	8	2	25	2	25	4	50
	Jr. Hi.	9	6	67	1	11	2	22
	Elem.	8	6	75	-	--	2	25
	Totals	25	14	56	3	12	8	32
II	Sr. Hi.	5	2	40	1	20	2	40
	Jr. Hi.	9	6	67	-	--	3	33
	Elem.	9	6	67	1	11	2	22
	Totals	23	14	61	2	9	7	30
III	Sr. Hi.	7	3	43	1	14	3	43
	Jr. Hi.	9	8	89	--	--	1	11
	Elem.	10	5	50	1	10	4	40
	Totals	26	16	62	2	8	8	30
	Grand Totals	74	44	59	7	9	23	32

Table 6. Average number of hours devoted to health education per year in study schools by grade level[a]

Class	n	% of total	K	1	2	3	4	5	6	7	8	9	10	11	12	Grand average by class
I	25	34	9	11	17	17	17	24	24	20	26	12	29	23	20	19
II	23	31	5	6	15	14	15	15	15	26	9	18	3	2	2	11
III	26	35	6	10	10	14	14	11	11	12	13	29	40	24	26	17
Total averages all classes			7	9	14	15	15	17	17	19	16	20	24	16	16	16

[a] Averages were derived by totaling the responses for each grade level, and dividing this total by the total respondents for that grade level. A grand average for all classes combined was derived by totaling the responses of all grade levels in all classes and dividing this sum by the total respondents in the study sample. All figures have been rounded to the nearest hundredth.

Table 7. Frequencies and percentages indicating the major teaching specialties of health teachers

Class	Level	n	Phys. Ed.	%	Elem. Ed.	%	Child Dev.	%	Soc. Stud.	%
I	Sr. Hi.	8	6	75	-	--	3	38	4	50
	Jr. Hi.	9	4	44	-	--	-	--	1	11
	Elem.	8	5	63	5	63	1	13	1	13
	Totals	25	15	60	5	20	4	16	6	24
II	Sr. Hi.	5	4	80	-	--	2	40	2	40
	Jr. Hi.	9	6	67	1	11	-	--	3	33
	Elem.	9	3	33	7	78	1	11	-	--
	Totals	23	13	57	8	35	3	13	5	22
III	Sr. Hi.	7	5	71	-	--	1	14	3	43
	Jr. Hi.	9	9	100	2	22	1	11	-	--
	Elem.	10	9	90	7	70	2	20	2	20
	Totals	26	23	88	9	35	4	15	5	19
	Grand Totals	74	51	69	22	30	11	15	16	22

Health Ed.	%	Biol.	%	Family Envir.	%	Health Phys. Ed.	%	Nurs-ing	%	Home Ec.	%	Other	%
--	--	4	50	1	13	3	38	1	13	5	63	-	-
2	22	1	11	-	--	3	33	2	22	3	32	1	11
1	13	-	--	1	13	3	25	2	25	-	--	1	13
3	12	5	20	2	8	8	32	5	20	8	32	2	4
--	--	4	80	1	20	-	--	2	40	2	40	-	--
2	22	5	56	-	--	4	44	1	11	6	67	4	44
--	--	2	22	-	--	1	11	4	44	-	--	1	11
2	9	11	48	1	4	5	22	7	30	8	35	5	22
1	14	6	86	-	--	3	43	2	29	5	71	-	--
2	22	3	33	-	--	4	44	4	44	8	89	1	11
3	30	-	--	-	--	3	30	7	70	1	10	-	--
6	23	9	35	-	--	-	38	10	15	13	51	14	4
11	15	25	34	3	4	23	31	25	34	30	41	8	11

Table 8. Frequencies and percentages describing the nature and locus of instruction in sex education

		Formal instruction - sex education										
							No	Coeducational				
Class	Level	n	Yes	%	No	%	response	%	Yes	%	No	%
I	Sr. Hi.	8	7	88	1	13	--	--	7	87	--	--
	Jr. Hi.	9	3	33	5	56	1	11	1	11	2	22
	Elem.	8	3	37	5	63	--	--	2	24	1	13
	Totals	25	13	52	11	48	1	4	10	40	3	12
II	Sr. Hi.	5	2	40	2	40	1	20	2	40	1	20
	Jr. Hi.	9	5	56	4	44	--	--	3	33	1	11
	Elem.	9	1	11	7	78	1	11	--	--	1	11
	Totals	23	8	35	13	57	2	9	5	22	3	13
III	Sr. Hi.	7	1	14	6	86	--	--	1	14	--	--
	Jr. Hi.	9	2	22	7	78	--	--	1	11	--	--
	Elem.	10	2	20	8	80	--	--	--	--	1	10
	Totals	26	5	19	21	81	--	--	2	8	1	4
	Grand Totals	74	26	35	45	61	3	4	17	23	7	9

Locus of instruction							
No response	%	Specific health course	%	Unit in other courses	%	Other	%
1	13	3	38	4	50	-	--
6	67	3	33	-	--	1	11
5	63	2	25	1	13	-	--
12	48	8	32	5	20	1	4
2	40	-	--	3	60	-	--
5	56	3	33	2	22	-	--
8	89	-	--	1	11	1	11
15	65	3	13	6	26	-	4
6	86	-	--	1	14	-	--
8	89	-	--	2	22	-	--
9	90	-	--	2	20	-	--
23	88	-	--	5	19	2	--
50	68	11	15	16	22	-	2

Table 9. Frequencies and percentages describing the nature and locus of instruction in drug education

Class	Level	Formal instruction - drugs					
		n	Yes	%	No	%	No response
I	Sr. Hi.	8	7	88	1	12	--
	Jr. Hi.	9	7	78	2	22	--
	Elem.	8	6	75	2	25	--
	Totals	25	20	80	5	20	--
II	Sr. Hi.	5	3	60	1	20	--
	Jr. Hi.	9	6	67	3	33	--
	Elem.	9	5	56	4	44	--
	Totals	23	14	61	8	35	1
III	Sr. Hi.	7	6	86	1	14	--
	Jr. Hi.	9	5	56	4	44	--
	Elem.	10	7	70	3	30	--
	Totals	26	18	69	8	31	--
	Grand Totals	74	52	70	21	29	1

Locus of instruction								
Specific health courses	%	Unit in other courses	%	Other	%	No response	%	
3	38	4	50	-	--	--	--	
4	44	3	33	-	--	--	--	
3	38	2	25	1	13	--	--	
10	30	9	36	1	4	--	20	
--	--	4	80	-	--	--	--	
2	22	4	44	-	--	--	--	
1	11	3	33	1	11	--	--	
3	13	11	48	1	4	8	35	
1	14	5	71	-	--	--	--	
--	--	4	44	1	11	--	--	
--	--	6	60	1	10	--	--	
1	4	15	58	2	8	8	30	
14	19	35	47	4	5	21	29	

Table 10. Frequencies and percentages indicating respondent attitudes about school health education

Class	Level	n	No need for separate health ed. program if there is phys. ed. program	%	Need for separate health ed. program	%	Other	%	No response	%
I	Sr. Hi.	8	1	13	7	88	--	--	--	--
	Jr. Hi.	9	--	--	7	78	1	11	1	11
	Elem.	8	--	--	4	50	4	50	--	--
	Total	24	1	4	18	72	5	20	1	4
II	Sr. Hi.	5	1	20	3	60	1	20	--	--
	Jr. Hi.	9	--	--	7	78	2	22	--	--
	Elem.	9	--	--	6	67	3	33	--	--
	Totals	23	1	4	16	70	6	26	--	--
III	Sr. Hi.	7	1	14	4	57	1	14	1	14
	Jr. Hi.	9	2	22	3	33	4	44	--	--
	Elem.	10	--	--	4	44	5	50	1	10
	Totals	26	3	12	11	42	10	50	2	8
	Grand Totals		5	7	45	61	21	28	3	4

Table 11. Frequencies and percentages indicating study schools with physical examination screening programs

Class	Level	n	School provides	%	School requires	%	Before entering	%	Every year	%
I	Sr. Hi.	8	1	13	2	25	4	50	--	--
	Jr. Hi.	9	1	11	3	33	2	22	2	22
	Elem.	8	1	13	4	50	6	75	--	--
	Totals	25	3	12	9	36	12	49	2	8
II	Sr. Hi.	5	--	--	--	--	1	20	--	--
	Jr. Hi.	9	--	--	2	22	--	--	1	11
	Elem.	9	1	11	5	56	6	67	--	--
	Totals	23	1	4	7	30	7	30	1	4
III	Sr. Hi.	7	--	--	2	29	1	14	2	29
	Jr. Hi.	9	--	--	4	44	2	22	3	33
	Elem.	10	--	--	7	70	7	70	1	10
	Totals	26	--	--	13	50	10	38	6	23
	Grand Totals	74	4	5	29	39	29	39	9	12

[a]Percentages more or less than 100 are accounted for by multiple answers and "no responses" to some items.

Every 3 years	%	Other	%	Other	%	No response	%
1	13	1	13	1	13	4	50
2	22	2	22	1	11	4	44
--	--	--	--	1	13	2	25
3	12	3	12	3	12	10	40
--	--	1	20	1	20	3	60
--	--	4	44	5	56	2	22
--	--	--	--	--	--	3	33
--	--	5	22	6	26	8	35
--	--	1	14	2	29	3	43
--	--	2	22	4	44	1	12
--	--	1	10	2	20	1	10
--	--	4	15	8	31	5	19
3	4	12	16	17	23	23	31

Table 12. Frequencies and percentages indicating study schools with visual screening programs[a]

Class	Level	n	School provides	%	School requires	%	Before entering
I	Sr. Hi.	8	7	88	--	--	1
	Jr. Hi.	9	7	78	1	11	1
	Elem.	8	6	75	2	25	2
	Totals	25	20	80	3	12	4
II	Sr. Hi.	5	3	60	2	40	--
	Jr. Hi.	9	5	56	4	44	1
	Elem.	9	6	67	1	11	--
	Totals	23	14	61	7	30	1
III	Sr. Hi.	7	6	86	--	--	1
	Jr. Hi.	9	5	56	1	11	--
	Elem.	10	8	80	--	--	--
	Totals	26	19	73	1	4	1
	Grand Totals		53	72	11	15	6

[a]Percents less than 100 are accounted for by multiple answers and no responses to some items.

%	Every year	%	Every 3 years	%	Other	%	No require-ment	%	Other	%
13	6	75	--	--	1	13	1	12	--	--
11	5	56	2	22	--	--	--	--	--	--
25	4	50	--	--	1	13	--	--	--	--
16	15	60	2	8	2	8	1	4	--	--
--	2	40	--	--	3	60	--	--	--	--
11	2	22	2	22	4	44	--	--	--	--
--	6	67	1	11	1	11	1	11	1	11
4	10	43	3	13	8	35	1	4	1	4
14	2	29	1	14	--	--	--	--	1	14
--	5	56	2	22	1	11	--	--	2	22
--	2	20	1	10	7	70	--	--	2	20
4	9	35	4	15	8	31	--	--	5	19
8	34	46	9	12	18	24	2	3	6	8

Table 13. Frequencies and percentages indicating study schools with hearing screening programs[a]

Class	Level	n	School provides	%	No requirement	%	School requires	%	Other
I	Sr. Hi.	8	7	88	1	12	--	--	--
	Jr. Hi.	9	7	78	1	11	--	--	1
	Elem.	8	8	100	--	--	--	--	--
	Totals	25	22	88	2	8	--	--	1
II	Sr. Hi.	5	3	60	--	--	2	40	--
	Jr. Hi.	9	4	44	--	--	5	56	--
	Elem.	9	5	56	1	11	2	22	1
	Totals	23	12	52	1	4	9	39	1
III	Sr. Hi.	7	6	86	--	--	1	14	--
	Jr. Hi.	9	6	67	--	--	1	11	1
	Elem.	10	8	80	1	10	--	--	1
	Totals	26	20	77	1	4	2	8	2
	Grand Totals	74	54	73	4	5	11	15	4

[a]Percentages more or less than 100 are due to multiple answers and no response to some items.

%	Before entering	%	Every year	%	Every 3 years	%	Other	%
--	1	13	4	50	--	--	3	38
11	1	11	3	33	3	33	1	11
--	1	13	3	38	2	25	1	13
4	3		10	40	5	20	5	20
--	--	--	1	20	--	--	3	60
--	1	11	1	11	5	56	2	22
11	--	--	2	22	3	33	3	33
4	1	4	4	17	8	35	8	35
--	--	--	1	14	2	29	1	14
11	--	--	2	22	4	44	2	22
10	--	--	--	--	1	10	8	80
8	--	--	3	12	7	27	11	42
5	4	5	17	23	20	27	24	32

Table 14. Frequencies and percentages indicating study schools with screening programs to identify physically handicapped students[a]

Class	Level	n	School provides	%	No requirement	%	School requires	%	Other
I	Sr. Hi.	8	4	50	1	13	2	25	1
	Jr. Hi.	9	3	33	4	44	--	--	1
	Elem.	8	5	63	2	25	--	--	1
	Totals	25	12	48	7	28	2	8	3
II	Sr. Hi.	5	3	60	2	40	--	--	--
	Jr. Hi.	9	5	56	3	33	1	11	--
	Elem.	9	--	--	9	100	--	--	--
	Totals	23	8	35	14	61	1	4	--
III	Sr. Hi.	7	5	71	2	29	--	--	--
	Jr. Hi.	9	2	22	3	33	--	--	2
	Elem.	10	2	20	6	60	--	--	1
	Totals	26	9	35	11	42	--	--	--
	Grand Totals		29	39	32	43	3	4	6

[a]Percents more or less than 100 are due to multiple answers and no responses to some items.

%	Before entering	%	Every year	%	Every 3 years	%	Other	%
13	2	25	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--
13	--	--	--	--	--	--	--	--
12	2	8	--	--	--	--	--	--
--	1	20	--	--	--	--	--	--
--	3	33	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	4	17	--	--	--	--	--	--
--	1	14	--	--	--	--	2	29
22	--	--	--	--	--	--	1	11
10	2	20	--	--	--	--	1	10
--	3	12	--	--	--	--	4	15
8	9	12	--	--	--	--	4	5

Table 15. Frequencies and percentages indicating study schools with screening programs for certification to take physical education[a]

Class	Level	n	School provides	%	No require-ments	%	School requires	%	Other
I	Sr. Hi.	8	1	13	6	75	--	--	1
	Jr. Hi.	9	1	11	6	67	1	11	1
	Elem.	8	2	25	5	63	--	--	--
	Totals	25	4	16	17	68	1	4	2
II	Sr. Hi.	5	--	--	5	100	--	--	--
	Jr. Hi.	9	1	11	6	67	1	11	1
	Elem.	9	--	--	9	100	--	--	--
	Totals	23	1	4	20	87	1	4	1
III	Sr. Hi.	7	1	14	2	29	3	43	1
	Jr. Hi.	9	--	--	3	33	1	11	4
	Elem.	10	--	--	7	70	1	10	2
	Totals	26	1	4	12	46	5	19	7
	Grand totals Totals	74	6	8	49	66	7	9	10

[a]Percents more or less than 100 are due to multiple answers and no responses to some items.

%	Before entering	%	Every year	%	Every 3 years	%	Other	%
13	--	--	--	--	--	--	--	--
11	--	--	--	--	1	11	1	11
--	--	--	--	--	--	--	1	13
8	--	--	--	--	1	4	2	8
--	--	--	--	--	--	--	--	--
11	2	22	--	--	--	--	1	11
--	--	--	--	--	--	--	--	--
4	2	9	--	--	--	--	1	4
14	3	43	1	14	--	--	--	--
44	--	--	2	22	--	--	1	11
20	--	--	1	10	--	--	2	20
27	3	12	4	15	--	--	3	12
14	5	7	4	5	1	1	6	8

Table 16. Frequencies and percentages profiling school nurse services[a]

Class	Level	n	Yes	%	NO	%	Part time
I	Sr. Hi.	8	8	100	--	--	5
	Jr. Hi.	9	9	100	--	--	7
	Elem.	8	8	100	--	--	8
	Totals	25	25	100	--	--	20
II	Sr. Hi.	5	5	100	--	--	5
	Jr. Hi.	9	8	89	1	11	6
	Elem.	9	8	89	1	11	8
	Totals	23	21	91	2	9	19
III	Sr. Hi.	7	4	57	3	43	3
	Jr. Hi.	9	8	89	1	11	7
	Elem.	10	9	90	1	10	9
	Totals	26	21	81	5	19	19
	Grand Totals	74	67	91	7	9	58

[a]Average number of hours per week services are provided by school nurses was derived by multiplying the response by the respondents, totaling these products and dividing by the number of respondents in each level and class.

%	Full time	%	No response	%	Average hrs. per week	No response	%
63	3	37	--	--	28	1	13
78	2	22	--	--	22	1	11
100	--	--	--	--	8	1	13
80	5	20	--	--	19	3	12
100	--	--	1	11	11	2	33
67	2	22	--	--	9	3	33
89	--	--	1	11	6	2	22
83	2	9	2	9	9	7	30
43	1	14	3	43	5	3	49
78	1	11	1	11	7	3	33
90	--	--	1	10	11	2	20
73	2	8	5	19	8	8	31
78	9	12	7	9	12	18	24

Table 17.1. Frequencies and percentages indicating the nature of health consultation assistance received from official health agencies

Class	Level	n	City	%	City/ County	%	State	%	Federal	%
I	Sr. Hi.	8	5	63	5	63	6	75	1	13
	Jr. Hi.	9	3	33	4	44	3	33	1	11
	Elem.	8	--	--	2	25	1	13	2	25
	Totals	25	8	32	11	44	10	40	4	16
II	Sr. Hi.	5	--	--	2	40	2	40	--	16
	Jr. Hi.	9	2	22	5	56	3	33	1	11
	Elem.	9	1	11	--	--	2	22	--	--
	Totals	23	3	13	7	30	7	30	--	--
III	Sr. Hi.	7	--	--	2	29	3	43	--	--
	Jr. Hi.	9	--	--	6	67	3	33	--	--
	Elem.	10	--	--	7	70	4	40	--	--
	Totals	26	--	--	15	--	10	--	--	--
		35	--	--	--	58	--	38	--	--
	Grand Totals	74	11	15	33	45	27	36	4	5

Table 17.2. Frequencies and percentages indicating the nature of health teaching assistance received from offical health agencies

Class	Level	n	City	%	City/ County	%	State	%	Federal	%
I	Sr. Hi.	8	--	--	1	13	1	13	--	--
	Jr. Hi.	9	--	--	--	--	1	11	--	--
	Elem.	8	--	--	--	--	1	13	--	--
	Totals	25	--	--	1	4	3	12	--	--
II	Sr. Hi.	5	--	--	1	20	1	20	1	20
	Jr. Hi.	9	--	--	1	11	1	11	--	--
	Elem.	9	--	--	--	--	--	--	--	--
	Totals	23	--	--	2	9	2	9	1	4
III	Sr. Hi.	7	--	--	1	14	1	14	--	--
	Jr. Hi.	9	--	--	4	44	1	11	--	--
	Elem.	10	--	--	2	20	1	10	--	--
	Totals	26	--	--	7	27	3	12	--	--
	Grand Totals	74	--	--	10	14	8	--	1	1

Table 17.3. Frequencies and percentages indicating the nature of health project funds contributions received from official health agencies

Class	Level	n	City	%	City/ County	%	State	%	Federal	%
I	Sr. Hi.	8	--	--	--	--	2	25	2	25
	Jr. Hi.	9	--	--	1	11	2	22	1	11
	Elem.	8	--	--	--	--	1	13	2	25
	Totals	25	--	--	1	4	5	20	5	20
II	Sr. Hi.	5	--	--	--	--	--	--	--	--
	Jr. Hi.	9	--	--	--	--	1	11	--	--
	Elem.	9	--	--	--	--	--	--	--	--
	Totals	23	--	--	--	--	1	4	--	--
III	Sr. Hi.	7	--	--	--	--	--	--	--	--
	Jr. Hi.	9	--	--	--	--	--	--	--	--
	Elem.	10	--	--	--	--	--	--	--	--
	Totals	26	--	--	--	--	--	--	--	--
		35	--	--	--	--	--	--	--	--
	Grand Totals	74	--	--	1	1	6	8	5	7

Table 17.4. Frequencies and percentages indicating the nature of assistance received from official health agencies in the distribution of health education materials

Class	Level	n	City	%	City/ County	%	State	%	Federal	%
I	Sr. Hi.	8	2	25	5	63	6	75	1	13
	Jr. Hi.	9	1	11	3	33	3	33	--	--
	Elem.	8	1	13	2	25	2	25	--	--
	Totals	25	4	16	10	40	11	44	1	4
II	Sr. Hi.	5	--	--	2	40	3	60	3	60
	Jr. Hi.	9	--	--	4	44	6	67	2	22
	Elem.	9	--	--	1	11	2	22	1	11
	Totals	23	--	--	7	30	11	48	6	26
III	Sr. Hi.	7	--	--	3	43	3	43	--	--
	Jr. Hi.	9	--	--	6	67	3	33	--	--
	Elem.	10	--	--	6	60	4	40	--	--
	Totals	26	--	--	15	58	10	38	--	--
	Grand Totals	74	4	5	32	43	32	43	7	9

Table 17.5. Frequencies and percentages indicating the nature of assistance received from official health agencies with health screening programs

Class	Level	City	%	City/ County	%	State	%	Federal	%
I	Sr. Hi.	2	25	--	--	--	--	1	13
	Jr. Hi.	-	--	1	11	1	11	-	--
	Elem.	-	--	2	25	1	13	1	13
	Totals	2	8	3	12	2	8	2	8
II	Sr. Hi.	-	--	1	20	--	--	-	--
	Jr. Hi.	-	--	2	22	--	--	-	--
	Elem.	-	--	1	11	1	11	-	--
	Totals	-	--	4	17	1	4	-	--
III	Sr. Hi.	-	--	2	29	1	14	-	--
	Jr. Hi.	-	--	3	33	1	11	-	--
	Elem.	-	--	4	40	2	20	-	--
	Totals	-	--	9	35	4	15	-	--
	Grand Totals	2	3	16	22	7	9	2	3

Table 18. Frequencies and percentages indicating the nature of health program assistance received from the department of public instruction

Class	Level	n	Health consultation	%	Health teaching assistance	%	Health project funds	%	Health education materials	%	Health screening projects	%	Other	%
I	Sr. Hi.	8	2	25	-	--	--	-	4	50	1	13	1	13
	Jr. Hi.	9	1	11	1	11	--	-	3	33	1	11	1	11
	Elem.	8	1	13	-	-	--	-	1	13	-	--	1	13
	Totals	25	4	16	1	4	--	-	8	32	2	8	3	12
II	Sr. Hi.	5	1	20	2	40	--	-	2	40	2	40	-	--
	Jr. Hi.	9	1	11	-		--	-	3	33	-	--	1	11
	Elem.	9	2	22	2	22	--	-	5	56	1	11	-	--
	Totals	23	4	17	4	17	--	-	10	43	3	13	1	4
III	Sr. Hi.	7	2	29	1	14	--	-	3	43	2	29	-	--
	Jr. Hi.	9	2	22	1	11	--	-	5	56	1	11	-	--
	Elem.	10	2	20	1	10	--	-	4	40	3	--	1	10
		26	6	23	3	12	--	-	12	46	6	23	1	4
	Grand Totals	74	14	19	8	11	--	-	30	41	11	15	5	7

Table 19. Frequencies and percentages indicating health program assistance received from civic, service, social organizations and voluntary health agencies

			Civic service and social organizations					
Class	Level	n	Yes	%	No	%	No response	%
I	Sr. Hi.	8	6	75	2	25	--	--
	Jr. Hi.	9	7	78	2	22	--	--
	Elem.	8	4	50	2	25	2	25
	Totals	25	17	68	6	24	2	8
II	Sr. Hi.	5	2	40	2	40	1	20
	Jr. Hi.	9	7	78	2	22	--	--
	Elem.	9	5	56	4	44	--	--
	Totals	23	14	61	8	35	1	4
III	Sr. Hi.	7	4	57	3	43	--	--
	Jr. Hi.	9	8	89	1	11	--	--
	Elem.	10	8	80	1	10	1	10
	Totals	26	20	77	5	--	1	4
	Grand Totals	74	51	69	19	26	4	5

Voluntary health agencies					
Yes	%	No	%	No response	%
7	88	1	13	--	--
5	56	4	44	--	--
1	13	6	75	1	13
13	52	11	44	1	4
2	40	2	40	1	20
3	33	6	67	--	--
5	56	4	44	--	--
10	43	12	52	1	4
4	57	3	43	--	--
4	44	5	56	--	--
6	60	3	30	1	10
14	54	11	--	1	4
37	50	34	46	3	4

Table 20. Frequencies and percentages detailing the sanitary inspection profile of food service facilities in study schools[a]

Class	Level	n	Health department								
			Yes	%	No	%	No response	%	Avg. x's/yr	No response	%
I	Sr. Hi.	8	7	88	1	12	--	--	4	4	50
	Jr. Hi.	9	8	89	1	11	--	--	3	4	44
	Elem.	8	5	63	1	13	2	24	1	5	63
	Totals	25	20	80	3	12	2	8	3	13	52
II	Sr. Hi.	5	3	60	2	40	--	--	1	2	40
	Jr. Hi.	9	7	78	1	11	1	11	1	6	67
	Elem.	9	5	56	4	44	--	--	1	7	78
	Totals	23	15	65	7	31	1	4	1	15	65
III	Sr. Hi.	7	5	71	2	29	--	--	1	4	57
	Jr. Hi.	9	5	56	3	33	1	11	2	5	56
	Elem.	10	7	70	3	30	--	--	1	4	40
	Totals	26	17	65	8	31	1	4	1	13	50
	Grand Totals	74	52	70	18	29	4	6	2	41	55

[a]The average number of times per year that facilities were inspected by both the health department and other official agencies was derived by multiplying the number of respondents in each category by the number of times per year they were inspected. These products were totaled and divided by the total respondents in each level and class.

Other official agency								
Yes	%	No	%	No response	%	Avg x's/yr	No response	%
1	13	7	88	--	--	2	6	75
4	44	5	56	--	--	2	5	56
1	12	5	63	2	25	2	6	75
6	24	17	68	2	8	2	17	68
5	100	--	--	--	--	1	2	40
5	56	2	22	2	22	1	6	67
5	56	3	33	1	11	1	5	56
15	65	5	22	3	13	1	13	57
2	29	--	--	5	71	2	5	71
4	44	1	11	4	44	3	7	78
--	--	4	40	6	60	--	10	100
6	23	5	19	15	58	2	22	85
27	36	27	37	20	27	2	52	70

Table 21. Frequencies and percentages showing schools with services and special facilities for care of injured or ill students

Class	Level	n	Provisions for care of ill					
			Yes	%	No	%	No response	%
I	Sr. Hi.	8	6	75	2	25	--	--
	Jr. Hi.	9	8	89	1	11	--	--
	Elem.	8	7	88	1	13	--	--
	Totals	25	21	84	4	16	--	--
II	Sr. Hi.	5	4	80	1	20	--	--
	Jr. Hi.	9	7	78	2	22	--	--
	Elem.	9	5	56	4	44	--	--
	Totals	23	16	70	7	30	--	--
III	Sr. Hi.	7	5	71	2	29	--	--
	Jr. Hi.	9	6	67	2	22	1	11
	Elem.	10	6	60	4	40	--	--
	Totals	26	17	65	8	31	1	4
	Grand Totals	35 74	54	73	19	26	1	1

Provisions for care of injured						Special facilities designated for care of injured and ill			
Yes	%	No	%	No response	%	Yes	%	No	%
8	100	--	--	--	--	7	87	1	13
8	89	1	11	--	--	7	78	2	22
6	75	2	25	--	--	7	88	1	13
22	88	3	12	--	--	21	84	4	16
4	80	1	20	--	--	5	100	--	--
6	67	2	22	1	11	7	78	2	22
6	67	3	33	--	--	6	67	3	33
16	70	6	26	1	4	18	78	5	22
4	57	2	29	1	14	6	86	1	14
6	67	2	22	1	11	7	78	2	22
6	60	4	40	--	--	8	80	2	20
16	62	8	31	2	8	21	81	5	19
54	73	17	23	3	4	60	81	14	19

Table 22. Frequencies and percentages profiling persons trained to administer first-aid (other than school nurse)

Class	Level	n	Yes	%	No	%	No response	%
I	Sr. Hi.	8	8	100	--	--	--	--
	Jr. Hi.	9	9	100	--	--	--	--
	Elem.	8	7	87	1	13	--	--
	Totals	25	24	96	1	4	--	--
II	Sr. Hi.	5	5	100	--	--	--	--
	Jr. Hi.	9	6	67	2	22	1	11
	Elem.	9	3	33	6	67	--	--
	Totals	23	14	61	8	35	1	4
III	Sr. Hi.	7	5	71	2	29	--	--
	Jr. Hi.	9	9	100	--	--	--	--
	Elem.	10	9	90	1	10	--	--
	Totals	26	23	88	3	12	--	--
	Grand Totals	74	61	82	12	17	1	1

Average number of teachers on on staff	Average number trained	Average percent of staff trained
52	8	15
37	5	14
10	3	30
33	5	15
27	4	16
22	2	19
17	1	6
22	2	9
19	5	26
8	4	50
9	3	33
12	4	33
22	4	18

Table 23. Frequencies and percentages detailing requirements and/or recommendations for immunizations

Class	Level	n	Require	%	Recommend	%	No response	%
I	Sr. Hi.	8	1	13	6	74	1	13
	Jr. Hi.	9	2	22	5	56	2	22
	Elem.	8	1	13	6	75	1	13
	Totals	25	4	16	17	68	4	16
II	Sr. Hi.	5	--	--	2	40	3	60
	Jr. Hi.	9	3	33	2	23	4	44
	Elem.	9	2	22	2	22	5	56
	Totals	23	5	22	6	26	12	52
III	Sr. Hi.	7	2	29	4	57	1	14
	Jr. Hi.	9	1	11	5	56	3	33
	Elem.	10	--	--	9	90	1	10
	Totals	26	3	12	18	69	5	19
	Grand Totals	74	12	16	41	56	21	28

Table 24. Frequencies and percentages showing opportunities for in-service education provided by study schools

Class	Level	n	Yes	%	No	%	No response	%
I	Sr. Hi.	8	2	25	5	62	1	13
	Jr. Hi.	9	2	22	7	78	--	--
	Elem.	8	1	12	6	75	1	13
	Totals	25	5	20	18	75	2	80
II	Sr. Hi.	5	1	20	3	60	1	20
	Jr. Hi.	9	2	22	6	67	1	11
	Elem.	9	2	22	7	78	--	--
	Totals	23	5	21	16	70	2	9
III	Sr. Hi.	7	--	--	7	100	--	--
	Jr. Hi.	9	--	--	9	100	--	--
	Elem.	10	1	10	9	90	--	--
	Totals	26	1	4	25	96	--	--
	Grand Totals	74	11	15	59	80	4	5

1972	%	1971	%	Before 1971	%	No response	%
1	12	--	--	--	--	7	88
1	11	1	11	--	--	7	78
--	--	1	12	--	--	7	88
2	8	2	8	--	8	21	84
--	--	1	20	--	--	4	80
1	11	1	11	--	--	7	78
1	11	1	11	--	--	7	78
2	11	3	13	--	--	18	78
--	--	--	--	--	--	7	100
--	--	--	--	--	--	9	100
1	10	--	--	--	--	9	90
1	4	--	--	--	--	25	96
5	7	5	7	--	--	64	86

Table 25. Frequencies and percentages showing curriculum committee activity in planning for continuity of school health programs[a]

		Elementary and Junior High Comm. Meetings								
Class	Level	n	Yes	%	No	%	No resp.	%	Total %	Avg. (104) frequency per year
I	Sr. Hi.	8	4	50	2	25	2	25	100	2
	Jr. Hi.	9	1	11	8	89	-	--	100	1
	Elem.	8	2	25	4	50	2	25	100	-
	Totals	25	7	28	14	56	4	16	100	1
II	Sr. Hi.	5	1	20	2	40	2	40	100	-
	Jr. Hi.	9	3	33	6	67	-	--	100	-
	Elem.	9	2	22	7	78	-	--	100	-
	Totals	23	6	26	15	65	2	9	100	-
III	Sr. Hi.	7	-	--	7	100	-	--	100	-
	Jr. Hi.	9	2	22	7	78	-	--	100	-
	Elem.	10	1	10	9	90	-	--	100	-
	Totals	26	3	12	23	88	-	--	100	-
	Grand Totals	74	16	22	52	70	6	8	100	1

[a] Average frequency of meetings per year was derived by multiplying the number of respondents by their response, totaling this product and dividing this total by the number of respondents in each category.

Junior High and Senior High Comm. Meetings							
Yes	%	No	%	No resp.	%	Total %	Avg. (106) frequency[b] per year
2	25	6	75	--	--	100	2
2	22	7	78	--	--	100	1
-	--	4	50	4	50	100	1
4	16	17	78	4	16	100	1
2	40	2	40	1	20	100	1
1	11	8	89	--	--	100	-
1	11	6	67	2	22	100	1
4	17	16	70	3	13	100	1
-	--	7	100	--	--	100	-
1	11	8	89	--	--	100	1
-	--	9	90	1	10	100	-
1	4	24	92	1	4	100	-
							-
9	12	57	77	8	11	100	-

Table 26. Frequencies and percentages detailing provisions for health counseling and follow-up

Class	Level	n	Yes	%	No	%	No resp.	%	Yes	%	No	%	No resp.	%	Total %
I	Sr. Hi.	8	8	100	-	--	--	--	8	100	-	--	--	--	100
	Jr. Hi.	9	8	89	1	11	--	--	8	89	1	11	--	--	100
	Elem.	8	6	74	1	13	1	13	6	74	1	13	1	13	100
	Totals	25	22	88	2	8	1	4	22	88	2	8	1	4	100
II	Sr. Hi.	5	5	100	-	--	--	--	5	100	-	--	--	--	100
	Jr. Hi.	9	9	100	-	--	--	--	9	100	-	--	--	--	100
	Elem.	9	8	89	1	11	--	--	7	78	1	11	1	11	100
	Totals	23	22	96	1	4	--	--	21	91	1	5	1	4	100
III	Sr. Hi.	7	7	100	-	--	--	--	5	71	1	15	1	14	100
	Jr. Hi.	9	7	78	2	22	--	--	9	90	1	10	--	--	100
	Elem.	10	10	100	-	--	--	--	9	90	1	10	--	--	100
	Totals	26	24	92	2	8	--	--	21	81	3	12	2	8	100
	Grand Totals	74	68	92	5	7	1	1	64	86	6	8	4	6	100

Table 27. Frequencies and percentages indicating study school participants in the 1967 National School Health Education Study

Class	Level	n	Yes	%	No	%	Do not know	%	Never heard of it	%	Other	%	No response	%
I	Sr. Hi.	8	--	--	1	13	6	75	--	--	1	12	--	--
	Jr. Hi.	9	--	--	--	--	6	67	3	33	--	--	--	--
	Elem.	8	--	--	1	13	4	50	3	37	--	--	--	--
	Totals	25	--	--	2	8	16	64	6	24	1	4	--	--
II	Sr. Hi.	5	--	--	1	20	3	60	1	20	--	--	--	--
	Jr. Hi.	9	--	--	1	11	6	67	2	22	--	--	--	--
	Elem.	9	--	--	4	44	3	33	2	23	--	--	--	--
	Totals	23	--	--	6	26	12	52	5	22	--	--	--	--
III	Sr. Hi.	7	--	--	--	--	5	71	2	29	--	--	--	--
	Jr. Hi.	9	--	--	2	22	3	33	3	34	--	--	1	11
	Elem.	10	--	--	2	20	6	60	2	20	--	--	--	--
	Totals	26	--	--	4	15	14	54	7	27	--	--	1	14
	Grand Totals	74	--	--	12	16	42	57	18	25	1	1	1	1

Table 28. Profile of health education topics taught in the study schools

Topic in separate health course	Number of times topic listed: Jr. and Sr. Hi.	Elem.	Topic in other course(s)	Number of times topic listed: Jr. and Sr. Hi.	Elem.
Venereal disease	5	-	Nutrition	22	4
Family life	4	2	Family life	18	5
Drugs	4	1	Venereal disease	16	-
Sex education	4	-	Drugs	15	9
Nutrition	4	2	Alcohol and tobacco[a]	9	2
Communicable disease	3	-	First aid	9	-
Dental health	2	4	Dental health	8	5
Alcohol and tobacco[a]	2	2	Sex education	6	-
First aid	2	1	Personal hygiene	6	2
Body systems	1	5	Communicable disease	3	2
Physical fitness	1	-	Body systems	3	9
Heart disease	1	-	Personal health	3	-
Cancer	1	-	Physical fitness	2	-
Mental health	1	1	Physiology	2	-
Marriage	1	-	Safety	2	5
Personal hygiene	1	2	Grooming	2	-
Growing up	1	-	Pollution	1	-
Safety	1	3	Heart disease	1	-
Health in action	-	1	Geriatrics	1	-
Health attitudes and behavior	-	1	Personal development	1	-
Community health	-	2	General health	1	1
Healthful living at school and home	-	1	Exercise	1	2
			Community health	-	3
			Growth and development	-	2
			Health habits	-	3
			Research and discovery	-	1
			Guarding your health	-	1

[a]Required specifically in the curriculum by the Code of Iowa, Schools, Chap. 280, 280.10.

Table 29. Summary of health needs and health problems in study schools

Summary of health needs[a]	Number of times need indicated	Summary of health problems[a]	No. of times problem indicated
A health education course	7	Poor personal hygiene	12
A qualitified health teacher	7	Drugs	9
Sex education	5	Alcohol	8
Drug education	5	Pregnancy	8
A full time course in health	4	Smoking	7
A full time nurse	3	Poor nutrition	6
Venereal disease education	2	Overweight	3
Health council	2	Dental health and clinic	3
Physical examinations	2	Mental health	2
More time to teach health	2	More rest for students	1
More consistent effort in health program	2	Better home environment	1
Mental health education	2	Parents do not enforce proper health habits	1
Nutrition education	2	Parents have poor health habits	1
Curriculum continuity	1	Bowel problems	1
Better health teaching facilities	1	Accident prevention	1
Stress on proper care of body	1	Physical facilities for the handicapped	1
More awareness to teach about alcohol and tobacco	1	Poor environment	1
Birth control information	1	Rashes	1
Good course in physiology	1	Numerous communicable diseases	1
More relevancy in health education program	1	More exercise	1
A school nurse	1		
Better use of nurses time	1		
A teaching nurse	1		
More teacher awareness of importance of teaching in health	1		
More electives in health	1		
Improving existing health program	1		
More teaching areas of health	1		
Adult education	1		
More use of health resources people	1		
Personal cleanliness	1		
Improved home conditions	1		
Curriculum guide	1		

[a]Twenty-one respondents said they have no health needs; 23 said they have no health problems.

APPENDIX B. STUDY MATERIAL SAMPLES

March 28, 1972

Dear

Your assistance in completing the enclosed questionnaire is kindly requested.

This questionnaire is part of a research project involving a study of the present status of school health programs in selected Iowa schools.

Earl P. Murphy, a Ph.D. candidate in Higher Education, has selected this area of study for his doctoral thesis, and on his behalf, we of his committee ask your cooperation in his research endeavor.

As an educator, you are certainly aware of the importance of any research that is aimed at a better understanding of our educational system, so that it may become more meaningful and better able to fill the needs of the teacher, student and society.

The success of this research will depend largely on your cooperation. It is felt that only a person with your background and experience in the field of education will be able to provide the answers needed to insure the accuracy and reliability of this study.

We of the study committee express our sincere appreciation for your participation, and hope for an early reply to the enclosed questionnaire.

Should you desire a summary of the study results, please note your interest on the questionnaire, and upon its completion, a copy will be sent to you.

Sincerely,

George A. Kizer

Dr. George A. Kizer
Major Professor

Members of the Research Committee:

Ray Bryan

Dr. Ray J. Bryan
Professor in Charge of Professional Studies

Anton J. Netusil

Dr. Anton J. Netusil
Associate Professor of Education

Ellis A. Hicks

Dr. Ellis A. Hicks
Professor of Zoology and Entomology

Gail A. Proffitt

Gail A. Proffitt, M.D.
Head, Dept. of Hygiene

Charles R. Kniker

Dr. Charles R. Kniker
Assistant Professor of Education

L. Glenn Smith

Dr. L. Glenn Smith
Associate Professor of Education

SCHOOL HEALTH PROGRAM STUDY
QUESTIONNAIRE

PLEASE COMPLETE THE FOLLOWING INFORMATION:

NAME OF SCHOOL_____ ADDRESS_____CITY_____

DISTRICT_____ ELEMENTARY____ JUNIOR HIGH_____ SENIOR HIGH_____

POSITION OF PERSON COMPLETING QUESTIONNAIRE_____

PLEASE INDICATE THE NUMBER OF TEACHERS ON YOUR STAFF_____.

1. Does your school have a health council or committee? ____YES NO____
   If answer to #1 is YES, please answer question #2. If the answer is NO, go to question #3.

2. Please check the member(s) of the school staff who are on the health committee:

___Principal	___School Nurse	___Students
___Local Physician	___Physical Ed. Teacher	___Assistant Principal
___Food Service Supervisor	___Parents	___Local Dentist
___Classroom teacher	___Other_____	

3a. Is there a specific Health course taught as a separate subject in your school? ___YES NO___

b. If the answer to (a) is YES, please give the title of the course_____.

c. If the answer to (a) is NO, is health instruction included as a unit or topic in another course(s)? ____YES NO____

If the answer to (c) is YES, please check the other courses in which health instruction is included:

___General Science	___Home Economics	___Biology
___Physical Education	___Social Studies	___Other(s)_____

_____

e. Other than as a unit in Physical Education is health instruction required or elective in other courses in your school? ____Required Elective____

f. Which course(s)?_____

g. If the answer to (e) is elective, please indicate the percent of the student body that elects to take health. ____%

4. If health is taught either as a separate course or as a unit in another course, please list the specific topics taught. (e.g., nutrition, VD, dental health, family life, etc.)

SEPARATE COURSE	UNIT IN ANOTHER COURSE
_____	_____
_____	_____
_____	_____
_____	_____

5. If health education is taught either as a separate course or as a unit in another course(s), please answer the following:

GRADE HEALTH IS TAUGHT	# OF WEEKS TAUGHT	# SEMESTERS TAUGHT	# OF HOURS TAUGHT PER WK
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Which of the following teaching specialities applies to those on your school's staff who teach health:

___Physical Education ___Health Education ___Health & Physical Education
___Elementary Education ___Biology ___Nursing
___Child Development ___Family environment ___Home Economics
___Social Studies ___Other(s)_____

7. Does your school provide formal instruction about Sex Education? ___YES NO___
   If YES, is this instruction part of:
   a.) a specific health course_____
   b.) a unit in another course___(which course?_____)
   c.) other_____
   If YES, are boys and girls taught together? ___YES NO___

8. Does your school provide formal instruction about Drugs? ___YES NO___
   If YES, is this instruction part of:
   a.) a specific health course___
   b.) a unit in another course (Which course?_____)
   c.) other_____

9. Please list what you feel to be the most serious health needs and problems in your school. (A health need is defined as anything that would improve your present health program. A health problem refers to existing health conditions among your students that affect your students or the school's environment.)

HEALTH NEEDS	HEALTH PROBLEMS

PLEASE USE BACK OF LAST PAGE IF YOU NEED MORE ROOM

10. Which of the following statements most nearly represents your feelings about school health:
    ____a.) If a school has a good physical education program, it does not need a separate health education program.
    ____b.) Health education is as important as any other part of the school program and should be taught as a separate course.
    ____c.) Other comment_____

11. Does your school provide or require any of the following Health Services for the student (please check as many as apply)?

    a.) Physical Examination?
    ___School Provides ___No Requirement ___School Requires
    ___Other_____
    If answer is Provides or Requires, please indicate when:
    ___Before entering school ___Every year ___Every 3 years
    ___Other_____
    Screening done by_____

    b.) Screening for Visual Problems:
    ___School Provides ___No Requirement ___School Requires
    ___Other_____
    If answer is Provides or Requires, please indicate when:
    ___Before entering school ___Every year ___Every 3 years
    ___Other_____
    Screening done by_____

    c.) Screening for Hearing Problems:
    ___School Provides ___No Requirement ___School Requires
    ___Other_____
    If answer is Provides or Requires, please indicate when:
    ___Before entering school ___Every year ___Every 3 years
    ___Other_____

c. contd. Screening done by_____

d.) Identification of the Physically Handicapped:
___School Provides ___No Requirement ___School Requires
___Other_____
If answer is Provides or Requires, please indicate when:_____

e.) Examination to take Physical Education:
___School Provides ___No Requirement ___School Requires
___Other_____
If answer is Provides or Requires, please indicate when:
___Before entering school ___Every year ___Every 3 years
___Other_____

12a. Does your school have the services of a school nurse? ____YES NO____
b. If YES, please answer the following: ___Part time ___Full time ___Appr. # of hours per week in your building

13. Does your school receive any of the following kinds of health assistance from the Health Department(s). Please check as many as apply.

	City Health Dept.	City-County Health Dept.	State Health Dept.	Federal Health Dept.
Consultation				
Teaching Asst.				
Project Funds				
Ed. Materials				
Screening Prog.				
Other (please specify)				

14. Does your school receive any of the following kinds of health assistance from the Dept. of Public Instruction:
___Health Consultation ___Health Project Funds ___Health Screening Projects
___Health Teaching Assistance ___Health Education Materials ___Other_____

15. Do any civic, service, or social organizations (e.g., Kiwanis, B & PW, Optimist, etc.) help your school meet any health needs? ____YES NO____
If YES, please answer the following:

NAME OF ORGANIZATION(S)	TYPE OF ASSISTANCE GIVEN

16a. Do any voluntary health organizations (e.g., Heart Assn., Cancer Society, etc.) help your school meet any health needs? ____YES NO____
b. If YES, please answer the following:

NAME OF ORGANIZATION(S)	TYPE OF ASSISTANCE GIVEN

17. Is your school's food service facility inspected regularly by: . . the Health Dept.?
____YES NO____ a.) If YES, how often?_____
b.) Any other official agency? ____YES NO____
c.) If (b) is YES, by whom?_____ How often?_____

18. Does your school have written procedures detailing what should be done for the student in the case of:
a.) ___Sudden Illness? ____YES NO____
b.) ___Injury ____YES NO____
c.) ___If YES, would you please enclose a copy?

19a. Is anyone (other than the school nurse, if you have one) trained to administer first aid?
____YES NO____
b. If YES, please indicate: Number trained_____.
c. Position(s) on staff_____

20. Does your school have special facilities designated for the care of students who have been injured or become suddenly ill, or suspected of having a communicable disease? ___YES NO___

21a. Does your school district ___Require? ___Recommend? any kinds of immunization?
b. Which ones?_____

22. Does your school provide teachers regular opportunities for in-service health education programs? ____YES NO____
a.) If YES, when was the most recent health program?_____
b.) What health topic was discussed?_____
c.) By Whom?_____

23a. Do the curriculum committees of the elementary and junior high schools in your district meet to plan the continuity of the school health program? ____YES NO____
b. If YES, how often do they meet?_____

24a. Do the curriculum committees of the junior and senior high schools in your district meet to plan the continuity of the school health programs? ____YES NO____
b. If YES, how often do they meet?_____

25a. Does your school provide for Health Counseling with parents and others concerned when a student is found to have a health problem? ____YES NO____
b. If YES, does the school follow-up to see remedial recommendations have been carried out?
____YES NO____

26. Did your school participate in the 1967 School Health Education Study?
a. YES ____
b. NO ____
c. DON'T KNOW ____
d. NEVER HEARD OF IT____
e. OTHER _____

May 9, 1972

Dear

Recently I mailed you a SCHOOL HEALTH PROGRAM STUDY QUESTIONNAIRE and requested your cooperation in assisting me in my Ph.D. research.

I have not yet received yours and was wondering if you had received it. Many times things are lost in the mail and since I mailed out such a large number of these questionnaires, I think this might have happened in your case.

If you did receive yours, however, and have not had time to fill it out I would like to request again your cooperation in doing so and returning to me at your convenience.

As I am sure your are aware, your response is quite important in terms of my being able to reliably analyze my research. Your school was picked randomly and should be included statistically if I am to generate accurate results.

Once again I would like to express my appreciation for your cooperation in my research endeavor.

Sincerely,

Earl P. Murphy

EPM/jg

Study schools in the pre-test sample were:

School Districts	Senior High	Junior High	Elementary
	Class I		
Dubuque	Donald Moody Hempstead High	Laverne Benz Washington Jr. Hi.	Samuel Hutchison Fulton Elem.
Fort Dodge	Robert Bargmen Fort Dodge High	Darwin Hopkins South Jr. Hi.	Rex Rhodes Badger Elem.
Clinton	Harold Weber Clinton High	John Ingraham Washington Jr. Hi.	Harold Blanchard Lincoln Elem.
Mason City	John Ratzwald Mason City High	Hilbert Smith Monroe Jr. Hi.	Harold Sloan McKinley Elem.
	Class II		
Spencer	Wm. Mullenberg Spencer High	James Hypse Spencer Jr. Hi.	Ruben Rogness Fairview Pk. Elem.
South Tama	Donald Bachman South Tama County High	Clark Dey South Tama County Jr. Hi.	Wendell Winder Chelsea Elem
North Fayette	Steve Story North High	Blake Brown North Jr. Hi.	Eugene Andrew West Union Elem.
Osage	Alfred Sevenson Osage High	Roy Duncan Osage Jr. High	Jewell Mellem Mitchell Elem.
	Class III		
Villisca	Robert Baxter Villisca Comm. Hi.	Garth Haer Villisca Comm. Jr. Hi.	Mrs. Ruth Hentasch Lincoln Elem.
Odebolt-Arthur	James Kerns Odebolt-Arthur High School	Rodger Miller Odebolt-Arthur Jr. High	Theron Kirkpatrick Odebolt-Arthur Elem.

School Districts	Class III		
	Senior High	Junior High	Elementary
Laurens	Melvin Eberlein	Raymond Nonneman	B. Duane Landhies
	Laurens High	Laurens Jr. Hi.	Laurens Elem.
English Valley	Dennis Crossett	Alden Bruhn	Charles Rupert
	English Valley High	English Valley Jr. Hi.	Webster Elem.

Schools in the study sample were:

School Districts	Class I		
	Senior High	Junior High	Elementary
Iowa City	Richard Taylor Iowa City Hi.	Norbert Meyer Central Jr. Hi.	Ralph Delozier Ernest Horn Elem.
Waterloo	Harold Burshtan West Hi.	Arthur Trebon Edison Jr. Hi.	Donald Brown City View Hgth. Elem.
Des Moines P.I.'s*	Earl Bridgwater East High	Phillip Cooper Amos Hiatt Jr. Hi.	C. Robt. Langbehn Dunlap Elem.
Ottumwa	Lewis Dye Ottumwa Hi.	Cecil Stevens Franklin Jr. Hi.	Floyd Richardson Irving Elem.
Davenport	Robert Liddy West Hi.	James Spencer Sudlow Jr. Hi.	Harold Moore Blue Grass Elem. Blue Grass, Ia.
Council Bluffs	Kenneth Kuester Abraham Lincoln Hi.	James Gaffney Edison Jr. Hi.	Lloyd Gere Glendale Elem.
Sioux City	Harold Stevens Central Hi.	Earl Dennler East Jr. Hi.	Morris Graber Franklin Elem.
Cedar Rapids	Donald Nan Geo. Washington High	Charles Kuenzi McKinley Jr. Hi.	Marlin Berg Erskine Elem.
Cedar Falls	Norman Jesperson Cedar Falls High	Norman Swanson Holmes Jr. Hi.	Mrs. Verna Smith Orchard Hill Elem.
Marshalltown P.I.'s*	Marl Ramsey Marshalltown Hi.	Raymond Nyhan Anson Jr. Hi.	Basil Gray Glick Elem.

*P.I.'s indicate personal interviews.

School Districts	Class II		
	Senior High	Junior High	Elementary
West Delaware	James Goodman West Delaware Hi. Manchester, Ia.	Sidney Barrick West Delaware Jr. Hi. Manchester, Ia.	Harry Brown Ryan Elem. Ryan, Ia.
Central Clinton	Howard Ehrler Central High DeWitt, Ia.	Roy Gerean Central Jr. Hi. DeWitt, Ia.	Merlyn Usher Welton Elem. Welton, Ia.
Hampton	Berry Johnson Hampton Comm. Hi.	Neal Nelson Hampton Comm. Jr. Hi.	Larry Bettis Hansell Elem. Hansell, Ia.
Maquoketa	Ellsworth Brooks Maquoketa High	Gaylord Willman Maquoketa Jr. Hi.	Clement Bodensteiner Briggs Elem.
Shenandoah	Alvin Carlsen Shenandoah Hi.	Walter Haynes Crestwood Jr. Hi. Cresco, Ia.	Robert Myers Lime Springs Elem. Lime Springs, Ia.
Glenwood	Robert Blasi Glenwood Hi.	Daniel Tuma Glenwood Jr. Hi.	Charles McGinnis East Elem.
Decorah	Grover Hedemann Thos. Roberts Hi.	Arthur Branae Decorah Jr. Hi. (P.I.)*	Paul Knipe East Side Elem.
Marion Independant	Lowell Morgan Marion Hi.	John Fowler Vernon Jr. Hi.	Larry Iwatchman Washington Elem.
Starmont	Larry Sheley Starmont Hi Strawberry Point, Ia.	Donald Hoth Starmont Jr. Hi. Strawberry Point, Ia.	Alvin Folkers Arlington Elem. Arlington, Ia.

*P.I. indicates personal interview.

School Districts	Class III		
	Senior High	Junior High	Elementary
South Winneshiek	Lee Arrowsmith South Winn. Hi. Calmar, Ia.	Jerry Adrian South Winn. Jr. Hi. Calmar, Ia.	Mrs. Viola Ludwig South Winn. Elem. Ossian, Ia.
Northeast Hamilton P.I.'s	Landis Holdorf N.E. Hamilton Hi. Blairsburg, Ia.	Merlin Westwich N.E. Hamilton Jr. Hi. Blairsburg, Ia.	Ben Halupnik Kamrar Elem. Kamrar, Ia.
Montezuma	Lewis Lundy Montezuma Hi.	Tom Erickson Montezuma Jr. Hi.	Darrell Brand Montezuma Elem.
Rockwell/ Swaledale	Patrica Minnick R.-S. High Rockwell, Ia.	R.-S. Jr. Hi. Swaledale, Ia.	Max Mabie R.-S. Elem. Rockwell, Ia.
Greenfield	Ray Leto Greenfield Hi.	Carl Schwartz Greenfield Jr. Hi.	William Jochumsen Greenfield Elem.
Clay Central	Donald Zeeb Clay Central Hi. Royal, Ia.	Marlin Gustin Clay Central Jr. Hi. Rossie, Ia.	Marlin Gustin Westside Elem. Royal, Ia.
Clear Creek	Charles DeCamp Tiffin Hi. Tiffin, Ia.	Gary Biles Cosgrove Jr. Hi. Oxford, Ia.	Lloyd Casey Tiffin Elem. Oxford, Ia.
Cal Comm.	Tom Hanna Cal Comm. Hi. Latimer, Ia.	Lowell Lange Cal Comm. Jr. Hi. Alexander, Ia.	Lowell Lange Franklin Elem. Latimer, Ia.
Harmony	Herman Jobe Harmony Hi. Farmington, Ia.	Ronald Van Meter Harmony Jr. Hi. Farmington, Ia.	Mrs. Gladys Richardson Hillsboro Elem. Hillsboro, Ia.
Dysart-Geneseo	George Canfield D.-G. Hi. Dysart, Ia.	Vernon Schelp D.-G. Jr. Hi. Buckingham, Ia.	Joseph Coffey Dysart Elem. Dysart, Ia.