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The impact of a model inservice program on the components of comprehensive school health education

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THE IMPACT OF A MODEL INSERVICE PROGRAM ON THE COMPONENTS OF COMPREHENSIVE SCHOOL HEALTH EDUCATION

A Dissertation

Submitted

In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Approved:

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ABSTRACT

Inservice education has been utilized for both professional growth and school improvement in all educational disciplines for more than a century. As the focus of school health education has extended to include the concept of the wellness lifestyle and health promotion, school health educators have employed inservice education as a vehicle for improving the three components of comprehensive school health education: curriculum and instruction, school health services, and the healthful school environment.

One response to the need for professional training of school employees in wellness has been the Seaside inservice model. Initiated in Oregon in 1977, the model is based on key factors for effective inservice education. It has been adopted by 25 states, including Iowa.

The purpose of this study was to determine the impact of the Seaside inservice program as a model for comprehensive school health education inservice in Iowa. Subjects for the study were participant teams attending the Iowa Lakeshore Wellness Conference and non-participant schools, matched by Area Education Agency membership and enrollment to the participating schools. Subjects in both groups completed a school health questionnaire before the inservice was conducted and again, one year later.

An analysis of covariance using the Statistical Package for the Social Sciences (SPSS) was employed to test three hypotheses. The statistical analysis indicated that the non-participant group perceived higher levels of program effectiveness in health curriculum and in healthful school environment. There was no significant difference between the two groups in the area of school health services.

A review of school practices revealed extremely low parent, community, and student involvement in planning health education programs in both experimental and control groups. Health education appeared to be provided inconsistently and irregularly, with the greatest likelihood for a formal instructional program at the middle school/junior high school level. An indication of strength in terms of healthful school environment was the nearly universal presence of employee wellness programs in the school districts studied.

CHAPTER I

INTRODUCTION

The advent of the wellness movement during the early 1970s marked a significant change in attitudes concerning health education. Halbert Dunn, M.D., in his influential collection of lectures entitled, "High Level Wellness," published in 1961, initiated the wellness movement as he addressed the significance of lifestyle and the importance of promoting health as a state which is more than absence of disease (Ardell & Tager, 1982).

The 1979 Surgeon General's Report, Healthy People, signaled a 10 year organizational effort in health education at the highest levels of government. An integral part of the report included charging various community, government, business, and educational institutions with the responsibility for improving health (Healthy People, 1979).

The increased focus on health has encouraged educators to examine more closely the health-related activities in schools. Examination has led to renewed efforts in the development of school health curriculum, the promotion of a healthier school environment, and a greater commitment to student and staff health services (Allensworth & Kolbe, 1987). Three areas, curriculum and instruction, health services, and environment constitute the components of a comprehensive school health education program (Iowa Department of Education, 1982).

One vehicle that has been utilized for both professional growth and school improvement in health education, as well as in other instructional areas, has been inservice education (DeBevoise, 1982). A model for

inservice in health education was developed in Oregon in 1977 as part of a two-year needs assessment and has since generated considerable interest at the national level (Drolet & Davis, 1984). This model is based on key factors for effective inservice education efforts as described by Edelfelt (1977b). It includes collaborative sharing, follow-up and ongoing activities, participant involvement in planning and focus on personally relevant topics (Drolet & Davis, 1984).

Titled the Seaside Health Education model, the program is initiated by the attendance of school district teams at a week-long conference. The Seaside Conference has been conducted yearly in Oregon since 1977 with the purpose of building and strengthening a statewide professional support system for those concerned with health education (Drolet, 1982). As reported by Laing in 1981, health educators throughout the country view Oregon school health education programs as models, largely as a result of their participation in the Seaside Conferences. Evaluations of the Seaside Conference have shown an increase in support for health-related activities, and significantly more wellness activities occurring before, during, and after school in schools which had been represented at the conference as opposed to schools which had not been represented (Drolet & Davis, 1984). Significantly more Seaside participants reported positive changes in their own health behaviors, especially in the areas of nutrition, exercise, and stress management (Drolet & Davis, 1984).

Although the Seaside model has been widely emulated throughout the United States, (the model has been adopted in 24 other states including Iowa) very few comprehensive evaluations of the effects of the conference on attending school personnel and/or on the students in schools they

represent have been attempted (Drolet, 1982; Passwater, Tritsch, & Slater, 1980). In fact, there has been little research relating to the impact that educational conferences have on school personnel in any discipline. A 1988 review of literature indicates that, to date, there have been no Seaside model studies which included data collected from schools before their participation in the program. Only one study, (Drolet, 1982) utilized a control group.

Statement of the Problem

The purpose of the study was to determine the impact of a particular inservice education model on the components of comprehensive school health education in Iowa schools. School health questionnaires were completed by participants in the inservice and by matched respondents not participating in the inservice, both before the inservice program was initiated and a year later.

Research Questions

1. In the area of curriculum and instruction, to what extent, if any, did health programs in schools which participated in the inservice model differ from the programs in matched schools which did not participate?

2. In the area of health services, to what extent, if any, did health programs in schools which participated in the inservice model differ from the programs in matched schools which did not participate?

3. In the area of environment, to what extent, if any, did health programs in schools which participated in the inservice model differ from the programs in matched schools which did not participate?

Hypotheses

Ho: There is no difference in adjusted mean scores in the area of health curriculum and instruction between schools which participated in the inservice program as compared to schools which did not participate in the program.

H1: There is a difference in adjusted mean scores in the area of health curriculum and instruction between schools which participated in the inservice program as compared to schools which did not participate in the program.

Ho: There is no difference in adjusted mean scores in the area of school health services between schools which participated in the inservice program as compared to schools which did not participate in the program.

H1: There is a difference in adjusted mean scores in the area of school health services between schools which participated in the inservice program as compared to schools which did not participate in the program.

Ho: There is no difference in adjusted mean scores in the area of healthful school environment between schools which participated in the inservice program as compared to schools which did not participate in the program.

H1: There is a difference in adjusted mean scores in the area of healthful school environment between schools which participated in the inservice program as compared to schools which did not participate in the program.

Significance of the Study

Allensworth and Kolbe, in their introduction to the December, 1987 issue of the Journal of School Health (a special issue dedicated to

exploring an expanded concept of school health education) stated, "Schools could do more than any other single agency in society to help young people, and the adults they will become, to live healthier, longer, more satisfying, and more productive lives" (p. 409). As more educators and health professionals have become interested in working with schools to enhance the health of students, the Seaside Health Education inservice model has emerged as a national initiative (Blair, Tritsch, & Kutsch, 1987). Dr. Judy Drolet, whose doctoral dissertation at the University of Oregon was a retrospective study of the impact of the Seaside model of health education in Oregon schools, recommended, in her conclusions, that "the impact of the efforts in other states that follow the Seaside design should be evaluated" (Drolet, 1982, p. 159). A unique aspect of this study was the acquisition of data from schools both before and after participation in the program. Additionally, a review of literature indicated that only the Drolet study of the Seaside model, to date, had utilized a control group.

Assumptions

In carrying out this study, the following assumptions were made:

1. Participants in the study provided reliable and accurate responses.

2. The components of an effective school health education program can be identified and measured by the instrument used in the study.

Limitations of the Study

In carrying out this study, the following limitations were recognized:

1. Participation in the study was voluntary.

2. Responses to items on the questionnaire were based on perceptions of the status of a particular facet of school health education in the school district.

3. Any effects of conference participation measured were limited to those which occurred in one year's time.

4. The concept of school health education was limited to a wellness focus as opposed to a body systems or disease model.

5. The study was limited to participants in the Iowa Seaside model program and to respondents in matched schools of the control group. Conclusions drawn from a study of one state, as opposed to that of many, may limit generalizability of the results.

6. There may have been some variability in responses because of the different positions which the respondents hold in their school districts.

7. There was no absolute assurance that the same person completed both the first and second questionnaire.

Definitions of Terms

For purposes of this study, the following terms were defined:

1. Inservice education--the professional development of teachers and other school personnel (Edelfelt, 1977b).

2. Comprehensive school health education--a continuous process encompassing school health instruction, school health services, and a healthful school environment; which enables the student to assume individual responsibility for developing and maintaining personal attitudes and behaviors which promote total wellness (Iowa Department of Education, 1982).

3. Health--a quality of life involving dynamic interaction and interdependence among the individual's physical well-being, his mental and emotional reactions, and the social complex in which he exists (Sliepcevich, 1968).

4. Health behavior--any action that influences the probability of immediate and/or long term physical and physiological consequences affecting physical well being and longevity (Pollock, 1987).

5. Health instruction--that component of comprehensive school health education which includes the planned curriculum, its implementation and evaluation, teacher preparation, selection of resources, and communication with parents (Pollock, 1987).

6. Health services--that component of comprehensive school health education which includes professional school nurses and their roles in health screening, referral and the management of health policies and procedures, teacher observation and referral, emergency procedures, and health counseling (Pollock, 1987).

7. Healthful school environment--that component of comprehensive school health education which includes the maintenance of appropriate physical facilities, emotional and social climate, food service, safety plans, and health promotion for school employees (Pollock, 1987).

8. Lakeshore Wellness Conference--Iowa's version of the Seaside Health Education model. The Lakeshore Wellness Conference is an ongoing inservice effort sponsored by the Iowa Coalition for Comprehensive School Health Education with major funding support from the Iowa Association for Health, Physical Education, Recreation and Dance (Davis, 1987).

9. Seaside Health Education model--a five-day program with follow-up conducted annually in Oregon to enhance individual, school and community health by allowing health educators and others to gain skills and knowledge to initiate health education in their local curricula. The model's goal is to transform participants into change agents who become advocates for schoolwide emphasis on health (Blair et al., 1987).

10. Wellness (also high level wellness)--an integrated method of functioning which is oriented to maximizing the potential of which an individual is capable, within the environment where she/he is functioning (Dunn, 1961).

CHAPTER II

REVIEW OF LITERATURE

The advent of the wellness movement during the early 1970s marked a significant change in attitudes concerning health education. This increased focus on health has encouraged educators to examine more closely the health-related activities in schools. An important component of many of those activities has been some type of inservice experience for educational personnel.

This review of literature begins with an examination of inservice education as a vehicle for school improvement. In the second section, school health education in the United States is considered from an historical perspective. The third section highlights significant national initiatives for school health education in the twentieth century. In the fourth section, the development of the wellness movement of the past 20 years is examined. The Seaside health education inservice model, now entering its thirteenth year in Oregon and providing a model for 24 other state inservice conferences as of 1989, is examined in the fifth section. The review of literature concludes with a report on the current status of health education in Iowa, including an examination of key factors which have influenced its present standing.

Inservice Education as a Vehicle for School Improvement

Defining Inservice Education

As interest in inservice education has increased through the 1970s and 1980s, several new labels have been introduced to describe the process including staff development, continuing education, and human resources

development (Yarger, 1982). These titles, many of which have been adopted from business and industry, reflect the continued evolutionary process which has brought educational inservice to its present position. The following two definitions of inservice education have been used as a framework for this study.

> 1. Inservice education is a broadly conceived notion, including all activities engaged in by the professional personnel during their service and designed to contribute to improvement on the job. (Hass, 1957, p. 13)
>
> 2. Inservice education is the professional development of teachers and other educational personnel. (Edelfelt, 1977b, p. 3)

These and other definitions for inservice, are characterized by two important constraints. One, that inservice applies to personnel who are already employed in the educational profession. The other, that whatever the experience, it is intended to contribute to the individual's improvement of job performance (Howey & Gardner, 1983). That improvement, then, should lead to what Edelfelt terms the fundamental purpose of inservice education, the improvement of educational programs for students (Edelfelt, 1977b).

History of Inservice Education

The professional development of teachers is not a new concept in American education. Traditional inservice education or inservice training has existed "almost as long as public education" (Collins, 1972, p. 2). The competence of teachers and efforts to increase their competence have held a prominent position in schools. Addis, in a report of the teaching force of New England from 1866 to 1888 found that superintendents complained that many teachers were less than 21 years old and a sizable

number were less than 16. One-half to three-fourths of teachers changed positions every year and 20% or more were teaching for the first time (1891). In 1890, few teachers had a secondary school education, however, by 1910 many states required a high school diploma before a license to teach could be obtained (Updegraff, 1911).

Public officials were often charged with the responsibility of giving advice and direction to the schoolmaster or schoolmistress regarding what was expected. This advice included what values the teacher was expected to instill in the town children, what educational content was considered important, and what methods of discipline were acceptable (Yarger, 1982).

In an historical review of inservice education, H. G. Richey concluded:

> During the nineteenth century, inservice programs of teacher training reflected above all else, the prevailing and partially valid assumption that the immaturity, meager educational equipment, and inexperience of the teacher, rendered him unable to analyze or criticize his own teaching, or, unless given direction, to improve it. (Richey, 1957, p. 36)

In discussing the lack of inservice education programming in the early years of education, Tyler said:

> In the midperiod of the nineteenth century, the idea that curriculum and teaching procedures should be in continuous development was not commonly accepted. The technological and social changes in those days were proceeding less rapidly than now, and school learning was considered desirable but not necessary for an individual's survival. Some pupils, it was thought, had little capacity for book learning and after a brief exposure would leave school to go to work. How to educate those who dropped out was not perceived as a meaningful question. Problems of this sort, now major concerns of current inservice education programs, serve to illustrate the contemporary outlook that teaching is a changing and developing task. (1971, p. 6)

How students learn was not considered a matter for serious study and teaching was viewed as simply a matter of dispensing information which would be acquired and used later (Edelfelt & Lawrence, 1975).

About the mid-nineteenth century, a more formal inservice model was developed. Teacher "institutes" were designed "to review and drill teachers in the elementary subjects" (Asher, 1967, p. 3). According to Richey (1957, p. 36), these programs were necessary because of the "tremendous but largely unfilled need for even modestly educated and professionally trained teachers." Asher (1967) pointed out that only a few teachers considered teaching to be anything more than a temporary activity engaged in before one entered a profession or married. Edelfelt and Lawrence (1975) noted that the teacher institutes were regarded as a waste of time by teachers, but attendance was required in over half the states and school authorities considered the institutes to be an appropriate method for motivating the profession. As normal schools and universities developed more extensive teacher training programs, the teacher institutes were viewed less and less positively. McMannis (1903) criticized teachers institutes when he stated that the lecturers, many of whom followed an institute circuit around the country, talked about pedagogical principles but violated them by using strictly lecture methods themselves. By about 1880, newer approaches to inservice education were being developed. Teacher's reading circles were initiated with the goal of motivating teachers to extend their own education through reading and discussing important literary works with other educators. By 1910, teacher's reading circles appeared in three-fourths of the states (Asher, 1967).

Summer schools and extension courses sponsored by universities and normal schools also were started in the latter part of the century (Tyler, 1971). The summer school movement was initiated by the University of Chicago with the intent of making the summer session part of an academic program. In summer school the teacher could do work for college credit (Asher, 1967). Extension courses were also utilized by teachers and, after 1900, standards for admission were raised and college credit was granted for extension work. Correspondence courses for teachers were offered by several colleges and universities by 1910 (Asher, 1967).

A major aim of inservice programs in the early 1900's was "filling the gaps in college degree requirements" (Tyler, 1971, p. 154). Since many teachers did not possess a college degree or post high school diploma, this aim seemed appropriate for the times. By 1930, about three-fourths of the teachers had attended college for two or more years (Edelfelt & Lawrence, 1975).

The 1930s brought drastic changes in all areas of American life including education. With economic opportunities limited, students often stayed in school as long as possible necessitating the development of curricula with vocational relevancy. These reform processes led to the development of inservice workshops, curriculum study, and other activities (Yarger, 1982). According to Tyler (1971):

> The differentiating characteristics of inservice education during the period arose from the primary concern of developing curricula and educational procedures that would better serve youth under the conditions of the day. This involved new approaches to curriculum building, the identification of new content, the development of new instructional materials, the discovery of new teaching-learning procedures, and the education of teachers to understand and to conduct new programs effectively. (p. 11)

A result of this period of change was the teacher education workshop inservice design. First called by the name in the 1930s, workshops were, by definition, intended to be problem-solving, action oriented work groups (Edelfelt & Lawrence, 1975). This was the first acknowledgement that the teacher could contribute to the design and development of inservice programs and educational materials (Yarger & Leonard, 1974).

This initial interest in the teacher as more than the deliverer of information was a considerable change from the past when leadership in education was viewed, by teachers themselves as well as others, to come as direction from above (Edelfelt & Lawrence, 1975). In discussing the issue of the absence of teacher empowerment Richey said:

> Teachers, long conditioned to prescription and direction, were little opposed to be critical of the direction of those in whom legal authority resided. At least, there would be little questioning of such authority until larger numbers of teachers came to realize that it was not always based on competence and understanding superior to their own. (1957, p. 52)

Edelfelt and Lawrence (1975) pointed out that studies of group dynamics in the 1940s elucidated the many leadership roles that exist in groups. The new idea of the teacher as a possible leader in inservice efforts was also boosted by the increased involvement of teachers in professional organizations and activities.

About 1950 schools began to feel the effect of the postwar baby boom with increases in the school population. Emergency measures included hiring teachers who did not possess college degrees and/or who were not certified teachers. Thus, again, the primary activity of inservice education became the completion of degree and certification requirements

(Yarger, 1982). In the 1950s the idea that inservice should be participatory continued to be stressed, at least in theory. Corey (1957) stated that the goal of inservice education should be preparation for independent and creative problem solving, usually as a cooperative group activity. He recommended that small groups of teachers be encouraged to identify a problem of their choosing, decide on the most productive way to solve the problem, be provided access of a variety of resource, try the idea, and evaluate the results.

The Soviet Union's launching of Sputnik in 1957 also had a profound effect on American education and, thus, educational inservice. Science and math programs in public schools were particularly criticized by the American press and public. The result was the initiation of national curriculum development projects in science and mathematics which resulted in professional development of teachers during the 1960s focusing mostly on training teachers in the delivery of the new programs (Yarger, 1982). Since these projects were usually located at larger universities, the classroom teacher was involved only minimally in program design (Yarger & Leonard, 1974).

During the 1960s, the professional development of teachers continued to focus on shaping the teacher to fit the national curricula which had been developed (Yarger & Leonard, 1974). Inservice programs were designed to assist the teacher in developing the skills necessary to implement the package program (Yarger, 1982). In addition, during the 1960s, more detailed laws raised the certification standards for teachers. These laws required many teachers to pursue more inservice training,

particularly in the form of college coursework (Edelfelt & Lawrence, 1975).

In 1965, the National Commission on Teacher Education and Professional Standards of the National Education Association conducted a nationwide survey to identify promising practices in inservice education. Over 300 programs were reviewed, with several selected for publication. The title of the publication, which was to have been Promising Practices in Inservice Education, was changed to Current Practices in Inservice Education, adding to the evidence that inservice program development had been inadequate (Brandt, 1965).

The Elementary and Secondary Education Act of 1965, Title V was linked to inservice education programming in that some funding from the legislation was utilized for teacher inservice training. In many areas, monies from Title V were used to fund teacher center type activities (Yarger & Leonard, 1974).

The 1970s were a period of additional changes in teacher education. The teacher center, a new concept in the United States, was imported from Great Britain. In Britain, the growth of teacher centers was related to curriculum development initiatives related to the British concern after the launch of Sputnik. This teacher center concept was widely publicized in the United States (Nemser & Applegate, 1982).

The teacher center, the purposes of which are to enhance skills for teaching children, enhance skills for curriculum and material development, and focus on other areas of professional development (Yarger & Leonard, 1974) was termed "one of the hottest educational concepts on the scene" during the 1970s (Schmeider & Yarger, 1974, p. 5). With the

passage of the teacher-center bill as part of the Education Amendments (PL 94-482) in 1976, the teacher-center idea became institutionalized. A unique part of the teacher center law was that the law endorsed the school, not the university, as the main focus for inservice education and that classroom teachers were to play the major role in determining the kind of training they needed (Nemser & Applegate, 1982). Federal funding for teacher centers was gradually reduced after the initial funding, until, by 1982, it was completely eliminated. Local school districts and private foundations, in some locations, provided replacement funding. In the majority of locations, however, the centers were closed because of lack of funds (D. Gibson, personal communication, February, 1989).

Inservice education in the 1980s has continued to be a principle vehicle through which the educational community responds to public as well as professional concerns regarding school improvement. Improving reading and writing proficiency, drug abuse prevention, the integration of computers in the classroom and education for the prevention of child abuse are only a few example of topics which have been the subject of numerous inservice education efforts.

The need for effective educational inservice programming in the 1980s and beyond is more critical than in the past for a number of reasons. In many states, including Iowa, new teacher placement is at the lowest percent in several decades. Declining enrollments in many districts has clearly reduced the need to hire new teachers (McKown, 1987). Declining enrollments, too, have led to increased restructuring in schools. One event that often accompanies that restructuring is the

reassignment of personnel. Inservice, then, has become the vehicle for familiarizing the employee with the new position.

Recent national initiatives in education have also increased the need for quality inservice programs for educators. The effective schooling research base, a response in part to the publication of A Nation At Risk, identifies practices and characteristics which have been associated with measurable improvements in student achievement and excellence in student behavior (Wilson & Rossman, 1986). Public discussion of the state of education in America has increased political interest in schools and teacher education. Many school districts, under pressure from parents and community members, have translated the national initiatives into plans of action which involve all personnel. The implementation of these plans, whether they include writing across the curriculum, a new discipline policy, a focus on basic skills, or any other effort, is almost wholely dependent upon a successful inservice program. Yarger (1982) points out, in speculating about the future of inservice education, that many inservice initiatives will be the result of educationally conservative mandates. He states, "The public simply will not pay for inservice education formats that do not respond directly to what it considers to be needed initiatives" (p. 889).

Size and Scope of Inservice Education

It is estimated that there are 70,000 to 80,000 education professors, supervisors, and consultants presently working full-time or part-time as inservice providers in the educational field. This estimate does not include the teachers themselves, who may represent the single most important category of inservice leaders (Yarger, 1982). Yarger estimated

that, with the present structure of education, there exists about one inservice professional for approximately every ten teachers in the United States (1982). Joyce and Showers (1980) stated that the average teacher in the United States participates in about three inservice activities per year. These are most often brief workshops which include motivational speeches and demonstrations of skills.

The scope of inservice education is as broad and diverse as the teachers and students it is meant to serve. When Mertens and Yarger studied 37 federally funded teacher center projects, they found an emphasis on pedagogical skills. When teachers plan inservice experiences for themselves, they place a priority on materials development (1981). Yarger (1982) stated that college courses attended by practicing teachers reflect an emphasis on general education practices for the profession, as well as information related to career change (administration, guidance, etc.).

Local school districts often tailor inservice efforts to fit district goals for the time; for example, school discipline or a K-12 school-wide writing project. Sometimes the achievement of state mandates becomes a part of the local goals, and thus, a part of inservice education. In Iowa, the integration of multi-cultural, nonsexist materials is an example.

The scope of inservice education is also affected by the state and federal governments. Funded programs designed to assist a particular population (minority children, the handicapped, the gifted, school-age parents, etc.) sometimes determine the content of inservice educational programs for a limited time (Yarger, 1982).

Four major trends characterize current staff development efforts. The first is a movement to implement programs which extend professional growth beyond certification. Second, the movement is away from single event experiences and toward multiple inservice activities related to a common topic. Third, staff development activities are increasingly including all employees of a school system. And, fourth, there is an effort to shift the control of design for inservice programs away from administrators and/or university professors and toward a more collaborative design which includes teachers (Cruickshank, Lorish, & Thompson, 1979).

The method of delivery for inservice education is as varied as the content. In a general discussion of delivery formats, Yarger (1982) listed five type which are: long-term programs of interrelated courses (almost exclusively related to the pursuit of advanced degrees); long-term courses (not a specific degree program but almost always attached to some certification or school district requirement or inducement), short-term courses (usually meeting two or three times and designed to help teachers learn a specific skill that can be used in the classroom), individualized plans (includes consulting services, facilitative services and materials and equipment for developing instructional materials), and self-directed learning (including the teacher's own purchasing of books, attending lectures, educational trips and participation in professional organizations).

Yarger pointed out that, of the delivery formats identified, only programs of interrelated courses and long-term courses taken separately provide programs with some assurance of survival over the long term

(1982). The Iowa system of Area Education Agencies (through Educational Services Divisions) is designed to provide support of sustained curricular change by providing short-term courses and individualized support on a long-term basis. Although this conflicts, somewhat, with Yarger's statement, structures such as those which exist in Iowa, do not appear in the Yarger research.

Financing Inservice Education

"Good management doesn't spend approximately 80% of its monetary resources on staff salaries and then do nothing to increase the value of that investment" (McKown, 1987, p. 2). McKown also stated that a commitment of 1% of the school district budget for the improvement of employee skills, is considered to be a minimum amount of financial support for inservice education (McKown, 1987).

Feinstritzer and Dobson (1980) estimated that approximately $135 million per year are invested at the federal level for the professional development of teachers. With approximately 2.1 million teachers in the United States this constitutes about $65 per teacher per year for inservice activity. According to Edelfelt and Lawrence (1975), from 1960 until recently, the federal government has spent millions of dollars on inservice education, mostly through the National Defense Education Act and the National Science Foundation institutes. Lawrence noted, in a review of 97 inservice program reports, there was a significant lack of inservice programming for any of "the human sciences other than psychology" (Lawrence, 1974, p. 18). He also pointed out that only two of the programs he reviewed put teachers in contact with the community, and none mentioned parents being involved with an inservice program.

Financing of inservice education at the federal level has sometimes been associated with legislation targeted at educational change. The most recent example of significant legislation was the passage of Public Law 94-142, the Education For All Handicapped Children Act in November, 1975. The purpose of the act was to assure that all handicapped children have access to a free, appropriate education (Corrigan, 1981). Corrigan stated that, "the key to making the concepts in PL 94-142 come alive in the schools of this country is a new commitment to the reeducation of America's teachers" (p. 237).

Data from states regarding financial support for inservice education vary from year to year and from one state to another. Brietson's study (cited in Yarger, 1982) stated that Michigan committed approximately $2.25 million for the 1981 fiscal year or about $15 per teacher. This amount is considered, in comparison to other states, to be generous support of inservice teacher education activities (Yarger, 1982). In 1972, the Florida legislature enacted a new funding formula for education which allocated money to school districts on the basis of full-time student enrollments. A stipulation attached to this formula was that each school district spend five dollars per full-time student for inservice education (Cook, 1977).

Iowa school districts are taking advantage of Phase III monies to finance staff development efforts. Phase III, funded for $40.5 million for the 1988-89 school year, allowed for the establishment of performanced based pay plans and/or a supplemental pay plan. Supplemental plans provide additional salary to teachers who participate in additional work or training. Of 434 plans submitted and approved, 371 were

supplemental only, 53 were combined plans, and three were performance based only. Ninety-two percent of the districts are using Phase III monies to develop and expand staff development (Bartusek, 1988).

In October, 1988 the Iowa Department of Education issued new standards which included directives regarding staff development. Item 12.7(2) stated that the board of education must annually budget specified funds to implement a three year staff development plan. Although no specific dollar amount was mentioned, the standards did specify that the plan must include instructional and noninstructional staff (New Standards, 1988). Funding decisions within individual districts regarding the new standards will not be finalized until March 15, 1989.

State funding for inservice education is often attached to a legislative response to some national, state or area concern. The Iowa legislature, for example, appropriated $500,000 in 1987 to fund projects for the prevention of teen pregnancy. Funding for education about Acquired Immune Deficiency Syndrome (AIDS) is another timely illustration.

Two studies (Yarger & Leonard, 1974; Van Ryn, 1977) relate to expenditures by local school districts for inservice education. Excluding administrative salaries (a part of which may be devoted to inservice planning), on the average, about .25% of local education budgets are spent on teacher inservice experiences. This translates to about $70 per teacher per year. Thus, according to these estimates, the combined total from federal, state and local sources for any given teacher, is about $150 per year.

The above studies did not consider the increasing participation of private organizations in the process of education. In an article for

the Phi Delta Kappan (1984), Sandra T. Gray, Executive Director of the National School Volunteer Program, cited the following examples of private financing to support educational inservice. Shell Development conducts workshops for mathematics and science teachers who deal with gifted students in Houston, Texas in an effort to determine what future scientists should be learning during their early years of education. Also in Houston, Southwestern Bell employees provide seminars on management techniques for school administrators. In Springfield, Massachusetts, the Monsanto Corporation has conducted a ten-week seminar for science teachers to show them how new advances in science can be applied to industrial technology. Wilson and Rossman, in examining a selection of exemplary schools (1986, p. 708) noted that the best schools today "tend to open themselves to their communities by forging creative links." Examples from their study include Roosevelt-Lincoln Junior High School in Salina, Kansas where local businesses donated more than $8,000 for staff development and training for a new teacher advisory program and the High School for Creative and Performing Arts, an urban, largely black, magnet school in Cincinnati, Ohio, where the community contributed more than $400,000 in a single year to supplement programs.

Teachers, themselves, also spend their own money on inservice education. Although it is impossible to document those expenditures, Yarger states that teachers themselves are the largest single source of financial support for inservice education (1982).

Evaluating the Effectiveness of Inservice Education

The increased need for inservice programming and the present emphasis on educational accountability has led to more questions about the

effectiveness of inservice education (Purington, 1983a). An Educational Resources Information Clearinghouse (ERIC) computer search conducted in March, 1988 identified 28,685 papers related to effective educational inservice. These papers represented five research types including: (a) program descriptions, (b) case studies, (c) surveys, (d) correlational studies, and (e) experimental studies. The least sophisticated types of research, programs and case studies, unfortunately represent the bulk of the work done on inservice education. The most complex and confirming research methods, correlational and experimental studies, are almost impossible to execuite successfully in the field due to difficulty in controlling extraneous variables (Howey & Gardner, 1983). Much of the available material is not empirical and, therefore, difficult to generalize (Orlich, 1983).

Characteristics of Effective Inservice Education

The program description method of research, represents the bulk of the work done in inservice education research. Although lacking in generalizability, program descriptions have provided a rich array of ideas concerning the field of inservice education. A review of the literature on the effects of inservice efforts elucidates several characteristics which consistently appear, across the research, and thus have been judged as significant components for effective inservice education efforts.

Malcolm Knowles, credited by many as the father of adult learning theory, in Modern Practices of Adult Education: Androgogy Versus Pedagogy (1980), emphasized the reality that inservice education involves adult learners. Inservice planners who subscribe to this view of their clients

acknowledge an accumulating body of knowledge which has much to contribute to the improvement of inservice education. Knowles states that the single most important innovation in adult education has been the "bringing together of the knowledge about adult development and adult learning into a comprehensive theory" which has been labeled androgogy. Knowles defines androgogy as "the art and science of helping adults learn" (Jones & Zemke, 1977, p. 322).

According to Allen Tough, professor of adult education at the Ontario Institute for Studies in Education in Toronto, the most common adult motivation for a learning project is some anticipated use or application. The least common motivation is learning for credit for some sort of certification (cited in Jones & Zemke, 1977). Similarly, Zemke and Zemke (1981) point out that adults seek learning experiences in order to cope with specific life-change events. For educational personnel, changes in assignment, in curriculum, in student needs and/or in district goals for education all represent life change events which may provide motivation for learning.

The life experiences which adult learners bring to the classroom are recognized, in adult learning theory, as a valuable asset to be acknowledged and utilized. In terms of methods, then, open-ended questions, dialogue with peers, debate, discussion, and experience sharing are all recommended (Zemke & Zemke, 1981).

Adult learners are particularly interested in applications to specific on the job problems. Action plans, accountability strategies, and follow-up after training are all important methods for enhancing the integration of new knowledge and skills with previous experiences

(Zemke & Zemke, 1981). Adult learners are interested in individual growth. An emphasis on the individual as a developing person is considered one of the key concepts (Howey, 1981).

Edelfelt proposed 29 criteria for designing local inservice programs (1977a). These criteria were grouped into five categories: (a) decision making; (b) relationship to the program of the school; (c) resources; (d) commitment to teacher education; and (e) rewards.

Edelfelt's decision making criteria are delineated into six statements which are regarded as the initial considerations in planning any inservice effort. He states:

> 1. Decision-making processes are based on cooperation between all major interest groups, that is, school district, college/university, and teacher organization.
> 2. Decisions are made by the people who are affected by them, and the decisions are made as close as possible to the situation where they will be operative.
> 3. The cooperation of major interest groups is based on a concept of parity for each group.
> 4. Explicit procedures exist to assure fairness in decision making.
> 5. There are policies relating to inservice education.
> 6. Inservice education programs are institutionalized. (1977a, pp. 12-15)

The need for participant involvement in decisions about inservice education was demonstrated in a National Education Association nationwide poll when 56% of the educators questioned stated they preferred programs planned by teachers over those planned by individuals and school system administrators (Purington, 1983b).

Edelfelt's second category of recommended criteria for effective inservice education regards the relationship of the inservice plan to the program of the school. Nine statements describe this concept:

> 1. Inservice education is directly related to curriculum development.

2. Inservice education is directly related to instructional improvement.
3. Inservice education is based on the needs of students.
4. Inservice education is based on the needs of teachers.
5. Inservice education is based on the needs of school program.
6. Inservice education is part of a teacher's regular teaching load.
7. The techniques and methods used in inservice education are consistent with fundamental principles of good teaching and learning.
8. Research/evaluation is an integral part of inservice education.
9. All those who participate in inservice education are engaged in both teaching and learning. (Edelfelt, 1977a, pp. 16-19)

The focus on meeting the needs of teachers, students and programs is a foundation of the RTPIM Model (Readiness, Training, Planning, Implementation, Maintenance) for staff development as described in the 1982 ASCD Yearbook. "Inservice education," the authors stated, "should focus on improving the quality of school programs" (Wood, McQuarrie, & Thompson, 1982, p. 28).

Resources represent the third important criterion for inservice education as described by Edelfelt (1977a). The following six statements set forth the concept:

1. Time is available during regular instructional hours for inservice education.
2. Adequate personnel are available from the school district and college/university for inservice education.
3. Adequate materials are available.
4. Inservice education makes use of community resources.
5. Funds for inservice education are provided by the local school district.
6. Inservice education is paid for by state funds provided for that purpose. (pp. 19-21)

Purcell terms resources a matter of accessibility and agrees that it is an important factor in inservice planning. He states that efficient structuring of inservice activities in a way that makes optimal use of time is desirable (Purcell, 1987).

Purcell also discussed the facility chosen for the inservice program, stating that the facility can have a significant impact on the success of the effort. The choice of location should be based on the training needs of the participants rather than on the arbitrary preference of the consultant or the administrator. The use of remote locations should be an open option for any program, depending on the needs and cost (Purcell, 1987).

The qualifications of the presenters have a significant impact on what the participants acquire and use. It is extremely important that the consultants chosen be qualified beyond question for the role expected of them. Often outstanding teachers and other employees in the district make excellent inservice providers (Purcell, 1987).

Edelfelt's fourth category of criteria, commitment to education, indicates that school districts need to place a high priority on staff development. Commitment is described in six statements as:

> 1. Professional growth is seen as a continuum from preservice preparation through career-long professional development.
> 2. The inservice education program reflects the many different ways that professionals grow.
> 3. The inservice education program addresses the many different roles and responsibilities that a teacher must assume.
> 4. Inservice education is related to research and development.
> 5. The respective strengths of the school district, the college/university, the teacher organization, and the community are used in the inservice education program.
> 6. Internship and student teaching experiences are used for analysis and study in the inservice education program. (Edelfelt, 1977a, pp. 23-25)

Another reflection of commitment to the inservice education program is the degree of involvement demonstrated by administrators. Effective inservice projects are characterized by extensive involvement of principals and superintendents which includes their participation in

training sessions whenever appropriate (Orlich, 1983). The increase in the number of administrators who participate in inservice may result in a more acute sensitivity to the needs of teachers in their staff development programs (DeBevoise, 1982).

Edelfelt's final category for effective educational inservice is rewards. He states, "There is a reward system for teachers, administrators, and college/university personnel who engage in inservice education programs" (1977a, p. 25). Economic benefits and additional credentials are essential for both participants and presenters, according to Edelfelt, but other intrinsic rewards should also be promoted. More responsibility, higher status, increased self-esteem because of greater competence gained, and additional freedom and autonomy are also important to many in the educational setting (1977a).

Many descriptions of successful inservice efforts include specific team building activities which allow time for the participants to teach as well as learn. Reflective, again, of the adult learner model, these plans recognize the rich background of experiences that the participant brings to the inservice setting. Time for collaborative sharing builds confidence and a useful network for future problem solving (Duke, 1986). Teacher-administrator teaming and other professional collegial relationships have been associated with positive outcomes. Additionally, a model of collaborative inservice which reaches beyond the district bounds to include teacher educators and researchers has also been effective (DeBevoise, 1982).

The most successful programs place the participants in active roles rather than passive listening roles. Examples of useful methods are

developing materials, brainstorming, role-playing, problem-solving, and goal-oriented small group discussions (Orlich, 1983). Providing participants a chance to practice skills, strategies, or methods during a session increases the chance that the strategy will be utilized later (McKown, 1987). Clinical supervision is one excellent method for achieving teacher involvement. Special assignments, field trips to view other school programs and sharing activities are also effective ways to insure active involvement (Whitfield, Whitfield & Purkerson, 1983).

Effective inservice programs are coordinated by a general staff development effort. One-shot efforts tend to be ineffective (Orlich, 1983). Follow-up is a critical element in the success of an inservice model. Ideally, the component is built in to the inservice plan as personnel build their support system among themselves and the consultants during the course of the experience. Establishing a climate of sharing and collaborating encourages the participants to continue that during the course of the year (Duke, 1986). Evaluation, feedback, and reinforcement all increase the chances that the inservice effort will result in long-term benefit to the students. The maintenance component is a responsibility shared by administrators who monitor new behavior, by staff members who utilize self-monitoring, and by students whose feedback and measures of achievement may reflect the effectiveness of the new behavior (Wood, McQuarrie, & Thompson, 1982).

An increasingly evident practice in schools is that of extending inservice programming to include all professional and nonprofessional personnel in the school. School districts are increasingly recognizing

that all school employees have an impact on students and that collegiality is valuable among all employees (Orlich, 1983). All school personnel need inservice throughout their careers (Wood, McQuarrie, & Thompson, 1982).

School Health Education in the Twentieth Century

Up to 1900, the term health education was unknown. During the 1800s, however, there was sporadic interest in the health of the school child as evidenced by William A. Alcott, considered a pioneer in school health who wrote an "Essay on the Construction of School Houses" in 1829 suggesting the involvement of physicians in schools. He also wrote the first health book for children (Alcott, 1832). Horace Mann, secretary to the Massachusetts Board of Education in the 1830s and 1840s, was also an outspoken proponent for what he termed school hygiene. In the first issue of the Common School Journal, which he edited, Mann wrote:

> When physical education is mentioned, that is a knowledge of the laws by which health and strength are attained and preserved, many people start and ask in surprise whether every man is to be a physician. The answer to this is easy. Physicians must understand the laws and symptoms of the diseased body. It is enough for common men to understand the laws and functions of the healthy body. The knowledge respecting air, exercise, dress, and diet, which is requisite for the preservation of health, may be acquired with a far less amount of attention and expense, than are commonly necessary in a three month's sickness. (Mann, 1838, p. 10)

By 1890 every state in the country had a law requiring school instruction in the area of alcohol and drugs. Much of this legislation had been promoted by the temperance societies which were active at the time (Willgoose, 1977).

Most health-related activities in schools at the turn of the century were identified as hygiene. The period from 1900 to the beginning of

the first World War, however, was marked by steady progress in the definition and development of the field (Means, 1975). As compulsory school attendance and tax-supported education became common practice, numerous problems related to the health and safety of school children became evident. Concern for the prevalence of disease contagion among school children was a major motivating factor behind the growing interest in health education. During the 1890s, medical inspectors were appointed in many large cities including Boston, Chicago, Philadelphia, and New York. Their purpose was to visit the schools each day and inspect pupils suspected of having contagious diseases. The first staff of school nurses was appointed in New York in 1902. Two years later New York City alone had 176 school nurses (Means, 1975).

The health crusade of the National Tuberculosis Association was particularly widespread in the early part of the century. By 1915, the Association had organized 100,000 school children as National Health Crusaders. These child crusaders were part of a carefully planned and organized program which included daily practice of four basic rules: (a) sleep with your window open, (b) have fresh air where you work or play, (c) breath through your nose with your mouth closed, and (d) get the rest of your family to do the same (Means, 1975).

The participation of the United States in World War I beginning in April, 1917 provided a major impetus in the improvement of health education programs in schools in the United States. Of 2,510,706 men who were examined for the first draft of the War, 730,756 men were rejected on physical grounds. Educators and government leaders determined the lack of good health to be the reflection of a serious flaw in public

education and took immediate steps to correct it (Means, 1975). It is also significant to note that the Seven Cardinal Principles of Education were published in 1918. Health was included as the number one objective (Taba, 1962).

During the war years, an organization was founded which would have a profound effect on school health education throughout the United States. The draft deficiencies had resulted in additional health related studies, one of which highlighted the extent of malnutrition among school children. A group titled the Committee on War Time Problems of Childhood was formed which became in 1918, the Child Health Organization of America (Means, 1975). This organization concentrated its efforts on influencing schools to improve their health education curricula. The Child Health Organization cosponsored, with the National Education Association, a conference in 1919 for the purpose of discussing the equipment of the average teacher for health education (VanIngen, 1935).

Following the conference, the Child Health Organization initiated a series of projects aimed at improving teacher education in health education. Among these were offering of the first ever Fellowship in Health Education in 1920 and a 1922 Conference with the United States Bureau of Education on the training needs of school health teachers (VanIngen, 1935).

The Child Health Organization merged with the American Child Hygiene Association in January, 1923 to form the American Child Health Association. Under the leadership of then Secretary of Commerce Herbert Hoover, the American Child Health Association was responsible for several important publications including Child Health Magazine, Child Health

Bulletin, and The Baby in the House of Health. The Association was also sponsor of May Day-Child Health Day, a celebration of health for children throughout the United States and for the Cheerio radio broadcasts, weekly programs emphasizing a variety of child health topics (VanIngen, 1935). The American Child Health Association also sponsored the School Health Study, an evaluation of school health problems and activities. Field work was conducted in 70 cities during the 1927-28 school year. The final monograph was published in 1933 and is considered one of the most outstanding works of its kind (VanIngen, 1935).

During the 1920s, several private companies became interested in health education to supplement their major purpose of selling a particular product. The Cleanliness Institute, a group of soap manufacturers published materials for use in the schools and had much to do with raising personal hygiene standards among school children (Means, 1975). Another similar program was that developed by the dairy producers of the country who formed the National Dairy Council and provided educational materials to elementary and secondary schools throughout the country (National Dairy Council, 1987).

The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, chaired by Thomas Denison Wood, published several extensively researched works during the 1920 and 1930s. The most influential and important documents were Health Education, A Program for Public Schools and Teacher Training Institutions in 1924, and Health Education in 1930. These works included recommendations regarding health education objectives, time allotment, methods, content, organization, administration, standards and philosophy

as well as information about health conditions among school children in the United States and what school could do about them (Means, 1975).

National Initiatives in Health Education

The 1940s and World War II (when, again, the unfortunate state of health of many American males was brought to light as 50% of those tested for the draft failed for physical, mental, or educational reasons) began the period known as the Modern Era of health education, which extends to the present time (Means, 1975). The concept of health education and the purposes of health study in the schools were laid down in professional works including that of Dukelow and Hein, in 1949, who proposed:

> If the school is to educate children for their place in the world, it must be concerned with physical and social as well as academic development. A child must be helped to take his proper place in his home and his community and to appreciate not only his responsibility for his own health but for that of the community as well. He must be willing and able to maintain a high level of physical, mental, and social well being. The school must assume its share of this job in cooperation with the home and the family physician. (p. 599)

The importance of health education in schools was increasingly recognized in the 1950s and 1960s. As content areas expanded to include scientific advances and new health needs, questions about the scope of school health education and the sequence of instruction became paramount. During the fifties and sixties there was considerable increase in class time devoted to health education (Means, 1975).

A most significant initiative in health education paralleled the curriculum reform movement in education which had been set in motion by the Soviet launching of Sputnik. This was the School Health Education Study: A Conceptual Design for Curriculum Development (Sliepcevich, 1968). This study, initiated by a nationwide survey of health

instructional practices in a random sample of public school systems, revealed the need to plan a health education curriculum which would be appropriate for children (Lohrmann, 1987). The second phase of the School Health Education Study was, therefore, a national curriculum development project for health education involving the outstanding health education specialists of the day. With funding from the Minnesota Mining and Manufacturing (3M) Company, the authors spent several years developing a curriculum guide and accompanying materials based on a conceptual approach to health education. This approach has become widely used in health education efforts throughout the country (Pollock, 1987). Schaller (1981) referred to the School Health Education Study as the most significant piece of health education research ever done.

Another notable project, initially funded by the National Clearinghouse for Smoking and Health, was the School Health Curriculum Project. Grade level units were developed through the SHCP, which focused on health knowledge, decision making, and personal health behaviors (Centers for Disease Control, 1977).

In 1968, the Joint Committee of the National School Boards Association and the American Association of School Administrators issued a joint statement regarding health education which had far reaching effects. Responding to years of health promotion efforts by the American Alliance for Health, Physical Education, Recreation and Dance, the American School Health Association and the American Public Health Association the two groups called for a comprehensive school health program. Support for the concept of comprehensive school health education, to include school health services and attention to a healthful

school environment as well as health instruction, was echoed the following year by the National Congress of Parents and Teachers (Willgoose, 1977). In 1973, the American Academy of Pediatrics also proposed a unified and comprehensive program for health instruction (Willgoose, 1977).

National program initiatives have also had a significant affect on health education. Among those have been the National Dental Caries Program, sponsored by the National Institute on Dental Research; the National Cholesterol Education Program, sponsored by the National Heart, Lung and Blood Institute; the Metropolitan Life Insurance Foundation "Healthy Me" awards for exemplary school health programs, the National Program for School Health Education to Prevent the Spread of AIDS, sponsored by the Center for Health Promotion and Education, Centers for Disease Control; Jump Rope for Heart, sponsored by the American Heart Association; and the United States Department of Education-sponsored Drug Free Schools Exemplary Awards Program (Lohrmann, Gold, & Jubb, 1987).

In 1974, the School Health Division of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) became the Association for the Advancement of Health Education, reflecting the increased interest and emphasis on health education within the profession ranks (Means & Nolte, 1987). Also in 1974, the Bureau of Health Education was created in the national department of Health, Education and Welfare (now the Department of Health and Human Services); followed by the founding the next year of the privately funded National Center for Health Education (Means & Nolte, 1987).

Most recently, results of the National Adolescent Student Health Survey, the first national survey in more than twenty years to determine

the behavior, knowledge and attitudes of American youth, were announced in August, 1988. The NASHS survey, which questioned 11,000 eighth and tenth graders from throughout the United States, provided information which will contribute to the improvement of the quality of health instruction into the 1990's (National Survey, 1988).

The Wellness Movement

In 1961, Dr. Halbert Dunn published a collection of 29 short talks on key aspects of health. This publication, titled High Level Wellness, is regarded as the seminal work on wellness and Dr. Dunn, who died in 1975 at the age of 80, has become known as the father of the wellness movement (Ardell, 1986). John Travis, physician founder of the Wellness Resource Center in Mill Valley, California built on Dunn's wellness concept by proposing a model for a wellness continuum which provided equal emphasis to preventive medicine and traditional medicine (Ardell, 1975). The publication of the first edition of High Level Wellness: An Alternative to Doctors, Drugs, and Disease brought the wellness philosophy to the attention of the American public. The wellness movement has had a profound effect on many areas of society including the perception of the importance of health behaviors by the public and health education in schools.

The term wellness, as utilized initially by Dunn, was a philosophically different approach to the subject of health (Tager, 1983). According to the Health Insurance Association of America, wellness refers to far more than the absence of disease. It is an active strategy for better living (Wellness At the School Worksite, 1985). It is the promotion of a lifestyle that prolongs and enhances life (Armstrong,

1986). In their book, Planning for Wellness, Ardell and Tager discuss wellness as "a lifestyle you shape for yourself, consciously, to reach your best possibilities for well-being" (1982, p. 4). Rosato calls wellness a "global concept that emphasizes self-responsibility for achieving an optimal state of health and well-being" (1986, p. xiii).

Ardell and Tager (1982) describe wellness utilizing a five-dimensional framework. These dimensions, nutritional awareness, physical fitness, stress awareness and management, environmental sensitivity, and self-responsibility, constitute the five major aspects of a wellness lifestyle.

Wellness is also a social movement with impressive economic implications (Ardell, 1986). Total expenditures in the health-care field in the United States in 1950 were $12 billion. By 1980, those costs had risen to $243.4 billion. By 1986, health-care costs exceeded 10% of the Gross National Product. Since half this cost was being absorbed by business and industry, those segments of society began to look for methods of cost reduction and containment (Hoeger, 1988). It has been reported that, each year, 500 million work days are lost because of illness or disability; 93 million from lower back problems alone. Tobacco use costs $27.5 billion annually in direct and indirect medical costs (Kaldy, 1985). Approximately 16 million workers are more than 20% overweight (Rosen, 1984).

In an effort to stem the rising costs of employee health problems, many United States corporations began to develop health programs which were reflective of the wellness movement. Control Data Corporation, Johnson and Johnson, Kodak, Xerox, and Chrysler were among the earliest

(Rosen, 1984). When Control Data conducted a study of 5,000 of their employees, they found that regular exercisers had a 36% decrease in health care costs and a substantial drop in hospital stays (Wellness At the School Worksite, 1985).

Dr. John Travis, building on Dunn's previous work, further defined the wellness concept with his model for a wellness continuum (Figure 1) which has become a cornerstone of the wellness philosophy (Ardell, 1986).

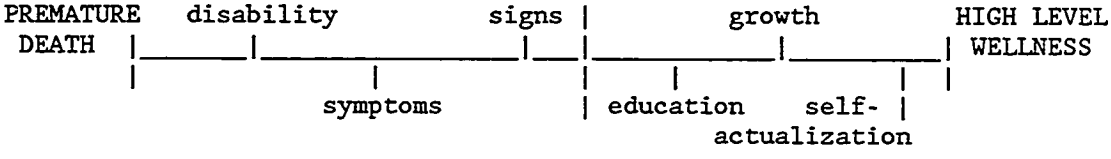

Figure 1. The Wellness Continuum

The first wellness program in a major medical center was established at Swedish Hospital in Denver, Colorado and was quickly followed by hundreds of corporate wellness institutes and university and hospital-based centers and conferences (Ardell & Tager, 1982). Among them are the Center for Health Promotion of the American Hospital Association, the YMCA Wellness Program, and the Wallingford Wellness Project for Senior Citizens (Ardell & Tager, 1982).

School districts, during the past ten years in Iowa and elsewhere, have begun to realize what many corporations have known for a considerably longer time; that is, that work site health programs are good business (Rosen, 1984). The Principal Financial Group and Blue Cross/Blue Shield of Iowa, the two major insurers of school districts in Iowa, promote school employee wellness programs by offering a 5% reduction in health

care premiums to the district provided the money saved is used for health promotion purposes and at least 50% of the employees participate in the program to some degree (Benson, personal communication, March, 1988). Long range cost effectiveness studies of the Iowa school employee wellness programs have not been completed. However, experiences in other states indicate that school districts experience the same cost savings as other employers. For example, the Topeka, Kansas public school district received a $423,508 refund from Blue Cross/Blue Shield for filing fewer health insurance claims after instituting a wellness program. The Dallas, Texas public school system saw a 35% drop in absenteeism and saved $452,000 in substitute teacher salaries for one year after instituting a health promotion program (Wellness At the School Worksite, 1985). The correlation between absenteeism and productivity seems an obvious one. Not only does absenteeism cost the school district money which might otherwise be spent on programs which positively impact students, but it also costs students continuity and optimal learning experience when a substitute replaces their usual teacher. Writing in Updating School Board Policies, Bell noted that reduced absenteeism in teachers is linked to more student time on task and increased learning (1986).

About 20% of higher education institutions, as of 1986, had employee wellness programs in operation. At Southern Methodist University, Larry Landry, vice president for finance, said, "It sounds esoteric and intangible, but we really can see tremendous by-products of the wellness program. Morale has improved. People begin to feel good about themselves, and their success stories get spread all over campus" (McMillan, 1986, p. 22).

In research regarding school wellness programs, the Health Insurance Association of America also noted what was termed a multiplier effect. Teachers and other school building staff are role models for students, and their behavior is observed by and influences the behavior of the children who attend their worksite. Staff involvement in wellness programs, a part of the hidden curriculum of implied values, may have a greater impact of promoting good health habits in students than their own health education classes (Wellness at the School Worksite, 1985). A study conducted by researchers at Portland State University found that "the existence of health promotion programs for faculty and staff was the number one predictor of successful health promotion programs in the school building" (Wellness At the School Worksite, 1985, p. 10). The number two predictor was the health-related behaviors of the school principal (Wellness At the School Worksite, 1985).

Blair, Tritsch, and Kutsch stated that, in addition to financial benefits, strong academic reasons exist for instituting employee wellness programs. "Since schools have the ultimate responsibility for the health of students during the day, both the school environment and classroom teachers, as instructors and role models, should be used as primary links between students and their acquisition of health enhancing knowledge and behaviors" (1987, p. 469). Teachers who have participated in wellness programs have reported improved morale and an improvement in the quality of their teaching (Wellness At the School Worksite, 1985).

The wellness movement, including worksite health promotion at both educational institutions and business sites, has naturally moved into school health education curriculum, instruction and programming. An

emphasis on prevention, the avoidance of risk factors and lifestyle modifications is evident in school health curricular materials (Cornacchia, Olsen & Nickerson, 1988). The emphasis in the Health: Focus on You elementary textbook series, for example, is on healthful choices and movement toward a higher level of personal well-being (Meeks-Mitchell & Heit, 1987). Greenberg (1989) discusses what he refers to as a new form for health education which includes a wellness focus. He points out that health education has been used for various purposes in the past and that the primary impetus behind the current emphasis on health education is due principally to concerns regarding the rising costs of health care and the Acquired Immune Deficiency Syndrome (AIDS). Both conditions relate clearly to the choosing of particular health behaviors by individuals and are amenable to change only through the process of education and behavior modification.

The Seaside Concept

Evolution of the Seaside Inservice Model

> An explosion of enthusiasm for health education and health promotion in Oregon is evident when you talk to school administrators, teachers and community members. The main reason for the upsurge of professional zeal and unity is the annual Seaside Health Conference. (Dosch & Paxton, 1981, p. 34)

The development of the Seaside concept was the direct result of a two-year needs assessment of Oregon health educators conducted by Len Tritsch, a health education specialist for the Oregon Department of Education. Results of this assessment indicated health educators felt a lack of influence over the health education programs being conducted in their schools and experienced limited support for health education programming (Drolet & Davis, 1984).

A result of this study was the development, by the Oregon Department of Education, of the Seaside Health Education Conference, a five-day teacher inservice program which has been held annually in June at Seaside, Oregon since 1977 (Blair, Tritsch, & Kutsch, 1987). Particular attention was given, in the development of this model, to the criteria for effective inservice education. A major concern of educators, both teachers and administrators, is that inservice programs are often viewed as irrelevant and not related to improving student achievement (Purington, 1983a). Yet the fundamental purpose of inservice education, according to Edelfelt, is the improvement of educational programs for students (1977b). The initial Seaside Health Education Conference, with registration of 152 teachers and other school personnel (Drolet & Davis, 1984), convened under the theme, Health Education at the Crossroads (Dosch & Paxton, 1981).

> According to Dosch and Paxton: Seaside I was a workshop designed to encourage positive attitudes and build solidarity among health educators across the state. One of its goals was the creation of a support system within the profession as a base for improving health education in Oregon. Its main focus was to become a change agent within the community. (1981, p. 34)

Drolet and Davis (1984, p. 25) stated, "The dimensions of wellness are the core of the Seaside Conference." Six inservice components are discussed by Drolet and Davis which are necessary for the attainment of the conference goal of the adoption of the wellness philosophy in Oregon school districts. They include a team approach which encourages participation by a group of school employees from each school incorporating administrators, school nurses, food service personnel, parents and community members who participate as a district team. Team

meetings are scheduled before, during, and after the conference to provide support and collaboration for health education planning. An action plan for implementing or improving some identified component of the health education program in each team's home setting is developed during the course of the conference. This plan provides a framework for follow-up activities essential for accomplishment of goals.

Resources represent a third key component of the inservice model. The conference offers keynote sessions and educational experiences with nationally renowned speakers, representatives from a variety of voluntary health organizations, and health educators from throughout the country. Through participation in conference sessions and other activities participants learn:

> how role modeling health habits improves peer and student behavior. They also learn from hands-on opportunities how they can incorporate the concept of wellness as a lifestyle in their personal and professional life. (Blair, Tritsch, & Kutsch, 1987, p. 470).

The fourth component of the inservice model is curriculum modeling. Course outlines and student activities related to wellness are shared through workshop sessions. Innovative teaching techniques, presented by experienced teachers and facilitators, provide participants with tools for expanding the health curriculum in their own schools (Drolet & Davis, 1984).

During the Seaside experience extensive emphasis is placed on providing positive role models for behavior change. With positive role modeling as one of the six major components of the inservice model, participants make a commitment to serve as positive role models for everyone around them (Drolet & Davis, 1984).

The final component of the Seaside concept is providing a highly enjoyable experience for the participants. One elementary principal commented, "I don't know what they do at that conference, but whatever it is, I want all my staff to have that experience. The enthusiasm lasts an entire year" (Dosch & Paxton, 1981, p. 34). Conference organizers make an effort to create an environment, "that is supportive of both work and play to enhance the likelihood that the wellness lifestyle will be incorporated into participant's lifestyle" (Drolet & Davis, 1984, p. 25).

The Seaside Health Education Conference has been conducted yearly, for increasingly larger groups of school personnel, since 1977. Attendance at the first five conferences totaled 1771 teachers and administrators representing 121 school districts. Conference organizers, have estimated that the impact of the action plans developed by conference participants and implemented in their school districts had "touched the educational lives of 99% of Oregon's school children" (Dosch & Paxton, 1981, 35).

Current Status of the Seaside Inservice Model

In Oregon, the thirteenth Seaside Health Education Conference will convene in June, 1989 with the expected attendance of 1000 teachers and other school personnel. Additionally, in response to interest in the model from other states, the Seaside organizers developed a planning guide for school health promotion conferences (Dosch & Paxton, 1981). The Office of Disease Prevention and Health Promotion, United States Department of Health and Human Services, recognized the value of the Seaside inservice model and provided funds for teams from other states

to attend the Seaside Conference. The American Association of School Administrators administered the funding from the ODPHP and the United States Department of Transportation also provided financial support. As a result, twenty-four states, Alaska, California, Georgia, Hawaii, Idaho, Iowa, Kansas, Maine, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Pennsylvania, South Carolina, Texas, Vermont, Virginia, Washington, and Wisconsin have either conducted health education conferences utilizing the Seaside inservice model or have a conference in the planning stages (Blair, Tritsch, & Kutsch, 1987). To enhance state ownership of the conference, titles for the inservice experience vary from one state to another, reflecting the state's own individuality. Texas conducts its All-Well Conference, Idaho has the Great Potato Conference, and Iowa will convene in June, 1989 for its third Lakeshore Wellness Conference at Buena Vista College on the shore of Storm Lake.

According to Blair, Tritsch, and Kutsch (1987), the three major reasons which have been cited for use of the Seaside Health Education Conference model are:

1. Conference participants have tended to adopt a more health-enhancing lifestyle and were willing to promote the benefits of the conference on the personal and school team level.

2. Research indicated the conference enhances support for health education/health promotion in schools that have participated in the conference.

3. National funding has been provided for dissemination of the model.

Another level of support for the Seaside concept was initiated in July of 1988 when a group of conference organizers from throughout the country met in Chicago to form the National Network of State Conferences for School Workplace Wellness. The National Network was established through financial support from the Metropolitan Life Insurance Foundation, the Kellogg Foundation, and the American School Health Association with the overall goal being to provide a vehicle for the ongoing collaboration and cooperation between member states in the organization, development, evaluation, and follow-up of the respective state conferences (National Network, 1988). Objectives of the network are to share information regarding recommended workshop speakers, programs, and topics; to share organizational information regarding sponsoring organizations, funding sources, evaluation processes and results; to serve as a national clearinghouse for school workplace wellness information; to encourage and facilitate research that will benefit member states on specific aspects of wellness programs, to provide consultation and technical assistance to other states in the planning, implementation, and evaluation of statewide wellness conferences, and; to serve as an advocate for school health education activities (National Network, 1988).

The National Network conducted a pre-conference workshop at the American School Health Association National Convention on Tuesday, September 27, 1988 with the goal of providing information to network members and other interested professionals regarding funding and sponsorship, marketing, team building, and evaluation. As of January, 1989, the National Network represents the 27 states who have adopted the Seaside concept for health education inservice.

Impact and Evaluation of the Seaside Inservice Model

Evaluations of the Seaside Health Education conferences have described knowledge, attitude, and behavior changes resulting from conference participation. Passwater, Tritsch, and Slater conducted a study of the 1980 Seaside Conference participants in Oregon. They concluded that respondents felt their knowledge in nutrition, physical and cardiovascular fitness, stress management, and self-help were greatly increased. Respondents also said their attitudes regarding personal health had become more positive. Respondents were asked about the effects of the Seaside Health Education Conference upon their health-related behaviors and indicators of health. Seventy-two percent listed saturated fat, salt and sugar intake had decreased, and almost half of the 52 cigarette smokers responded that they had decreased cigarette consumption. Sixty-three percent indicated they had decreased their total caloric intake and 66% listed an increase in the amount of exercise in which they were participating. (Respondents listed an average of 4.05 hours of exercising per week before attending the conference. The average increased to 5.78 on the posttest.) Fifty-six percent of the respondents reported an increase in self-esteem. Eighty-three percent indicated they had some influence in motivating others to experience a healthier lifestyle and 96% said that the conference was effective in changing or enhancing their personal wellness. Additionally, results of the study indicated that curriculum time devoted to the consideration of wellness as a lifestyle, health promotion, physical fitness, nutrition, and stress management had increased. Seventy-eight percent of the respondents who had attended the conference indicated that they had been effective in

solving several of their school district's health education problems (1980).

Dosch and Paxton asked the Seaside I participants, in a follow-up questionnaire, "How has the Seaside Health Education Conference helped you to improve and/or implement a Health Education Program with emphasis on prevention?" Some responses were: "The Seaside Conference reinforced my own feelings regarding prevention, and caused me to express this philosophy to my administration and fellow teachers;" "Our teachers came back with renewed interest and enthusiasm and used many new ideas from the conference for planning their programs;" "Our district is now implementing a well-rounded and coordinated health education program for all grades. This program helps students at all levels to satisfy academic goals and meet minimum competencies" (1981, p. 35).

Drolet conducted a five-year follow-up evaluation to assess whether participants in the first five Seaside Conferences perceived more health related changes than Oregon school personnel not participating in the conferences. Subjects were asked to compare their current perceptions with their memory of the status of various health-related areas five years earlier. When Drolet inquired about the impact of the conference on health education curriculum, Seaside participants indicated a significantly greater emphasis on a wellness oriented curriculum in their school programs. They also perceived a more positive status for health education in their schools. Current support for health-related activities was judged significantly higher by participants in the Seaside model (Drolet & Davis, 1984).

Drolet noted that participants in the Seaside model reported significantly greater numbers of changes in their own health behaviors since the conference attendance as compared to employees who had not attended the conference. The greatest changes related to nutrition habits, exercise, and stress management. The inclusion of a control group in the Drolet study lent credence to the premise that the inservice experience, rather than the current popularity of fitness and nutrition awareness in the general population, was the factor which influenced the change.

The Status of School Health Education in Iowa

Iowa Task Force Survey Results

In 1977, the Iowa State Board of Public Instruction authorized the formation of a Comprehensive School Health Education Task Force to define more clearly the roles and responsibilities of Iowa schools in the delivery of comprehensive school health education. The task force surveyed 447 school districts to determine the present status of health education in Iowa. Results of the survey indicated that, even though Iowa law called for health instruction to take place at all levels (Iowa Code 257.25, paragraph 3 and 4), students studied health education, most typically, one hour per week or on an irregular basis. At the elementary level, health education was most often the responsibility of the classroom teacher, who usually decided what, if anything, was to be taught. At the junior and senior high levels, the physical education teacher was most often the health educator as well (Final report, 1979).

According to the study, Iowa school health curriculum was most often developed by the individual teacher and utilized a wide variety

of curriculum materials including materials from public and private health agencies. Cryer (1986) in discussing the Task Force survey, noted that the individuals most commonly responsible for health instruction in Iowa schools, science teachers, school nurses, physical education teachers and home economics teachers represent a core group of educators whose responsibility it is to see that health education requirements are met.

Cryer determined, based on the results of the Task Force survey, that it was doubtful whether local school districts were achieving the intended levels of compliance with the 1985 Iowa Code, particularly at the secondary level. Yearly basic educational data reports filed by superintendents of Iowa's school districts, according to Cryer, have identified health education as being among the most commonly neglected of the mandated curriculum areas (1986).

School Health Education and Iowa Law

A change in the standards for health-related school programming, as well as standards for many other areas of instruction, was issued by the Iowa Department of Education in 1987, followed by guidelines for interpretation in October, 1988. For the elementary health education program, these standards state that instruction:

> shall include personal health, food and nutrition, environmental health, safety and survival skills, consumer health, family life, substance use and nonuse, encompassing the effects of alcohol, tobacco, drugs, and poisons on the human body, emotional and social health, health resources, and prevention and control of disease, including characteristics of communicable diseases. (New standards, 1988, p. 54)

A specific endorsement is not required to teach health at the elementary level, although an endorsement for K-6 health teaching has been approved

(New standards, 1988). There is no time requirement for the K-6 levels, but the content areas listed must all be covered.

At the junior high level, the new standards state that health instruction:

> shall include personal health, food and nutrition, environmental health, safety and survival skills, consumer health, family life, substance use and nonuse, encompassing the effects of alcohol, tobacco, drugs, and poisons on the human body, emotional and social health, resources, and prevention and control of disease and the characteristics of communicable diseases, including sexually transmitted diseases. (New standards, 1988, p. 54)

According to the guidelines, the local school board determines the time allocation for health classes in grades seven and eight, with the responsibility to assure that all topic areas are taught (New standards, 1988).

According to the 1988 standards, the high school program shall include one unit of health instruction to include personal health, food and nutrition, environmental health, safety and survival skills, consumer health, family life, substance use and nonuse, emotional and social health, health resources, and prevention and control of disease, including sexually transmitted diseases. One unit of credit for health education at the high school level is equivalent to 120 hours or 200 minutes a week for 36 weeks (New standards, 1988). The unit of health education in grades 9-12 must be taught by a certified health educator but is not a requirement for graduation.

Changes in health services are also addressed in the 1988 New Standards for Iowa Schools. Paragraph 12.3(9) states:

> The board shall adopt a policy for the implementation of a school health services program. The program shall be designed to help each student protect, improve, and maintain physical, emotional,

> and social well-being. Areas to be considered in the development of a policy could include, but not necessarily be limited to: environmental health and safety; emergency health procedures and responsibilities; health promotion; communicable disease prevention and control; staffing for the school health program; administering of prescription medication; acute or chronic health problems; and assessment and screening; and record keeping and program evaluation. (New standards, 1988, p. 26).

The policy does not require the school district to provide a health clinic nor does it require the district to employ a nurse to meet the standard. If a nurse is employed, however, the person must be a licensed school nurse (New standards, 1988).

Additionally, effective November 1, 1988, a teaching endorsement for those teaching health education, that is a specific health course, has been mandated. This endorsement includes the completion of 24 semester hours of coursework in health education including courses in public or community health, consumer health, substance abuse, family life education, mental and emotional health, and human nutrition (Iowa Department of Public Instruction, 1986). The new endorsement, combined with the 1988 standards, places renewed emphasis on comprehensive health education provided by qualified teachers.

Exemplary Health Education Programs in Iowa Schools

Although compliance with Iowa legislation as it relates to health instruction is often doubtful, some Iowa school districts have developed exemplary school health education programs. One measure of quality in health programming is reflected in the awarding of the Metropolitan Life Insurance Foundation's Healthy Me Award. Although not the only indicator of an exemplary school health program, the Healthy Me Award is viewed by health educators throughout the country as acknowledgement

of outstanding programming in the field. In 1984, the Metropolitan Life Insurance Company instituted the Healthy Me Initiative, a four year, $4 million dollar program to encourage the development, adoption, and implementation of quality comprehensive health education programs in schools throughout the United States. Each year 20 cash awards of $5000 and 15 cash awards of $3000 have been awarded to public schools which have health programs recognized by the judging committee as exemplary (Healthy Me, 1987). Although location is not a factor considered, school districts in Iowa have been awarded five of the Healthy Me Awards to date, including Pleasant Valley, Algona, Lake View, and Nora Springs-Rock Falls.

The Pleasant Valley, Iowa program was awarded a Healthy Me grant based on their development of a comprehensive, sequentially-planned health education program including areas of mental/emotional health, nutrition, dental health, safety and first aid, substance abuse, and family living. Students in the Pleasant Valley program are provided numerous opportunities to demonstrate their health knowledge. These range from surveys and self-evaluation instruments, to CPR certification and participation in a year-end Health Fair (Healthy Me, 1986).

The Nora Springs-Rock Falls school district was recognized for a health program entitled The Way To Better Health. Holistic health is the major goal of this full year health education course for tenth grade students. Through activities including class debates, guest speakers, checking blood pressure and pulse rates, and field trips, students learn habits and attitudes that lead to good physical, mental and emotional health and longevity (Healthy Me, 1986).

The Algona, Iowa school district was awarded a Healthy Me award in recognition of their program which focuses on nine areas recommended by the state, and national guidelines in health education. These areas are emotional and social health, health resources, careers and consumer health, prevention and control of disease, food and nutrition, safety and survival skills, substance use and abuse, personal health, family health, and environmental health. The curriculum is regularly updated to include such course segments as those dealing with sexually transmitted diseases, contraception, and death education (Healthy Me, 1987).

A total program aimed at meeting the physical, mental, social, and emotional needs of the entire student body is the goal of the Lake View-Auburn school health education program and resulted in their receiving a 1987 Healthy Me Award. An important program component is community involvement as illustrated by the integration of volunteers, parents, businesses and law enforcement personnel at various points. The program includes cognitive and affective components, coordinated by a home-school liaison using various validated health programs (Healthy Me, 1987).

In addition to the school district Healthy Me Award winners, the Metropolitan Life Foundation supported cooperative efforts in promoting comprehensive school health education in 1985. One recipient of a coalition award was the Iowa Coalition For Comprehensive School Health Education. Their application for funding to develop an intensive health promotion conference designed to prepare teams from school districts to address local health education challenges resulted in the adoption, in Iowa, of the Seaside model for inservice education, which has been the subject of this study (Healthy Me, 1985).

CHAPTER III

METHODS AND PROCEDURES

The purpose of the study was to determine the impact of a particular inservice education model on the components of comprehensive school health education in participating Iowa schools. School health questionnaires were completed by participants in the program and by matching respondents not participating in the program, both before the inservice program was initiated and a year later. Data from the surveys were analyzed in categories related to health curriculum and instruction, health services, and the school environment.

Subjects

Subjects for the study consisted of participants attending the Iowa model for the Seaside Health Education inservice program. The inservice was conducted June 14 though June 18, 1987. There were 200 participants representing 47 school districts and 3 Area Education Agencies. Participants included school teachers from all grade levels, school nurses, administrators, counselors, and media specialists. Of the 47 school district teams present, 44 voluntarily completed the questionnaire on a one questionnaire per school basis. (The Area Education Agency teams were not a part of the study.) Each team leader, a school employee who volunteered or was asked to assume the position, was responsible for completing the questionnaire with input from other members of the school team. A control group of 44 Iowa school districts, matched for Area Education Agency membership (a geographic factor) and school size based on 1986 enrollment, was selected. The school

superintendent, or his/her designee, completed the same questionnaire. Consultation with school health education experts within the district was encouraged.

Instrument

The study utilized the Drolet school health questionnaire (Drolet, 1982, see Appendix A). The Drolet instrument was developed at the University of Oregon (for use in a doctoral dissertation) primarily in consultation with three professors from the University of Oregon College of Education, and Len Tritsch, Health Education Specialist from the Oregon College of Education and initiator of the Seaside inservice model.

The questionnaire consisted of 34 questions; 13 related to health curriculum and instruction, 8 related to school health services, and 13 related to a healthful school environment. Twenty-six of the questions utilized a continuum line starting with "very negative" adjectives on the left and ending with "very positive" adjectives on the right. Participants were asked to place an "X" on the line at whatever point best reflected their response to the question. The "X" responses were scored by dividing the continuum line into equal segments. The value "one" was assigned to the "very negative" end while the value "eleven" scored the "most positive" response. Each item was tallied using the integer closest to each "X" mark made by the respondent. Each respondent school representative generated two scores per question: one recorded before the inservice experience took place, and one recorded on a new copy of the same questionnaire one year later.

During initial development of the questionnaire Drolet assessed face validity of the instrument through consultation with a panel of

experts. Statistical data for the reliability and validity of the instrument were not generated. Drolet also conducted a pilot study with 23 subjects, making appropriate revisions based on their input.

In addition to the validation conducted by Drolet, this researcher submitted the questionnaire to a panel of 17 experts (see Appendix B). These experts consisted of members of the 1987 Iowa Lakeshore Wellness Conference Planning Team, University of Northern Iowa faculty with expertise in either school health education, curriculum and instruction, or research and three out-of-state specialists. Twelve questionnaires were returned and, based on suggestions made, two questions regarding the presence or absence of a planned K-12 health program and a health education coordinator (see Appendix A, questions one and two) and one additional question regarding program compliance with Iowa Law (see Appendix A, question four), were added. No other modifications were made in the Drolet questionnaire.

Procedures/Methodology

Permission was sought and granted by the Iowa Lakeshore Planning Team for the project to be conducted. During registration for the 1987 Iowa Lakeshore Wellness Conference, team leaders for each attending school district were provided the school health questionnaire along with a cover letter explaining the study (see Appendix C). If they agreed to participate in the study, each Lakeshore team completed the questionnaire. Participants were instructed to complete the questionnaire as a group, discussing each item and arriving at a consensus which best reflected the group's perception of each circumstance. The team leader then returned the questionnaire to the registration desk the following

day, having been provided time the evening before to complete the instrument. Forty-four questionnaires were completed for this pretest portion of the study.

The superintendent for each control group school received the same questionnaire and a cover letter (see Appendix D). Since the inservice program was conducted during the summer months, the control group questionnaires were held until September for mailing to increase the likelihood of response and to insure the availability of knowledgeable resources for the respondents. The cover letter explained the nature of the study without disclosing the experimental/control group design. The superintendent was asked to complete the questionnaire with whatever input from knowledgeable staff members might be necessary for accuracy. A self-addressed, stamped envelope was included with the control group questionnaire and respondents were requested to return the completed form before September 25, 1987. Of the 44 control group pretest questionnaires, 40 were returned to the researcher, for a return rate of 91%.

The follow-up questionnaires, the same form printed in a different color, were mailed in May, 1988, one school year after the inservice program had been conducted. For the Lakeshore Wellness Conference group, the questionnaire was mailed to the 1987 Team Leader with a cover letter (see Appendix E). The team leader was asked to manage completion of the questionnaire in the same manner it had been done the previous year, with input from Wellness Team members. Of the 44 questionnaires mailed, 30 were returned, for a return percentage of 68%. For the control group, the questionnaire was mailed to the superintendent of each control group

school along with a cover letter (see Appendix F). The cover letter requested that the superintendent complete the questionnaire in consultation with health experts within the district, that is, in the same way as the first questionnaire was done. Twenty-nine of 40 questionnaires were returned, for a return rate of 66%. Self-addressed, stamped envelopes were included with all posttest mailings.

Data Analysis

The 26 questions in the questionnaire which utilized a continuum line each reflected a score ranging from 1 to 11. Since the line on the questionnaire was not partitioned for the respondent, the researcher translated the marked "X" to a numeric value by placing a template over the line. The template was divided into 11 equal segments with "one" being the lowest and "eleven" being the highest. The numeric values were entered into the computer system by personnel at the university computer center for analysis.

The continuum questions yielded three global scores reflecting the status of: (a) curriculum and instruction for health education; (b) availability, utilization and quality of school health services; and (c) the quality of the school environment as it relates to health. These scores were generated for each of four groups of questionnaires including pre and posttests for the control group and pre and posttests for the inservice group.

An analysis of covariance, using the Statistical Package for the Social Sciences (SPSS) was utilized to determine possible differences in the scores of the two groups. The pretest scores for each group were utilized as the covariate to statistically eliminate any differences

which may have existed between the control and the experimental groups. The .05 level of significance was utilized in testing for differences.

Hypotheses tested through the analysis of covariance were:

Ho: There is no difference in adjusted mean scores in the area of health curriculum and instruction between schools which participated in the inservice program as compared to schools which did not participate in the program.

H1: There is a difference in adjusted mean scores in the area of health curriculum and instruction between schools which participated in the inservice program as compared to schools which did not participate in the program.

Ho: There is no difference in adjusted mean scores in the area of school health services between schools which participated in the inservice program as compared to schools which did not participate in the program.

H1: There is a difference in adjusted mean scores in the area of school health services between schools which partipated in the inservice program as compared to schools which did not participate in the program.

Ho: There is no difference in adjusted mean scores in the area of healthful school environment between schools which participated in the inservice program as compared to schools which did not participate in the program.

H1: There is a difference in adjusted mean scores in the area of healthful school environment between schools which particiapted in the inservice program as compared to schools which did not participate in the program.

Individual chi square analyses were performed for each question with a continuum line format. For the chi square analyses, scores were grouped into three categories: (a) low (scores of 1-4), (b) neutral (scores of 5-7), and (c) high (scores of 8-11). Chi square analysis was also utilized for question 12, relating to time spent in health instruction.

Frequencies for questions relating to specific school health practices and activities were also generated for each group.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to determine the impact of a particular inservice education program on the components of comprehensive school health education in selected Iowa schools. School health questionnaires were completed by participants in the model program and by matched respondents not participating in the model program, both before the inservice program and a year later.

Presentation of the results has been divided into three sections. Section one is related to the first hypothesis examining changes in school health programs in the area of curriculum and instruction. Section two provides results and discussion related to the second hypothesis examining changes in school health programs in the area of school health services. Section three consists of data and discussion related to the third hypothesis examining changes in school health programs in the area of healthful school environment.

Curriculum and Instruction

Results

The first null hypothesis states: "There is no difference in adjusted mean scores in the area of health curriculum and instruction between schools which participated in the inservice program and schools which did not participate in the program." Scores reported for questions three through eleven, all of which utilized a one through eleven continuum line, were related to the first research question. An analysis of covariance applied to the data for that group of questions indicated a

significant difference between the responses for participating schools and the responses for non-participating schools, $F(1, 58) = 8.51$, $p < .05$. The adjusted group mean for the control group ($N = 29$) was 6.09 with the pretest score applied as the covariate. The adjusted experimental group mean ($N = 30$) was 5.06 (see Appendix G for raw data). Therefore the null hypothesis stating there is no difference in adjusted mean scores in the area of health curriculum and instruction between schools which participated in the inservice program and schools which did not participate in the program was rejected. The statistical analysis indicated that the control group respondents perceived a higher level of program effectiveness in the area of curriculum and instruction than did members of the experimental group.

In order to determine more specific areas of curricular differences between the participants and non-participants, a chi square analysis was applied to the responses for each of the questions associated with the first hypothesis. Respondents recorded their perceptions regarding various aspects of the health curriculum including the degree to which the curriculum centered on health promotion, the degree of compliance with Iowa school health curricular requirements, professional preparation of elementary health teachers, professional preparation of secondary health teachers, degree of parent/community involvement in health education, degree of student involvement, and level of district commitment to health education. Respondents also judged the emphasis in their school's elementary school health education program on six components of health education in question ten and the same components of health

education at the secondary level in question eleven (see Appendix A for specific questions).

For the chi square analyses, scores were grouped into three categories: (a) low (scores of 1-4), (b) medium (scores of 5-7), and (c) high (scores of 8-11). Each question was examined using four chi square analyses. They were pre/posttest control, pre/posttest experimental, experimental/control pretest, and experimental/control posttest. The results of the 76 chi square analyses indicated significance at the .05 level in only three instances. All three cases where significance was present were posttest, experimental versus control group comparisons (see Appendix H for significant contingency tables).

Significant difference was indicated in the experimental/control group posttest regarding perceptions of the school district's emphasis in health curriculum on health promotion/wellness rather than on illness, disease, and problems. The chi square analysis of response yielded: $\underline{X}^2$ (2, $\underline{N}$ = 30) = 9.30, $\underline{p} < .05$. Seventeen of 25 non-participant posttest responses fit the high category, whereas only six participant posttest responses reflected the same judgment. Posttest non-participant group respondents perceived that the health curricula in their schools emphasized health promotion and wellness to a greater degree than did respondents from the participant group schools.

The two additional cases where significance was noted on the chi square tests were related to responses regarding emphasis on particular health content areas in the school's secondary health education program. Significant difference was indicated in the experimental/control group posttest responses which considered emphasis on self-responsibility in

health curriculum at the secondary level. The chi square test yielded: $\underline{X}^2$ (2, $\underline{N}$ = 30) = 6.87, $\underline{p}$ < .05. Fifteen of 29 posttest responses from the non-participants fit the high category, whereas 9 of 30 posttest responses from the participating group were in the high category. It, appears, from the data, that respondents from the non-participating schools rated their secondary health curricula higher in emphasis on self-responsibility than did respondents from the participating schools.

Emphasis in the secondary health education curricula on personal safety habits was a content area which also yielded difference between the participant and non-participant groups on the posttest. The chi square test yielded: $\underline{X}^2$ (2, $\underline{N}$ = 30) = 8.26, $\underline{p}$ < .05. Only two responses from the non-participant group fit the low category for emphasis on personal safety habits, whereas eleven responses from the participant group fit that designation. Respondents from the non-participating schools perceived the emphasis on personal safety habits in the secondary health program to be greater than did respondents from the participating schools.

Although significant associations were not found for any other specific curricular areas, responses to several items within the area of health curriculum and instruction yielded information which warrants discussion. Two questions addressed the degree of parental/community involvement and the degree of student involvement in planning the health program. In both the control and experimental group schools, the degree of involvement of parents, community, and students was perceived to be extremely low. These two questions furnished the lowest responses, from both control and experimental groups, of all questions in the

instrument. For the control group, only two respondents in the pretest indicated high parent/community involvement in the health education program. This increased by one on the posttest. For the experimental group, two responses on the pretest and one response on the posttest fit the high designation. When respondents were asked to assess student involvement in planning for health education, scores indicated even lower involvement. For both control and experimental group, no responses on the pretest were in the high category and only one response was high for the posttest. It appears from this study, that involvement of parents, community, and students in planning for school health education was extremely limited.

When respondents were asked to judge the emphasis in their school's elementary school health education program on six components of health education including nutrition, physical fitness, stress management skills, self-responsibility, environmental awareness, and personal safety habits, no significant differences were found between the control group scores and the experimental group scores. Emphasis in elementary health education was highest, for both groups, in the area of physical fitness activities. Seventy-two percent of the posttest respondents from both groups rated their school's emphasis in elementary health education high in the physical fitness category. The area of emphasis ranked lowest at the elementary level was stress management skills for both control and experimental groups. Eighteen percent of 48 responses to the query regarding emphasis at the elementary level on stress management skills were in the high category for the posttest. It appears, from

the data, that health education programming for stress management at the elementary level is limited.

The strongest area of emphasis in the health education program at the secondary level for both participant and non-participant groups was physical fitness. Sixty-four percent of the posttest respondents from both groups rated their school's emphasis at the secondary level high in the physical fitness category. The area of emphasis ranked lowest at the secondary level was stress management skills for both groups. Only 19.2% of the responses to the question regarding emphasis on stress management skills were high.

Respondents in both participant and non-participant groups were also asked whether their school district had a planned K-12 health education program which included a statement of philosophy, goals, and objectives. There was a decline in the positive response between the pretest and the posttest for both groups. For the inservice participant group 50.0% indicated a positive response on the pretest and 33.3% made the same response on the posttest. For the non-participant group, positive pretest responses were made in 48.3% of the cases and posttest responses were 44.8% positive.

When asked to record whether their district had designated a health education coordinator, whose job was to provide leadership to district health teachers, 27.6% of the non-participant group and 23.3% of the participant group responses were positive on the pretest. Posttest responses for non-participant and participant groups were 37.9% and 26.7% respectively. The data indicated that less than half of the school districts involved in the study had a designated health education

coordinator, regardless of their participation in the inservice program. North Carolina and Wisconsin are two states which require that a health education coordinator be designated in each school district. Iowa does not have the requirement.

The study also investigated the frequency with which students received health instruction within four grade level categories; kindergarten through third grades, fourth through sixth grades, junior high or middle school, and senior high school. Respondents were asked to indicate, within specified increments, the amount of time typically spent on health instruction in their school district (see Appendix I for frequency tables).

At the kindergarten through third grade level, only 29.1% of the 48 responses fit the high designation of more than thirty minutes per week of health instruction. Twenty percent of the responses indicated health instruction was offered either not at all or irregularly. It appears, from the data, that the frequency with which primary level students receive health instruction varies considerably from one school district to the next, regardless of whether the district was a participant in the inservice program or not.

At the grades four through six level, respondents indicated that the frequency with which students receive health instruction was lower than at the primary level. There were no cases where the amount of time spent on health instruction exceeded thirty minutes per week. Thirty-two percent of the responses fit the low category, indicating either no health instruction or instruction on a irregular basis.

For the middle school/junior high level, respondents were asked to indicate whether there was a required health education course, an elective health education course, both, or neither in their school district. Sixty-two percent of the responses indicated the presence of a required health course at the middle school/junior high level. Two responses indicated that both an elective and a required course were available and 27.5% indicated that their school offered neither a required nor an elective health course at the middle school/junior high school level. It appears, from the data, that the middle school/junior high level is the level of program strength for health education in many school districts, although a considerable number still have no program at all at that level.

At the senior high school level, 35.6% of 42 responses indicated there was no health education course at that level. There were 12 required courses cited (28.5%) and 11 elective senior high health courses (26.1%). Only four responses indicated both required and elective health courses were present in the curricula. It appears, from the data, that about one third of the schools surveyed had no health course of any kind at the senior high school level. It should be noted that state law does not require the presence of a health education course at the senior high school level. The law does, however, designate particular health topics which must be taught at each level. It is the individual school district's responsibility to see that the requirement is met, if not in a designated health course, then through some other course or district effort. A new requirement for the Fall of 1989 states that a secondary health education course must be offered.

Another measure, considered to be an indication of quality health education programming in schools, is the use of community health agencies as sources of materials and information. Respondents from both participant and non-participant groups were asked to indicate the ways in which community health agencies were utilized in their schools. Possible responses were: no contact, materials, speakers, and unknown. No significant differences in usage were noted between participant and non-participant groups. Neither was there significant increase or decline between the pretest and the posttest. Schools in both groups used community health agencies principally as a source of materials in 86.7 to 93.3% of the cases. Materials from the Dairy Council, Lung Association, Heart Association, Cancer Society, Red Cross, and drug and alcohol groups were predominant. The drug and alcohol subject area was most often cited for use of consultants and speakers. Private wellness consulting firms were the least utilized in all cases (13.3%-34.5%). It appears, from the data, that both participant and non-participant groups were aware of the availability of health education resources from community health agencies.

Discussion

Statistical analysis of the responses related to health curriculum and instruction indicated that the control group respondents perceived a higher level of program effectiveness than did members of the experimental group who participated in the inservice education program. These results, which conflict with other published results evaluating the impact of the inservice model in other states and with other measures of success of the model in Iowa, are somewhat surprising. It is possible

that the lower posttest scores for the experimental group reflect a change in perceptions regarding quality in health education programming. Since a primary thrust of the inservice model was to heighten awareness of what constitutes effective health programming, participants may have developed more critical views of their own programs.

Consideration of the results of this study, as they relate to the area of health curriculum and instruction, indicate both areas of strength and areas of weakness in the school programs being examined. The majority of respondents believed that their school district had a health education program which was in compliance with Iowa school regulations. Since Iowa law as it relates to health education is specific in terms of health topics, but general in terms of how the topics should be considered at any particular grade level, achieving compliance is not a particularly difficult challenge.

Particular areas of strength which were cited by the respondents were physical fitness training at both the elementary and the secondary levels, and personal safety at the elementary level. Since Iowa law does make specific provisions for physical education at all grade levels, and elements of safety education (bus, bicycle, street crossing, etc.) are traditionally strong elements of an elementary program it is not surprising that these areas would rank higher than the other health content areas listed.

The study also indicated that, in terms of grade level, the middle school/junior high area was the strongest level, at least in terms of the existence of a course offering. The middle school/junior high level

was the only level where more than half the respondents stated there was a specific health programming in existence.

The most striking weakness in health education programs revealed by this study is the limited amount of parent, community, and student involvement in planning for school health education. The study indicated that parents are rarely associated with the health education program and students are involved, other than as recipients, even less often. Given that one characteristic cited repeatedly in the recent effective schools research is high interaction between schools and communities, it is particularly noteworthy that this involvement is minimal in the health education programs studied.

The fact that a health education coordinator had been designated in only about one third of the school districts studied is also a limitation. Because health education, unlike many other curricular areas, is provided by a variety of teachers with varying levels of professional preparation (elementary classroom teachers, science teachers, home economics teachers, physical education teachers, and nurses), it is particularly important to have some person designated to provide leadership, to monitor articulation and sequencing within the curriculum, and to coordinate the ongoing process. When this leadership is not provided, teachers at individual grade levels are simply left to their own devices and may or may not provide the most appropriate health education experiences for students.

A final weakness revealed in the study, as it relates to curriculum and instruction, was the amount of time spent per week in health instruction. For the elementary grades, health education was taught,

in the majority of school districts, for less than thirty minutes per week. Although the middle school/junior high level was an area of strength, there were still almost one third of the schools which had no health course at that level. One third of the schools studied had no health education course, either required or elective, at the senior high level. Since Iowa law, at the time of the study, did not make any stipulations regarding time spent in health instruction at any grade level, it seems that the decision regarding how much time to spend on health education is a decision made by individual school districts and/or by individual teachers.

School Health Services

Results

The second null hypothesis stated: "There is no difference in adjusted mean scores in the area of school health services between schools which participated in the inservice program and schools which did not participate in the program." Responses to questions 14 through 21 provided the data used to test the hypothesis. An analysis of covariance applied to the data indicated no significant difference between the responses for participating schools and the responses for non-participating schools, $F(1, 58) = .16$, $p < .05$. The adjusted group mean for the control group ($N = 29$) was 7.64 with the pretest score applied as the covariate. The adjusted experimental group mean ($N = 30$) was 7.45 (see Appendix J for raw data). Therefore, the null hypothesis stating there is no difference in adjusted mean scores in the area of school health services between schools which participated

in the inservice program and schools which did not participate in the program was not rejected.

In order to examine more specific areas within the health services component, a chi square analysis was applied to each individual question. The questions surveyed perceptions regarding: the degree to which the school nurse was utilized in identifying barriers to learning, the degree to which the school nurse was utilized as a consultant by school staff, the degree of professional counseling service availability at the elementary and secondary levels, the level of teacher training for recognition of child abuse, substance abuse, and other student health problems, the level of training in first aid and CPR (cardiopulmonary resuscitation), and the degree to which the need for student health services was being met in the district (see Appendix A for specific questions).

As was the procedure for the first hypothesis, scores were grouped into three categories: (a) low (scores of 1-4), (b) medium (scores of 5-7), and (c) high (scores of 8-11). Each question was examined using four chi square analyses. They were pre/posttest control, pre/posttest experimental, experimental/control pretest, and experimental/control posttest. Results of the 32 chi square tests indicated significance in two areas, both of which related to the degree to which teachers were trained in first aid and CPR procedures (see Appendix K for significant contingency tables). Responses from the non-participant group indicated there was significant improvement in teacher training in first aid and CPR between the pretest and the posttest, $\underline{X}^2$ (2, $\underline{N}$ = 29) = 9.95, $\underline{p}$ < .05. On the pretest, 12 responses placed the degree of teacher training

in first aid and CPR in the lowest category, whereas on the posttest, only three responses were in the low category. A significant difference was also noted on the posttest between participant and non-participant groups for the same question, $\underline{X}^2$ (2, $\underline{N}$ = 29) = 11.09, $\underline{p} < .05$. Only three posttest responses from the control group schools were in the low category, whereas twelve posttest experimental group respondents rated their school's teacher preparation in first aid and CPR in the low category. Non-participant group respondents perceived a higher level of training in first aid and CPR procedures among teachers than did respondents from participant schools.

Discussion

Statistical analysis of the responses related to school health services indicated there was no significant difference between the control group and the experimental group. Since many questions in the health services area dealt with practices which are mandated by Iowa Department of Education standards, it is possible that there was less variation among schools, for this component, regardless of whether the school was involved in the inservice program or not.

When results in the study which relate to school health services are examined, it appears that, for the most part, respondents from both the control and the experimental groups held high opinions of the quality of school health services which were available in their school districts. The school nurse was viewed as a positive element of the health education program in over three fourths of the schools surveyed. Respondents particularly cited the school nurse as being highly utilized as a health consultant by administrators, classroom teachers, and other staff members.

In spite of the fact that, in most districts in Iowa, the school nurse must travel from one building to another during her/his work week, over 80% of the respondents said that the nurse was available to offer professional nursing services when needed.

The only weakness noted in a majority of cases, in the area of school health services, was the availability of professional counseling services at the elementary school level. Over 50% of the survey respondents stated that elementary counseling services were not available for their students. Since this service was not mandated by Iowa law at the time of the study, it is not surprising that it was not available in many school districts. It should be noted that, as of July 1, 1989, a K-12 guidance program, with appropriately certified counselors, will be required for every school district.

Healthful School Environment

Results

The third null hypothesis stated: "There is no difference in adjusted mean scores in the area of healthful school environment between schools which participated in the inservice program and schools which did not participate in the program." Responses to questions 25, 26, and 28 through 34 provided the data used to test the hypothesis. An analysis of covariance applied to the data indicated a significant difference between the responses for participating schools and the responses for non-participating schools, F (1, 58) = 4.61, $p < .05$. The adjusted group mean for the control group (N = 29) was 7.29 with the pretest score applied as the covariate. The adjusted experimental group mean (N = 30) was 6.24 (see Appendix L for raw data). Therefore,

the null hypothesis stating there is no difference in adjusted mean scores in the area of healthful school environment between schools which participated in the inservice program and schools which did not participate in the program was rejected. The statistical analysis indicated that the control group respondents perceived the presence of a healthful school environment to a greater degree than did the respondents in the experimental group.

In order to examine more specific areas of difference, a chi square analysis was applied to each of the questions in section three of the questionnaire. The questions requested perceptions regarding the importance of school personnel as health role models, involvement by staff in collaborative personal and professional health activities, nutritional quality of food, safety and cleanliness of school facilities, and use of tobacco products among staff and students (see Appendix A for specific questions).

As was the procedure for the first two hypotheses, scores were grouped into three categories: (a) low (scores of 1-4), (b) medium (scores of 5-7), and (c) high (scores of 8-11). Each question was examined using four chi square analyses. They were pre/posttest control, pre/posttest experimental, experimental/control pretest, and experimental/control posttest. The results of 168 chi square tests conducted indicated significance in eight cases (see Appendix M for significant contingency tables).

Significance was indicated on the posttest between experimental and control groups when respondents were asked their perception as to the degree of importance of the superintendent of schools as a personal

health role model, $\underline{X}^2$ (2, $\underline{N}$ = 30) = 6.13, $\underline{p}$ < .05. Seventy-two percent of control group respondents rated the importance of the superintendent of schools as a health role model high, whereas only 32% of the experimental group respondents gave the same response. It should be noted that the respondents to the questionnaire for the control group were most likely the superintendents of the school districts. It was the superintendent who received the questionnaire in the mail and the superintendent was asked to complete the questionnaire, with whatever consultation with staff may have been necessary. In contrast, respondents in the experimental group were members of the teams attending the inservice training. Participant group responses reflected the collective perception of the group.

A difference was noted on the pretest between experimental and control groups when respondents were asked about the importance of school board members as personal health role models, $\underline{X}^2$ (2, $\underline{N}$ = 30) = 6.84, $\underline{p}$ < .05. Sixteen of the experimental group respondents rated this group low in importance whereas only nine of the control group made a similar response. This difference was not present for the posttest analysis of the same question. For the pretest, members of the non-participant group placed a higher value on school board members as health role models than did members of the participant group.

Also on the pretest, the responses from the non-participant group regarding the importance of coaches and school counselors as personal health role models were significantly higher than were the responses from the participant group. Regarding the importance of coaches as health models, $\underline{X}^2$ (2, $\underline{N}$ = 29) = 6.77, $\underline{p}$ < .05. Regarding the importance

of counselors as health role models, $\underline{X}^2$ (2, $\underline{N}$ = 29) = 8.02, $\underline{p}$ < .05. These differences were not apparent on the posttest analysis.

Overall, the school nurse, the physical education teachers, and coaches were perceived to be most important as personal health role models by both experimental and control groups. Least important as personal health roles models of those categories listed were food service employees and school board members.

Health promotion and wellness activities for school staff are also a part of the school environment. Thus, respondents were asked about their perceptions regarding the amount of involvement among school staff members in exercising together, sharing health resources, and attending health conferences and meetings. The score was higher for the control group on the posttest when respondents were asked to indicate the degree of involvement by staff in exercising together, $\underline{X}^2$ (2, $\underline{N}$ = 29) = 6.11, $\underline{p}$ < .05. Ten control group respondents rated the question in the low category on the posttest, whereas 19 experimental group respondents gave a similar response. Non-participants perceived a higher degree of involvement in exercising together than did members of the participant group.

Significance was also noted within the experimental group between the pretest and posttest responses regarding the degree of participation of staff in attending health related meetings and conferences, $\underline{X}^2$ (2, $\underline{N}$ = 30) = 7.79, $\underline{p}$ < .05. Eleven of 29 pretest responses were in the high category for the degree of participation of staff in health meetings and conferences, whereas only two posttest responses rated the same. It is surprising that only 11 participant responses were in the high

category on the pretest since the pretest questionnaire was actually completed on site at the conference. It seems unusual, also, that only two posttest responses in the participant group were high, since all respondents in the group had spent a week at the inservice program only one year ago. It should be noted that inservice participants may not have even been aware of the opportunities for attendance at health meetings and conferences before their participation in the inservice. Thus, on the posttest, participant respondents may have judged their involvement in such activities to be inadequate, given their increased awareness of opportunity.

When respondents were asked to assess the degree to which nutritious snacks were available to students and staff at school, participant group scores were higher than non-participant scores on the pretest, $\underline{X}^2$ (2, $\underline{N}$ = 30) = 8.38, $\underline{p} < .05$. The difference was not significant on the posttest.

The final area of significance noted in section three, which focused on healthful school environment, related to the use of tobacco on school property by staff members, $\underline{X}^2$ (2, $\underline{N}$ = 29) = 6.03, $\underline{p} < .05$. Eighteen control group respondents indicated a low degree of tobacco use while only 10 experimental group respondents gave a similar response. A high level of tobacco use was indicated in only two cases in the control group and one case in the experimental group. Control group respondents perceived less tobacco use among staff than did experimental group respondents.

Health promotion/wellness programs are, by definition, a part of the healthful school environment component of comprehensive school health

education. When study participants were asked to indicate whether their school district had instituted a wellness program for school employees, 96% of the participant group and 89.7% of the non-participant group made a positive response. These figures did not change for the posttest. This high percentage is not surprising in light of the fact that the major school district health insurance providers for Iowa schools offer health insurance premium rebates to school districts which provide wellness programs for their employees. In conjunction with the staff wellness program, respondents were asked whether a wellness program coordinator had been designated in their school district. The majority of responses for both participant and non-participant groups were positive. Seventy-six percent of the participant schools had a designated wellness coordinator and 79.3% of the non-participant schools had a designated wellness coordinator. It appears, from the data, that there was no relationship between participation in the inservice program and the designation of a wellness coordinator in the school districts in the study.

Discussion

Statistical analysis of the responses related to healthful school environment indicated that the control group respondents perceived the presence of a healthful school environment to a greater degree than did the respondents in the experimental group. As with the findings in the area of Curriculum and Instruction, these results conflict with other studies. The increased capability of program participants to be effective critics of their own health programs (as a result of their inservice

experience) may explain the lower posttest scores for the experimental group.

When results of this study, which relate to the school environment, are examined, it appears that the respondents in both the experimental and the control group were aware of the importance of health behavior role modeling by school personnel. With the exception of school board members and food service workers, respondents placed a consistently high value on all school employees as health role models. The individuals who respondents indicated were most influential were health and physical education teachers, school nurses and coaches, in that order.

The greatest indication of strength in the healthful school environment component was the nearly universal presence of employee wellness programs in the school districts surveyed. The presence of these programs contributes to the personal wellness of school employees, which, in turn, has a positive impact on school climate. The healthful behaviors instigated and supported by these wellness programs contributes to the healthful school environment through the health role modeling previously discussed. The fact that three-fourths of the districts surveyed had a designated wellness program coordinator is further evidence of the commitment that school districts have made to employee wellness.

Respondents from both groups also indicated that their school facilities, both indoor and outside, were able to meet reasonable safety standards. The rating for cleanliness and maintenance of facilities was also most often ranked high.

Respondents to the survey were extremely critical of one aspect of the school environment as it relates to health. Over half the respondents

stated that the availability of nutritious snacks for student and staff members was limited. The majority of respondents seemed to be aware that offering junk food to students in snack machines, a common practice in Iowa schools, is inconsistent with nutrition information which may be provided during instructional periods.

Summary

In summary, a dominant element in the analysis of the data appears to indicate that after participating in the inservice program and returning to their respective school districts for one year, participants reflected lower levels of satisfaction with their health programs in the area of curriculum and instruction, and in the area of healthful school environment. Internal analysis within the questionnaires tended to yield similar results in that most significant findings favored control group responses.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine the impact of a particular inservice education program on the components of comprehensive school health education in selected Iowa schools. Chapter V contains: (a) a summary of the procedures used in the study and of the relevant literature, (b) a discussion of the results of the study, (c) conclusions drawn from the analysis of the data, and (d) recommendations for areas of future study.

Summary

Summary of Procedures

This study was designed to determine the impact of the Seaside model inservice education program in Iowa on the three components of comprehensive school health education; health curriculum and instruction, school health services and, healthful school environment. Subjects for the study consisted of participant teams attending the Iowa Lakeshore Wellness Conference and non-participant schools matched, by Area Education Agency membership and enrollment, to the participating schools. A school health questionnaire was utilized as a pretest and posttest measure of perceptions regarding the status of health curriculum and instruction, school health services, and healthful school environment. Subjects in both participant and non-participant groups completed the questionnaire, before the inservice program was conducted, and again, one year later.

An analysis of covariance, using the Statistical Package for the Social Sciences (SPSS) was utilized to determine possible differences

in the scores of the two groups. The pretest scores for each group were applied as a covariate. The .05 level of significance was used in testing for differences. In order to examine more specific areas of difference between the participant and the non-participant groups, a chi square analysis was applied to the responses for each question. Frequencies for questions relating to specific school health practices and activities were also generated for each group.

Summary of Relevant Literature

Inservice education. Inservice education has been utilized as a vehicle for professional growth and school improvement in all educational disciplines for more than a century. Hass (1957) defined inservice education as "a broadly conceived notion, including all activities engaged in by the professional personnel during their service and designed to contribute to improvement on the job" (p. 13). That improvement should lead, according to Edelfelt (1977b) to the improvement of educational programs for students, which is the fundamental purpose of any inservice effort.

Efforts to increase teacher competency in the early years of public education included teacher institutes, teacher's reading circles, extension courses, summer institutes, and correspondence course (Asher, 1967; Edelfelt & Lawrence, 1975; Tyler, 1971). The twentieth century saw the introduction of teacher workshops, college summer schools, and teacher-centers (Nemser & Applegate, 1982; Yarger, 1982).

Recent national initiatives in education have increased interest in quality inservice educational experiences. The renewed interest has led to expanded research efforts in the area. Although several

characteristics have been judged as important components for effective inservice experiences, a clear definition of what constitutes effectiveness and exactly how to achieve it remains obscure.

School health education in the twentieth century. Health education in the early part of the twentieth century consisted mostly of hygiene instruction focused toward the control of communicable diseases. Interest in expanding and improving health eduction in schools increased as the parameters of the discipline were defined. National initiatives in health education, including the School Health Eduction Study (Sliepcevich, 1968) and the School Health Curriculum Project (Centers for Disease Control, 1977) further established health education as an independent subject area.

The wellness philosophy which evolved in the 1960s, with its emphasis on health promotion and risk reduction, was infused into school health curriculum during the 1970s. The wellness focus in schools included a multidimensional approach embracing mental, emotional, and social health, as well as the more traditional physical component.

The Seaside concept. One model for inservice education in the area of school health education which has generated enthusiasm at the national level is the Seaside concept. Originating in Oregon in 1977, the Seaside concept is based on key factors of effective inservice and has been adopted by twenty-four states, including Iowa, since its inception. The Seaside model includes a team approach, the development of an action plan for individual school district teams in attendance, an emphasis on the importance of personal health role modeling, and sharing of resources for curriculum development and health education

instruction (Drolet & Davis, 1984). Evaluations of the Seaside conferences have described knowledge, attitude, and behavior changes in conference participants, as well as positive changes in health education programs in schools whose employees attended the conference (Dosch & Paxton, 1981).

The status of school health education in Iowa. According to a statewide survey conducted in 1977 to determine the status of school health education in Iowa, student experiences in health education in Iowa schools were highly inconsistent. School health curriculum was most often developed by the individual teacher, whose training in health education was usually minimal (Final report, 1979). A few Iowa school districts have developed exemplary school health education programs and have been recognized for their efforts by the Metropolitan Life Foundation. Recent changes in Iowa law, including new regulations requiring a secondary health course, K-12 human growth and development instruction, and improved teacher qualifications for health endorsements indicate renewed emphasis on health education in Iowa schools (New standards, 1988).

Discussion

As was reported in Chapter IV, the results of this study did not reveal significant improvements in the three components of comprehensive school health education in schools which participated in the inservice program. If these results were to be taken at face value, the most obvious conclusion would be that the inservice model was an ineffective means of improving the components of comprehensive school health education in the schools examined. Such a conclusion is inconsistent with data

from other published studies, as cited in the review of literature. Additionally, other measures of the success of the model in Iowa, including increases in attendance each year and anecdotal data not included in the study, also dispute these results. There were several factors which may have influenced the outcomes of the study and are worthy of discussion.

A primary thrust of the conference was to heighten awareness in participants of what constitutes effective health education programming. If participants did become more aware of excellence in health education programming, they may have, as a consequence, developed more critical views of their own programs. This change in perception may have influenced the participants to respond more critically to questions on the posttest of the study. In other words, at the time of the pretest respondents may not have been knowledgeable enough to be appropriately critical. Having attended the conference, participants may have been better informed regarding what to observe. It is possible, then, that the lower posttest scores for the experimental group reflect, not the status of their school district's health education program, but the change in their own perceptions regarding quality in health education programming. The fact that most of the questions were qualitative in nature only made it more likely that the respondents would record their perceptions rather than specific quantitative facts about the health education program.

In addition, changes in health education programs may have been limited by the one year duration of the study. It may have been difficult to accomplish change within the school district in only one year's time.

Whether the inservice program participants were met with support and agreement when they returned to their home districts, or whether they were confronted with disinterest or resistance would most certainly have had an effect of the outcome of their change efforts. Administrator and staff support is necessary for change in any school program and sometimes takes more than one year to secure. Changes in budgeting, staff development, and scheduling also may take considerable time.

Conclusions

This study investigated the three research hypotheses presented in Chapter I. Based on the findings and within the limitations of the study, the following conclusions were made:

1. Respondents from schools not participating in the inservice program perceived a higher level of program effectiveness in the area of health curriculum and instruction than did respondents from schools which participated in the program.

2. Non-participant respondents perceived a greater emphasis in health curriculum on health promotion/wellness and greater secondary level curricular emphasis on self-responsibility, and personal safety habits than did participant respondents.

3. For the area of school health services, there was no significant difference between the participant and the non-participant groups.

4. The short term impact of the inservice education program studied seemed to be minimal.

5. Respondents in the groups which did not participate in the inservice program perceived a higher level of teacher training in first

aid and CPR (cardiopulmonary resuscitation) than did respondents from the groups which participated in the inservice.

6. Respondents from schools not participating in the inservice program perceived the presence of a healthful school environment to a greater degree than did the participant respondents.

7. Respondents in the control group placed a higher value on the superintendent of schools as a health role model than did respondents in the experimental group.

8. Health education instruction tended to be provided inconsistently and irregularly in the schools participating in the study.

9. The degree of parent and community involvement in planning health education programs, in both experimental and control groups surveyed in this study, was extremely low. Student involvement in planning the school health education program was also at a minimal level. This lack of involvement, when involvement is highly recommended in the present effective schools literature, highlights a striking weakness of health education programs studied in this project.

10. Emphasis on physical fitness and personal safety habits in the elementary school health curriculum was rated high and emphasis on stress management skills was rated lowest of the health topic areas for both participant and non-participant groups. At the secondary level, the highest emphasis in the health education programs studied was on physical fitness and the lowest was stress management skills. The lack of emphasis on stress management skills may indicate inadequate teacher preparation in that area; an understandable situation since teaching children stress management skills is a relatively new idea in education.

11. The grade level which showed the greatest frequency of health instruction for both groups was the middle school/junior high level. Health education instruction at the elementary and senior high school levels was generally nonexistent, irregular, or elective. This information is consistent with the 1977 Iowa Task Force survey results and indicates a lack of progress in the organization of health instruction over the past several years.

12. Respondents from both participant and non-participant groups held high opinions of the quality of school health services which were available in their school districts. The school nurse was viewed as a positive element in the health education program and was particularly cited as being highly utilized as a consultant by administrators, classroom teachers, and other staff members.

13. Participants in this study also placed a consistently high value on school employees as health role models. With the exception of food service workers, whose contact with students is limited, respondents rated all employee categories high. Particularly important, according to the respondents, were physical education and health teachers, school nurses, and coaches. Although this emphasis on the significance of health behavior role modeling is an important component of the Seaside inservice model, the non-participant group appeared to be equally well informed about the concept.

14. A great indication of strength in terms of healthful school environment was the nearly universal presence of employee wellness programs in all of the school districts studied. A majority of districts

had designated a wellness program coordinator; further evidence of the commitment that the school districts had made to employee wellness.

15. School districts in both the experimental and control groups appeared to be weak in the area of availability of healthful snacks for students and staff members. The challenge of influencing food preferences toward healthful snacks and away from the typical vending machine provisions appeared to be a universal problem.

Recommendations

In view of the findings which resulted from this study the following recommendations are made for future research efforts:

1. Within the broad context of inservice education, research efforts need to continue to focus on identifying how effective inservice education programs are developed, what the essential components of quality inservice programs are, and whether or not these components are generalizable to all educational disciplines. Additionally, the question of what constitutes effectiveness in inservice education remains obscure. Data from surveys which focus on perceived effectiveness of inservice education, which includes this study, may not reflect true program effectiveness.

2. The accuracy in evaluation of inservice effectiveness might be increased by on site observations made by one or a few individuals trained to specific criteria. This would eliminate the problem encountered in this study of dependence on perceptions of survey respondents.

3. Evaluations of the effects of inservice education programs need to focus more on student outcomes. The question of whether participation of teachers in a particular inservice program can be linked

to changes in knowledge, attitudes, and/or behaviors of students is still unclear.

4. There is a need for more long term studies of the Seaside inservice model. Longitudinal data, gathered over a period of several years, would provide a more accurate description of the effects of the program.

5. Studies of the Seaside inservice program should include data regarding the personal health behaviors of participants, both before their participation in the conference and later. Since many programs and experiences at the conference focus on personal health behaviors of participants, measuring changes in those behaviors would provide information regarding program effectiveness.

6. Since many states have now adopted the Seaside model for health education conferences, effectiveness research representative of varied geographic locations would increase generalizability of results.

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APPENDIX A

School Health Questionnaire

Directions: There are three sections to this questionnaire. For the questions which utilize a continuum line, place an "X" on the line at whatever point best corresponds in your response. For other questions, simply follow the directions given. There are no right or wrong answers. If you have no information about a question, perhaps you can ask someone else about it. Mark "unknown" if the information is not available.

SECTION I. These statements relate to health instruction in your school district.

1. The district has a planned K-12 health education program which includes a statement of philosophy and identifies goals and objectives. (X response)
   _____ Yes _____ No _____ Unknown

2. A person in the school district has been named health education coordinator with delegated responsibility for providing leadership to district health education teachers. (X response)
   _____ Yes _____ No _____ Unknown

3. The degree to which your school district's health curriculum centers on health promotion/wellness, prevention, and maintenance of positive mental health rather than illness, disease, and problems.
   LOW _____ High _____ Unknown

4. The degree to which your school district's health education program is in compliance with Iowa statues (the law).
   LOW _____ High _____ Unknown

5. The degree of professional preparation (college, workshops, inservice, etc.) for teaching health of those charged with the responsibility for health education in your elementary school(s).
   LOW _____ High _____ Unknown

6. The degree of professional preparation (college, workshops, inservice, etc.) for teaching health of those charged with the responsibility for health education in your secondary school(s).
   LOW _____ High _____ Unknown

7. The degree to which a parent/community health education advisory group is actively involved in the planning, implementing and/or evaluation of the school health education program.
   LOW _____ High _____ Unknown

8. The degree to which students are involved in planning, implementing and/or evaluating the school health program.
   LOW _____ High _____ Unknown

9. Your school district's commitment to providing resources (funding, personnel, materials) necessary to operate the health education program as compared to other programs in your district.
LOW _____ High _____ Unknown

10. The emphasis in your elementary school(s) health education program on: (may include concepts integrated in a variety of subject areas; for example fitness in physical education classes).

A. Nutrition education
LOW _____ High _____ Unknown

B. Physical fitness and exercise
LOW _____ High _____ Unknown

C. Stress management skills
LOW _____ High _____ Unknown

D. Self responsibility (personal accountability for one's own health)
LOW _____ High _____ Unknown

E. Environmental Awareness (extent to which one's surroundings facilitate or inhibit good health).
LOW _____ High _____ Unknown

F. Personal safety habits
LOW _____ High _____ Unknown

11. The emphasis in your secondary school's health education program on: (may include concepts integrated in a variety of subject areas; for example, fitness in physical education classes).

A. Nutrition education
LOW _____ High _____ Unknown

B. Physical fitness and exercise
LOW _____ High _____ Unknown

C. Stress management skills
LOW _____ High _____ Unknown

D. Self responsibility (personal accountability for one's own health)
LOW _____ High _____ Unknown

E. Environmental Awareness (extent to which one's surroundings facilitate or inhibit good health).
LOW _____ High _____ Unknown

F. Personal safety habits
LOW _____ High _____ Unknown

12. The frequency with which students receive health instruction in your school district. (Does not include physical education classes, X all those that seem appropriate.)

Grade Level K-3	4-6	Jr. High/ Middle School	Senior High
not at all	not at all	not at all	not at all
0-15 min/wk	1-15 min/wk	0-9 wk course	0-9 wk course
15-30 min/wk	15-30 min/wk	9+ - 18 wk course	9 + - 18 wk course
30-60 min/wk	30-60 min/wk	required course only	required course only
60+ min/wk	60+ min/wk	elective course only	elective course only
irregularly	irregularly	required and elective both	required and elective both
		irregularly	irregularly
Other	Other	Other	Other
Unknown	Unknown	Unknown	Unknown

Please specify _____

_____

13. Indicate (X) all the ways that community health agencies are utilized in your district.

	No Contact	Materials	Consult	Speakers	Unknown
A. Nutrition (Dairy Council, etc.)	___	___	___	___	___
B. Mental Health Agencies	___	___	___	___	___

C. Exercise/Fitness (YMCA, YWCA, consultants, etc.)	___	___	___	___	___
D. Drug and Alcohol Groups	___	___	___	___	___
E. Physical Health (Lung, Cancer, Heart, Assoc., etc.	___	___	___	___	___
F. Safety and First Aid (Heart Assoc., Red Cross, etc.)	___	___	___	___	___
G. Private wellness consulting firms	___	___	___	___	___
H. Other (please specify)	___	___	___	___	___

Section II. These statements relate to health services in your school district.

14. The degree to which professional school nursing services are available when needed.
LOW _____ High _____ Unknown

15. The degree to which the school nurse is utilized in identifying barriers to learning. (Example: staffings for special education services.)
LOW _____ High _____ Unknown

16. The degree to which the school nurse is utilized as a consultant by administrators, classroom teachers, and other staff.
LOW _____ High _____ Unknown

17. The degree to which the services of a professional counselor are available at the elementary school level.
LOW _____ High _____ Unknown

18. The degree to which the services of a professional counselor are available at the secondary school level.
LOW _____ High _____ Unknown

19. The degree to which all teachers are trained in procedures of observation and referral for child abuse, substance abuse, and other student health problems.
LOW _____ High _____ Unknown

20. The degree to which all teachers are knowledgeable regarding first aid (including CPR) emergency procedures.
LOW _____ High _____ Unknown

21. The degree to which the need for student health services is being met in your school district.
LOW _____ High _____ Unknown

Section III. These statements relate to environment in your school district.

22. The school district has instituted a wellness program for employees. (X response)
_____ Yes _____ No _____ Unknown

23. A district wellness program coordinator/director has been designated. (X response)
_____ Yes _____ No _____ Unknown

24. The degree of commitment to employee wellness by the school district (as evidenced by financing, time allotment, etc.)
LOW _____ High _____ Unknown

25. Your perception of who is important as a personal health role model. (If no such person is employed by your district, leave that response blank.)

a. Superintendent
Unimportant _____ Important _____ Unknown

b. Principal
Unimportant _____ Important _____ Unknown

c. School board
Unimportant _____ Important _____ Unknown

d. Coach(es)
Unimportant _____ Important _____ Unknown

e. Physical Education Teachers
Unimportant _____ Important _____ Unknown

f. Health Teachers
Unimportant _____ Important _____ Unknown

g. Other Teachers
Unimportant _____ Important _____ Unknown

h. Nurse
Unimportant _____ Important _____ Unknown

i. Counselor
Unimportant _____ Important _____ Unknown

j. Food Service
Unimportant _____ Important _____ Unknown

k. Parents
Unimportant _____ Important _____ Unknown

l. Other (please specify _____)
Unimportant _____ Important _____ Unknown

26. The amount of involvement in the following activities by the staff at your school.

a. Eating together, meeting socially
None _____ Extensive _____ Unknown

b. Exercising together
None _____ Extensive _____ Unknown

c. Sharing health resources
None _____ Extensive _____ Unknown

d. Attending health meetings, conferences, etc.
None _____ Extensive _____ Unknown

e. Other (please specify _____)
None _____ Extensive _____ Unknown

27. Circle the number of times any of the following health-related activities have occurred in your school district during the past year.

For Students		For Employees
0 1 2 3 4 or more	Health Fair	0 1 2 3 4 or more
0 1 2 3 4 or more	Stop Smoking Class	0 1 2 3 4 or more
0 1 2 3 4 or more	Exercise Program	0 1 2 3 4 or more
0 1 2 3 4 or more	Alcohol/Drug Ed. Class	0 1 2 3 4 or more

0 1 2 3 4 or more	Healthy Snacks for Meetings	0 1 2 3 4 or more
0 1 2 3 4 or more	Health Speakers	0 1 2 3 4 or more
0 1 2 3 4 or more	CPR and/or First Aid Courses	0 1 2 3 4 or more
For Students		For Employees
0 1 2 3 4 or more	Support/Discussion Groups	0 1 2 3 4 or more
0 1 2 3 4 or more	Nutrition Awareness Activity	0 1 2 3 4 or more
0 1 2 3 4 or more	Weight Control Class	0 1 2 3 4 or more
0 1 2 3 4 or more	Suicide Prevention Program	0 1 2 3 4 or more
0 1 2 3 4 or more	Sexually Transmitted Disease Program (including AIDS)	0 1 2 3 4 or more
0 1 2 3 4 or more	Other: _____	0 1 2 3 4 or more

28. The nutritional quality of food served to students and staff.
LOW _____ High _____ Unknown

29. Degree to which nutritious snacks are available to students and staff.
LOW _____ High _____ Unknown

30. Degree to which facilities <u>within</u> school buildings meet reasonable safety standards.
LOW _____ High _____ Unknown

31. Degree to which <u>outdoor</u> school facilities meet reasonable safety standards. (Includes playgrounds, athletic facilities, parking lots.)
LOW _____ High _____ Unknown

32. Degree to which school facilities are kept clean and adequately maintained.
LOW _____ High _____ Unknown

33. Degree to which students use tobacco on school property.
LOW _____ High _____ Unknown

34. Degree to which staff members use tobacco on school property.
LOW _____ High _____ Unknown

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE!

APPENDIX B

Panel of Experts:
School Health Evaluation Instrument

THE LAKESHORE COMMITTEE
Thomas M. Davis, Director, Lakeshore Project, Univ. of Northern Frank Schabel, Iowa State University
Kay Helbing, Counselor, Dubuque Community Schools
Carolyn Jons, Ames Board of Education
Paul Kabarec, Iowa Department of Education
Tim Lane, Iowa Department of Public Health
Richard Lowrey, Principal, Nora Springs, Rock Falls Schools

UNIVERSITY OF NORTHERN IOWA FACULTY
Dr. Greg Stefanich, Co-chair, Curriculum and Instruction
Dr. Susann Doody, Co-chair, School of HPER
Dr. Marlene Strathe, Assistant Vice President, Academic Affairs
Dr. Larry Hensley, School of HPER
Dr. Patricia Geadelmann, Director of Governmental Relations and Professor of Physical Education
Dr. Jane Richards, Health Education
Dr. Dennis Cryer, Health Education
Dr. Patrick Moffit, Health Education

Also:
Len Tritsch, Oregon Department of Education, Founder of the Seaside Health Conference
Dr. Judy Drolet, Southern Illinois University, Evaluator of the original Seaside Conferences in Oregon
Dr. Leslie Oganowski, University of Wisconsin, School Health Education specialist

APPENDIX C

First Letter to Team Leaders

Dear Lakeshore Team Member:

As a candidate for a doctoral degree in Curriculum and Instruction at the University of Northern Iowa, it is my privilege to design and facilitate an evaluation of the impact of this first Lakeshore Wellness Conference in Iowa.

The intent of this evaluation is to determine whether or not the conference has had an effect on selected factors relating to health education in schools represented at the Lakeshore Conference, as compared to similar schools not represented. These factors, which are not intended to include all aspects of school health, do reflect selected units of each of the three major components of a comprehensive school health program; school health instruction, school health services, and healthful school environment.

The participation of your team in this study, although voluntary, is extremely important (Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled). It will be impossible to identify the responses of any individual and results will be used only for purposes of comparison between responses provided now and responses provided, to the same questions, one year from this time. Your evaluation will not be linked with the name of your school district at any time. The fact that a particular factor appears on the questionnaire does not necessarily mean that anyone expects it to be impacted by your participation at this conference nor does it mean that any change is necessarily anticipated in one year's time.

The questionnaire attached is to be completed by your team as a group. You will need to discuss each item and arrive at a consensus which best reflects the group's perception of each circumstance. Please complete the questionnaire, at your convenience, on Monday or Tuesday and hand it, no later than Tuesday event, to any Lakeshore Planning Committee member. Your completing the questionnaire will be assumed to be your consent to answer the questions.

I recognize the value of your time at the Lakeshore Wellness Conference and sincerely appreciate your participation in this evaluation. Your contribution will be important for planning the Iowa Lakeshore Conference in years to come. Thank you!

Sincerely,

Susan J. Koch, Doctoral Candidate
University of Northern Iowa
Phone 319-273-6117 or 273-2141

P.S. You may contact the Graduate Office, University of Northern Iowa (319) 273-2748, for answers to questions about the research and about the rights of research subjects.

APPENDIX D

First Letter to Superintendents

Dear Superintendent:

As a candidate for a doctoral degree in Curriculum and Instruction at the University of Northern Iowa, it is my task to investigate the current status of Health Education in a sampling of Iowa schools. Your school district is one of 45 that have been selected (based on AEA and school size) for this portion of the study. The questionnaire included with this letter has been developed to examine selected units of each of the three major components of a comprehensive school health program; school health instruction, school health services, and healthful school environment.

Your participation in this study is, of course, voluntary. (Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled.) The responses are completely confidential and will be used only for comparison between responses provided now and responses provided, to the same questions, at the end of this school year. Individual schools will not be identified and comparisons between schools will consist only of group analysis. Your responses will not be linked with the name of your school district at any time.

My request is that you simply ask some knowledgeable member of your staff to complete the questionnaire and return it to me in the envelope provided. In some cases a school nurse or a teacher may be that person; in other cases a member of the administrative team might be most knowledgeable about health education in your school district. completing the questionnaire will probably require 10 to 15 minutes time. I will mail you another copy of the same questionnaire in early May with a similar request. (The fact that a particular factor appears on the questionnaire does not necessarily mean that anyone expects to observe change in one school year.)

I recognize the value of your time and sincerely appreciate your cooperation in this effort. Your contribution is extremely important to my work. Please ask that the questionnaire be returned before September 25. Thank you!

Sincerely,

Susan J. Koch

Susan J. Koch, Doctoral Candidate
University of Northern Iowa
Phone: 319-273-6117 or 273-2141

P.S. You may contact the Graduate Office, University of Northern Iowa (319) 273-2748, for answers to questions about the research and about the rights of research subjects.

APPENDIX E

Second Letter to Team Leaders

Dear 1987 Lakeshore Team Leader:

You may recall that at the outset of last summer's Lakeshore Wellness Conference, you completed a questionnaire, along with members of your team, which examined the status of health education in your school district. The questionnaire is part of my doctoral dissertation at the University of Northern Iowa.

Another part of the study includes collecting the same data a year later. I have enclosed, with this letter, another copy of the questionnaire. My request is that you complete it in the same manner you did a year ago. I realize that participation by all members of the team may not be as feasible as it was when you were together at Lakeshore and simply request that you obtain whatever input is practical and necessary. As with the first questionnaire, your participation is, of course, voluntary. Your responses will be used only for comparison purposes and will not be linked with the name of your school district at any time.

Additionally, I have enclosed a Health Risk Appraisal for each member of your team. This appraisal is also part of the dissertation study. After your team members have completed their appraisal, it can be returned for analysis in the same envelope as the questionnaire. (Team members should be reminded to tear off and save the numbered label so that their results can be identified later.)

I recognize that your time is particularly valuable as we approach the end of the school year, and I sincerely appreciate your cooperation in this effort. Your contribution is extremely important to this work! Please return the questionnaire and the HRA;s before May 20. A stamped enveloped has been provided for your use. Thank you!

Sincerely,

Susan J. Koch

Susan J. Koch, Doctoral Candidate
University of Northern Iowa
Phone: 319-273-6117 or 273-2141

P.S. You may contact the Graduate Office, University of Northern Iowa (319) 273-2748, for answers to questions about the research and about the rights of research subjects.

APPENDIX F

Second Letter to Superintendents

Dear Superintendent:

Last September you graciously provided me with information regarding health education in your school district. That information is being utilized in my doctoral dissertation at the University of Northern Iowa. You may recall that I mentioned a request would also be made in May to complete the health survey again.

As with your initial participation, completing the questionnaire enclosed is, of course, voluntary. (Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled.) The responses are completely confidential and will be used only for comparison purposes. Individual schools will not be identified and comparison between schools will consist only of group analysis. Your responses will not be linked with the name of your school at any time.

You asked a knowledgeable member of your staff to complete the first copy of this questionnaire in September (or perhaps you did it yourself). My request, if possible, is that the same person respond to this second one.

I recognize the value of your time and sincerely appreciate your cooperation in this effort. The response rate for the September questionnaire was a healthy 91% thanks to individuals like you. However, since the pool of data has been reduced by about 10%, it is particularly important to my work that I receive all of the questionnaires back this time. Please ask that the questionnaire be returned in the envelope provided before May 20. Thank you!

Sincerely,

Susan J. Koch

Susan J. Koch, Doctoral Candidate
University of Northern Iowa
Phone: 319-273-6117 or 273-2141

P.S. You may contact the Graduate Office, University of Northern Iowa (319) 273-2748, for answers to questions about the research and about the rights of research subjects.

APPENDIX G

Raw Data: Section I

Item	Experimental Group								Control Group							
	Pretest				Posttest				Pretest				Posttest			
	L	M	H	X	L	M	H	X	L	M	H	X	L	M	H	X
3	9	9	7	5.59	10	7	6	6.21	3	8	13	7.28	3	5	17	7.81
4	5	4	11	7.74	4	4	6	8.17	4	9	8	7.38	2	10	9	7.73
5	15	4	5	4.88	10	4	6	5.91	10	5	7	6.64	9	7	6	6.75
6	9	5	13	6.45	5	4	10	7.92	6	9	7	7.11	6	10	10	6.75
7	25	0	2	2.18	21	3	1	2.69	22	3	2	3.31	17	6	3	4.00
8	28	1	0	1.38	25	1	1	2.22	26	1	0	2.07	24	4	1	2.52
9	11	8	7	5.66	8	12	6	5.89	5	11	6	6.81	7	9	11	6.45
10A	6	8	9	6.92	5	4	9	7.52	4	9	7	7.35	2	8	15	8.21
10B	3	7	8	8.12	1	6	12	8.32	2	5	15	8.19	0	5	19	8.72
10C	17	3	3	3.38	12	5	3	4.57	15	8	2	4.46	11	11	6	5.48
10D	9	8	5	5.48	4	11	5	6.77	4	11	8	6.96	5	8	14	7.52
10E	8	9	7	5.83	5	10	7	6.35	4	10	7	7.15	4	13	12	7.00
10F	2	8	11	7.92	4	6	10	7.39	3	4	12	8.31	1	6	20	8.66

(table continues)

Item	Experimental Group								Control Group							
	Pretest				Posttest				Pretest				Posttest			
	L	M	H	X	L	M	H	X	L	M	H	X	L	M	H	X
11A	4	8	14	7.53	5	7	15	7.04	2	13	8	6.92	3	14	11	7.28
11B	6	4	13	7.40	3	8	16	7.52	1	6	13	8.59	0	8	19	8.38
11C	16	7	5	4.43	12	9	7	5.34	8	11	5	5.70	7	14	8	6.03
11D	9	11	8	6.07	10	10	9	6.13	5	11	9	6.70	2	11	15	7.25
11E	6	14	6	6.11	10	10	9	5.45	6	11	7	6.48	5	15	9	6.34
11F	6	14	7	6.31	11	8	10	5.77	7	8	9	6.46	2	14	13	6.86

L = Low score
M = Medium score
H = High score
X = Mean score

APPENDIX H1

Experimental/Control Group Posttest Regarding Health Program Emphasis on Health Promotion

	Control Group	Experimental Group
Low	3 (6.8)	10 (6.2)
Medium	5 (6.3)	7 (5.8)
High	17 (12.0)	6 (11.0)

( ) = expected value

APPENDIX H2

Experimental/Control Group Posttest Regarding Emphasis on Self-Responsibility in Secondary Health Curriculum

	Control Group	Experimental Group
Low	2 (5.9)	10 (6.1)
Medium	11 (10.3)	10 (10.7)
High	15 (11.8)	9 (12.2)

( ) = expected value

APPENDIX H3

Experimental/Control Group Posttest Regarding Emphasis on Personal Safety Habits in Secondary Health Curriculum

	Control Group	Experimental Group
Low	2 (6.5)	11 (6.5)
Medium	14 (11.0)	8 (11.0)
High	13 (11.5)	10 (11.5)

( ) = expected value

APPENDIX I1

Frequency of Health Instruction by Elementary Grade Level Grouping

	Grades K-3	Grades 4-6
Irregularly/ Not at all	20%	32%
Up to 30 Minutes/week	50%	68%
More than 30 Minutes/week	29%	0%

APPENDIX I2

Frequency of Health Instruction by Secondary Grade Level Grouping

	Junior High/ Middle School	Senior High
Irregularly/ Not at all	27.6%	35.6%
Required Course Only	62.0%	28.5%
Elective Course Only	0.3%	26.1%
Required and Elective Both	6.9%	9.5%

APPENDIX J

Raw Data: Section II

Item	Experimental Group								Control Group							
	Pretest				Posttest				Pretest				Posttest			
	L	M	H	X	L	M	H	X	L	M	H	X	L	M	H	X
14	6	7	8	7.60	5	2	11	8.30	3	6	12	8.31	4	4	9	8.45
15	10	3	7	6.59	10	7	5	6.39	9	7	9	6.62	10	7	6	6.41
16	3	7	13	8.03	4	6	14	7.87	2	7	15	8.17	3	6	10	8.31
17	19	4	3	4.10	14	3	6	5.86	19	4	3	6.46	10	4	7	6.61
18	1	6	11	9.20	1	4	10	9.40	1	1	14	9.86	1	3	11	9.59
19	1	9	15	8.47	2	9	12	8.29	1	9	11	8.46	1	5	15	8.83
20	16	7	3	5.28	12	5	7	5.28	12	6	7	5.97	3	16	8	6.83
21	7	10	10	6.47	7	5	9	7.36	5	5	15	7.76	2	12	13	7.79

L = Low score
M = Medium score
H = High score
X = Mean score

APPENDIX K1

Pretest/Posttest Control Group Regarding Degree of Teacher Training in First Aid and CPR

	Pretest	Posttest
Low	12 (7.2)	3 (7.8)
Medium	6 (10.6)	16 (11.4)
High	7 (7.2)	8 (7.8)

( ) = expected value

APPENDIX K2

Experimental/Control Group Posttest Regarding Degree of Teacher Training in First Aid and CPR

	Control Group	Experimental Group
Low	3 (7.9)	12 (7.1)
Medium	16 (11.1)	5 (9.9)
High	8 (7.9)	7 (7.1)

( ) = expected value

APPENDIX L

Raw Data: Section III

Item	Experimental Group								Control Group							
	Pretest				Posttest				Pretest				Posttest			
	L	M	H	X	L	M	H	X	L	M	H	X	L	M	H	X
25A	5	4	10	8.00	3	10	6	7.69	5	3	11	8.64	1	4	13	9.15
25B	4	6	7	8.31	4	8	6	7.69	2	3	16	9.11	1	4	14	9.18
25C	16	3	2	4.50	11	4	3	5.71	9	8	7	6.41	7	8	5	7.04
25D	4	2	8	9.21	2	4	11	8.96	0	1	16	9.96	1	0	10	10.15
25E	1	4	7	9.59	1	5	8	9.30	0	1	13	10.18	1	0	10	10.21
25F	0	4	6	9.83	0	2	11	9.96	0	1	13	10.19	0	2	10	9.93
25G	1	7	10	8.86	0	5	11	9.08	1	2	14	9.23	1	7	9	8.74
25H	0	3	8	10.07	0	1	9	10.35	0	2	11	10.07	0	1	9	10.00
25I	5	6	6	8.31	3	4	6	8.88	1	3	16	9.21	1	6	8	9.18
28	12	7	9	5.97	5	10	12	6.90	3	6	11	8.33	1	8	13	8.71
29	22	1	4	3.97	19	6	4	3.52	15	9	2	4.04	13	10	5	4.89

(table continues)

Item	Experimental Group								Control Group							
	Pretest				Posttest				Pretest				Posttest			
	L	M	H	X	L	M	H	X	L	M	H	X	L	M	H	X
30	2	4	17	8.70	0	8	14	8.76	0	3	18	9.39	0	3	17	9.57
31	3	9	14	7.72	3	6	13	8.24	0	8	14	8.89	0	6	14	9.32
32	4	11	10	7.30	3	8	10	8.07	1	3	11	9.61	1	2	9	9.82
33	3	6	12	8.48	5	4	9	8.64	0	3	8	10.11	2	1	11	9.57
34	3	6	15	8.60	1	8	10	8.86	0	3	15	9.36	2	2	18	9.04

L = Low score
M = Medium score
H = High score
X = Mean score

APPENDIX M1

Experimental/Control Group Posttest Regarding the Degree of Importance of the Superintendent as a Health Role Model

	Control Group	Experimental Group
Low	1 (1.9)	3 (2.1)
Medium	4 (6.8)	10 (7.2)
High	13 (9.2)	6 (9.8)

( ) = expected value

APPENDIX M2

Experimental/Control Group Pretest Regarding the Degree of Importance of School Board Members as Health Role Models

	Control Group	Experimental Group
Low	9 (13.3)	16 (11.7)
Medium	8 (5.9)	3 (5.1)
High	7 (4.8)	2 (4.2)

( ) = expected value

APPENDIX M3

Experimental/Control Group Pretest Regarding the Degree of Importance of Coaches as Health Role Models

	Control Group	Experimental Group
Low	0 (2.2)	4 (1.8)
Medium	1 (1.6)	2 (1.4)
High	16 (13.2)	8 (10.8)

( ) = expected value

APPENDIX M4

Experimental/Control Group Pretest Regarding the Degree of Importance of Counselors as Health Role Models

	Control Group	Experimental Group
Low	1 (3.2)	5 (2.8)
Medium	3 (4.9)	6 (4.1)
High	16 (11.9)	6 (10.1)

( ) = expected value

APPENDIX M5

Experimental/Control Group Posttest Regarding the Degree of Involvement by Staff in Exercising Together

	Control Group	Experimental Group
Low	10 (14.5)	19 (14.5)
Medium	12 (9.5)	7 (9.5)
High	6 (4.0)	2 (4.0)

( ) = expected value

APPENDIX M6

Pretest/Posttest Experimental Group Regarding the Degree of Staff Participation in Attending Health Meetings and Conferences

	Pretest	Posttest
Low	12 (13.5)	14 (12.5)
Medium	6 (8.8)	11 (8.2)
High	11 (6.7)	2 (6.3)

( ) = expected value

APPENDIX M7

Experimental/Control Group Pretest Regarding the Availability of Healthful Snacks for Students and Staff Members

	Control Group	Experimental Group
Low	15 (18.2)	22 (18.8)
Medium	9 (4.9)	1 (5.1)
High	2 (2.9)	4 (3.1)

( ) = expected value

APPENDIX M8

Experimental/Control Group Posttest Regarding Use of Tobacco on School Property by Staff Members

	Control Group	Experimental Group
Low	2 (1.6)	1 (1.4)
Medium	2 (5.4)	8 (4.6)
High	18 (15.0)	10 (13.0)

( ) = expected value