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DAILY PHYSICAL EDUCATION IN CALGARY
SEPARATE ELEMENTARY SCHOOLS

by

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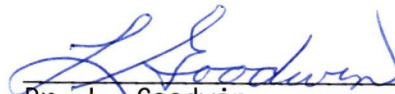
The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Daily Physical Education in Calgary Separate Elementary Schools," submitted by G. Bernard Bajnok, in partial fulfillment of the requirements for the degree of Master of Arts.



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ABSTRACT

The purpose of this study was to answer four major research questions: (1) to the present time, to what extent has daily Physical Education (P.E.) been adopted by elementary schools in the Calgary Roman Catholic School District #1; (2) what are the characteristics of schools that have adopted the innovation for the entire school; schools that have partially adopted the innovation; and schools that have not adopted the change; (3) what process of change have schools undergone relative to the adoption of daily P.E.; and (4) what are the reasons for non-adoption and the problems encountered by non-adopting schools?

Literature and research relating to studies of daily P.E., antecedents of organizational change, initiation and implementation of organizational change, and the development of models of change were reviewed.

Research was conducted by surveying and interviewing all elementary school principals of the School District.

Results of the survey indicated that three of 33 schools had fully adopted daily P.E. for all classes, and 11 had done so for some of their classes. Nineteen schools had not adopted any form of daily P.E.

Certain characteristics of schools were found to differ when viewed across the stages of adoption, one important characteristic

being the type of organizational structure used for P.E. instruction. It was found that more schools utilizing a generalized organizational structure, whereby all teachers taught P.E. to their own classes, had adopted daily P.E. than schools that utilized a semi-departmentalized organizational structure, whereby one or two teachers taught P.E. to all classes plus the core subjects to their own classes.

Principals of schools that had adopted daily P.E. perceived many necessary changes as having taken place during adoption. Changes began to occur as a greater need for daily P.E. was realized, and in order to facilitate these changes, the study showed that a number of human and time resources had to be invested--especially those of teachers. Principals of schools that had not adopted daily P.E. provided a number of reasons for not doing so; for example, shortage of instructional time, preference that priority be given to the "academic" core subjects, and lack of P.E. expertise among a majority of teachers.

The following implication seems warranted. To ensure full adoption of daily P.E., it appears that a stronger mandate from local authorities is desirable.

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Chapter 1

BACKGROUND TO THE STUDY

Introduction

A major component of good health is fitness. One of the ways to promote fitness at an early age is through daily physical activity.

In the Province of Alberta, education authorities were asking for daily physical education (P.E.) as early as 1959. In that year the Royal Commission on Education in Alberta (Cameron, 1959:120) reported the following: "Physical education must have an important place in public education, if only because we are becoming a sedentary people." The Royal Commission at that time recommended that: ". . . elementary school pupils be provided with a continuous instruction period of 20 minutes per day, or three half-hour periods per week."

More school authorities began to advocate the importance of daily P.E. in elementary schools in the 1970s as a result of research that was completed in the 1960s and early 1970s.

During the 1960s, French doctors and educators (Hall, 1971) began to release results of an extensive ten-year study concerning daily P.E. The results of the study were very favourable toward the children who had been involved in daily P.E. programs when they were compared to children who received P.E. two and three times per week.

In the 1970s, Canadian researchers D. A. Bailey (1973) and Goode (1976) conducted studies that indicated daily exercise was beneficial to the growth and development of young children and that in fact elementary school children were not getting enough physical activity.

In an attempt to encourage the adoption of daily P.E. and the improvement of P.E. curriculum the Calgary Roman Catholic Separate School District #1 (hereinafter referred to as the School District) P.E. supervisor unveiled the Calgary Separate Physical Education Program (CALSEP Pep) in 1972. The purpose was to develop a scope and sequence for the P.E. curriculum that would be used by all schools in the School District. The CALSEP Pep Program was completed in June of 1977 and provided comprehensive curricula for daily P.E. from kindergarten (Early Childhood Services [ECS]) to Grade 12. A major recommendation to come from the report of CALSEP Pep was:

. . . that instructional time allocations be daily wherever possible and that schools not able to accommodate the daily instructional component look at alternatives that may at least accommodate the daily fitness component . . . (Calgary Separate School Board, 1977:8).

The Calgary Board of Education (Public School System) Trustees in reacting to a report on the system's P.E. programs entitled the Physical Education Evaluation Report (PEER) in 1975, approved additional expenditures to evaluate and upgrade P.E. programs. Since that time, the supervisory staff has emphasized the upgrading of instructional programs and teacher visitation to encourage adoption of daily P.E. As

well, administrators were urged to adopt one of the major recommendations of PEER: "that physical education be offered on a daily basis for all students from kindergarten to grade twelve" (Calgary Board of Education, 1975:12).

In 1977, provincial government encouragement to adopt daily P.E. again became evident when a report prepared by Alberta educators and commissioned by the Department of Education recommended that:

. . . the Department of Education and local school jurisdictions take the necessary steps to institute the provisions of daily physical education at all grade levels, K through 12 (Glassford, Hohol, Mendryk, Newton, Manz, and Lorback, 1977:25).

As well, the Harder report Alberta Education and Diploma Requirements (Harder, 1977) produced for the Alberta Curriculum Policies Board also recommended that the time allocated to P.E. be increased to an equivalent of 30 minutes per day.

Other provincial associations that have advocated the inclusion of daily P.E. in school programs include: the Alberta Medical Association and the Alberta Teachers Association (A.T.A.). The Alberta Medical Association's executive issued a statement to the provincial government in December of 1978 stressing the importance of daily, quality P.E. in every child's school program. Whereas, the A.T.A.'s Policy and Resolution Delegates to the Alberta Regional Assembly voted overwhelmingly in April of 1980 to reaffirm its policy advocating compulsory health and daily P.E. programs from ECS to Grade 12 (Kolmes, 1980:5).

According to information available at the Public School System's P.E. curriculum center, the public school boards of Red Deer, Lethbridge, and Spruce Grove have confirmed that all their elementary schools will have daily P.E. in the 1980-1981 school term. Finally, information also available at the curriculum center indicated that in the Provinces of Saskatchewan, Manitoba, and New Brunswick, legislation has been enacted to ensure that daily P.E. (30 minute periods) becomes part of every child's program at the elementary school level.

Nationally, in recognition of the importance of daily elementary school P.E., resolutions have been enacted by such bodies as the National Conference on Exercise and Health, December, 1972; the National Conference on the Child in Sport and Physical Activity, May 1973; The Canadian Association of Health, Physical Education and Recreation (CAHPER), June, 1974; the General Assembly of the Canadian Medical Association, Spring, 1975; and the Canadian Federation of University Women, 20th Triennial, 1976 (CAHPER, 1976).

In summary, there appears to be ample evidence and support to warrant daily P.E. becoming an important part of every child's school program. However, large numbers of schools in Canada have not adopted daily P.E. (Martens, 1979). Therefore it becomes important to investigate the reasons for slow adoption of this innovation.

Statement of the Problem

By 1980, in spite of provincial recommendations, local P.E. supervisor encouragement, and positive public opinion, daily P.E. had

not been 100 per cent adopted in elementary schools in the School District. The purpose of this study was to investigate the extent of the adoption, the characteristics of adopting schools, the process of adoption used by those schools, and the reasons for non-adoption of the innovation by other elementary schools in the School District.

Need for the Study

Although most of the School District's schools appear to be equipped to implement daily P.E. and have been encouraged to do so, many have not adopted the program. This study provides information concerning: forces that helped bring about adoption; reasons for non-adoption; compensations made in order to adopt; and the investment of resources required.

In addition, because Calgary P.E. supervisory personnel in both the School District and the Public School System have a goal of 100 per cent adoption of daily P.E. in elementary schools (Calgary Separate School Board, 1977 and Calgary Board of Education, 1975), this study should be informative.

Questions of the Study

An attempt was made to answer the following questions:

1. To the present time, to what extent has the innovation been adopted by elementary schools in the School District?
2. What are the characteristics of schools that have adopted the innovation for the entire school, schools that have partially adopted the innovation, and schools that have not adopted the change?
3. What process of change have schools undergone relative to the adoption of the innovation?
4. What are the reasons for non-adoption and the problems encountered by non-adopting schools?

Delimitations of the Study

The study was delimited to all of the elementary schools, Grades 1 to 6, in the School District. As well, the study was delimited to the perceptions of the elementary school principals currently employed in the School District.

Limitations of the Study

Each elementary school principal was surveyed using a questionnaire (see Appendix A), and interviews were conducted using an interview schedule (see Appendix B). The study was limited, therefore, to the skill of the interviewer, the structure of the questionnaire and schedule, and the conduct of the interview itself.

Definition of Terms

The following is a list of operational terms as employed in this study:

Daily Physical Education (P.E.)--class instruction in P.E. for a minimum of 20 minutes daily for each student.

Principal--the person appointed by the School District to be responsible for the administration of a school.

Innovation--an idea perceived as new by an individual or group.

Adoption--the acceptance, over a period of time, of an innovation by individuals or groups within an organization.

Adopter(s)--school(s) that have fully or partially adopted the innovation.

Change--any significant alteration in the status quo which is intended to satisfy the perceived need.

Perception--". . . an awareness that emerges as a result of a most complicated weighing process an individual goes through as his mind takes into account a whole host of factors and clues . . . including present environmental conditions . . . and past experiences." (Toch and Smith, 1968:5)

Model stages--three stages of change identified in accordance with a change model.

Stage I--awareness; state of not adopting the innovation, the potential receiver becomes aware of the innovation.

Stage II--initiation; state of partial adoption of the innovation; the innovation is adopted in 1 to 99 per cent of the school's classes.

Stage III--implementation; state of full adoption of the innovation; the innovation is adopted in 100 per cent of the school's classes.

Change agent--a professional person who attempts to influence adoption decisions in a direction that he feels is desirable (Havelock, 1973).

Small school--one having an enrolment of fewer than 121 students.

Medium school--one having an enrolment of more than 120 students but fewer than 240.

Large school--one having an enrolment of 240 or more students.

P.E. teaching station--an indoor facility where class instruction in P.E. could take place.

P.E. minor--a teacher with three full university courses in P.E.

P.E. specialist--a teacher with more than three full university courses in P.E.

Chapter 2

REVIEW OF RELATED LITERATURE

Introduction

In reviewing the literature and research related to the present problem, particular emphasis was placed upon studies of daily P.E., antecedents of organizational change, initiation of organizational change, implementation of organizational change, and the development of models of change (theoretical framework). Although an attempt was made to locate works which bore upon the relationship between aspects of the change process and the adoption of daily P.E. in a school district, none was found.

Related Studies in Daily P.E.

Current research findings provide evidence to support the development of a daily P.E. program in schools. A significant study of a daily P.E. program was the Vanves, France experiment (Hall, 1971). Both before and after World War II, many French doctors and educators were concerned about the heavily overloaded academic program in French schools. They had come to realize that such an unbalanced program was not in harmony with what was known about the nature and growth of children and that it was not good for their healthy development.

Several experiments were set up over a ten-year period aimed at obtaining a better balance between the pupils' physical and intellectual abilities and thereby arriving at a much more effective way of educating children. Children were matched intellectually with experimental groups in the same geographic area. The test group was called "one-third time classes" and was exposed to two hours of P.E. and fine arts each day. The mornings were spent doing "academic" work and no homework was assigned. The control group underwent the normal school day, complete with homework. The results (Fourestier, 1962-1963:81-85) showed that the health and general fitness of the test group increased more noticeably than the control group and that the intellectual achievements as measured by standard academic examinations surpassed those of the control group in every examination category. As the 1960s progressed, the groups were retested and results reaffirmed the original findings. By 1969, the French government adopted, for all of France, the concept of daily P.E. for a total of six hours out of 27 school hours per week as opposed to two-and-one half of the total of 30 hours in the old system.

According to Henri Perie (in Hall, 1971:5), chief of the medical services of the Ministry of Youth and Sport in Paris, who supervised many of the tests concerning the "one-third time classes" and control schools:

Those taking 1/3 time classes (experimental schools) have had better academic performances and are less susceptible to stress. Furthermore, differences have shown up markedly in intellectual developments because the "tools of intelligence" are

much keener. Seemingly, these students are healthier, stronger, less tired, have fewer problems, and are generally happier. In other words, their potential for learning has been maximized.

The Vanves experiment prompted a similar pilot project at Sherwood School in Regina, Saskatchewan in 1973-1974. Results similar to the Vanves' findings were reported and are documented in a 16 mm film production (Martens, 1979).

As recently as September 1977, a program requiring students to take thirty minutes of P.E. each day was introduced in the new Millgrove Elementary School in Spruce Grove, Alberta (Jeglum, Oldham, and Quinney, 1979).

During the 1978-1979 school term, comparative analyses were conducted between Millgrove Elementary School and a control school (Jeglum et al., 1979). Specifically, the treatment group of Millgrove students scored significantly higher in language, work study, and math skills, and the control school students scored significantly higher in vocabulary. The overall results of the analyses indicated that "the Millgrove Grade 4-5 students of October 1978 had at least maintained academic achievement levels when compared to the control group" (Jeglum et al., 1979:1), whereas in the area of physical fitness there were significant differences in the overall fitness scores between the two schools. Students of Millgrove School attained a greater improvement in their fitness level than students of the control school.

The extent to which daily P.E. is currently being adopted in Canadian schools is expanding. A survey of P.E. conducted in 1978 indicated 14 daily P.E. projects in New Brunswick, 15 in Ontario, 3 in

Manitoba, 10 in Saskatchewan, 12 in Alberta, and 11 in British Columbia (Martens, 1979).

Although several other provinces have enacted legislation to ensure that P.E. is offered daily within their schools, Alberta has maintained the same requirements for the past 20 years. Despite recommendations contained in a commissioned study, for example, the "Required School Physical Education Report" (Glassford et al., 1977) which called for daily P.E. with increased time allotments for all grade levels, provincial requirements remain at 90 minutes per week for Grades 1 through 6.

Both Calgary school boards (public and separate) have approved in principle the recommendations of their respective P.E. supervisors that P.E. be offered on a daily basis for at least 30 minutes per class for Grades 1-6. To date, however, the School District P.E. supervisor has indicated that, no pressure has been exerted on Calgary school administrators to adopt daily P.E. programs.

Antecedents of Organizational Change

Several studies have reported that historical conditions often influence the success of a planned change effort. Greiner (1967: 51-85), who was concerned with changing the behaviour of industrial managers, concluded:

Future researchers and change agents need to give greater weight to historical determinants of change, with special emphasis being attached to developing relationships between an organization and its environment.

The importance of historical conditions was also noted by Gellerman (1963) when he implied that if individuals within an organization have experienced comparable changes in the past, the way in which the conversions were managed will almost certainly be remembered. He concluded: "these memories will have a decided influence on the employees' willingness to cooperate in future changes" (1963:254). For example, if, in the past, the reasons for new methods had been carefully explained, individuals would be likely to think of them as a growing process in which their own best interests are not threatened (Gellerman, 1963:260).

Mann and Neff (1961:49), both of the University of Michigan, also found that the manner in which an organization carries out a transition to new ways of operating may be predetermined by its history of prior changes. These researchers studied four companies which had introduced major organizational changes. They concluded that employees of a company which had made fairly frequent changes in the past could often be expected to take further innovations in stride. On the other hand, a previously stable organization may find the transition unsettling or even chaotic.

In a more recent study focussing on the adoption of twelve innovative activities in Ontario schools, Leithwood, Holmes, and Montgomery (1979:70) reported that an organization's experiences with previous innovative activity was a factor in determining the degree of adaptation.

Other studies emphasized the state of the organization at a time prior to change being introduced. For example, Miles (in Carlson,

Gallaher, Miles, Pellegrin, and Rogers, 1965:13) said: "It seems likely that the state of health of an educational organization can tell us more than anything else about the probable success of any particular change effort." Miles' conclusions were based on Carlson's study of the adoption of modern mathematics. Carlson (1965:10) investigated communication networks, characteristics, and social structures of adopters, and suggested that:

. . . the rate of acceptance of a new practice by individuals or adopting units is dependent on (1) the characteristics of the adopting unit; (2) the way the adopting unit is joined to communication channels and sources of information; and (3) the position the adopting unit holds in the social structure of like units.

Furthermore, Miles (in Carlson et al., 1965:13) concluded that "any particular planned change effort is deeply conditioned by the state of the system in which it takes place." For example, properties of the organization such as communication adequacy and the distribution of influence have a powerful effect on the speed and durability of adoption of any particular innovation.

Initiation of Educational Innovations

Innovations in educational programs are often complex due to the interaction of several variables: teachers, student material, administrators, curricula, methods of evaluation, and facilities (Carpenter-Huffman, Hall, and Sumner, (1974:3-18). For this reason, initiation or the introduction of innovations is a difficult process.

Research completed by the Rand Corporation (Carpenter-Huffman et al., 1974:13-18) indicated that three variables are of prime importance as determinants of successful initiation: (1) the school administrator; (2) the change agent or system, and (3) the participation of subordinates (teachers).

School Administrator

All school personnel, including school administrators, are normally involved in any significant innovation which may be directed at them or require their support (Carpenter-Huffman et al., 1974:5). Citing the importance of administrative support in a school system's adjustment to new educational practices, Rogers (in Carlson et al., 1965), recognized that school systems with high adaptability were those where administrators provided active support for adaptations rather than remaining neutral. Similarly, Demeter (in Carlson et al., 1965: 61), examining the use of improved educational practices in school systems, concluded that school principals are key figures in the process of change. He said that an innovation tends to prosper when the principal is aware of and sympathetic to it. However, if he were ignorant of its existence or were apathetic, if not hostile, the innovation would tend to remain outside the school.

The administrator is involved in classroom innovations by virtue of (1) control over resources, (2) opportunity to establish teaching norms, and (3) relationship to the non-classroom sources of

rewards potentially available to the teacher. This involvement, which is clearly understood by most teachers, is one in which the administrator acts as a gatekeeper for resources, norms, and rewards. In two different studies, one by Berman and McLaughlin and the other by Leithwood and Clipsham (all cited in Leithwood, Holmes, and Montgomery, 1979), the authors found that the expressed attitudes of administrators were used as signals by teaching staff about how seriously they should take the objectives of an innovation project. As well, Leithwood et al. (1979:55) pointed out that, "administrative approval is very often a necessary condition for implementation, but rarely, in today's centralized school systems, a sufficient one."

Change Agent or System

The change agent (or agents) consists of those advocating the innovation and may include one person or many. The role of the change agent in the process of change has been the subject of a number of investigations.

Gross, Giacquinta, and Bernstein (1971) reasoned that the importance of change agents during the initiation phase of planned organizational change can be attributed to the following factors: (1) in general, members of an organization are unable, or find it difficult, to diagnose their problems in a realistic or competent manner; (2) outside change agents with expert knowledge are assumed to possess the ability to approach situations in a more objective manner--consequently,

their analyses are usually more realistic and penetrating than those of organizational members; (3) outside change agents can more readily set forces in motion that will increase the amount and flow of communication among members of the organization. The latter results in a greater awareness of the need for change and a greater commitment to proposed innovations.

The use of a change agent has been supported by Griffiths (in Miles, 1964:432) in a review of administrative theory and change in organizations:

The use of consultants, evaluation teams, citizens' committees and professional organizations to bring change to an organization suggests a clear recognition on the part of administrators that an organization is more apt to change in response to an external force than to an internal force.

Although Gross et al. (1971) and Griffiths (in Miles, 1964) described and discussed the change agent as someone from outside the organization, it must be pointed out that a change agent can, at times, be a member of the organization.

Regardless of whether or not the change agent is a member, the official relationship of the agent and the organizational members is important. Researchers Greiner (1967:51-58) and Tannanbaum (in Gross et al., 1971:413-425) both determined that a change agent with perceived high prestige and expertise is more likely to be successful in obtaining change than one without those qualities. Lortie (1975), in a recent sociological study, suggested that peer relationships

between the change agent and the teacher more readily promote adoption of innovation. On the basis of their Ontario study, Leithwood et al. (1979:64) maintained that: "change agent systems visibly weighted with persons considered by users to be peers promote ready acceptance of the innovation in the user system." Because many individuals at all levels of an organization will be involved in a change, Leithwood et al. (1979: 64) concluded that "a diversified and highly representative team should be put together as the change agent system."

Participation of Subordinates (Teachers)

The importance of subordinates' participation in initiating innovations has also been emphasized in the literature. Early studies completed by Mort and Cornell (in Miles, 1964) in the 1940s gave considerably information on the place of teachers in bringing about innovation or change. These researchers analysed state school program changes in New York, Rhode Island, and West Virginia, and one of their conclusions was: "School systems with high adaptability were those where teachers were highly trained and more accepting of modern educational practices" (p. 318).

More recent literature on subordinate participation has pointed out that participation is necessary throughout the total planned change process. That is to say, subordinates should be involved from the point of defining the need for change, to seeking alternatives, to adopting a specific change, and to determining the strategy of implementation (Trump, in Miller, 1967).

Gross et al. (1971:25) summarized the views of many writers who stressed the importance of subordinate participation in planned organizational change: (1) participation leads to higher staff morale--higher staff morale is necessary for successful implementation; (2) participation leads to greater commitment--a high degree of commitment is required for affecting change; (3) participation leads to greater clarity about an innovation--clarity is necessary for implementation; and (4) "beginning with the postulate of basic resistance to change, the argument is that participation will reduce initial resistance and thereby facilitate successful implementation" (Gross et al., 1971:25).

As mentioned earlier, Leithwood et al.'s (1969:67) study also showed that collaboration of those involved in the change process was the central, "common thread" running throughout the projects.

Implementation of Organizational Change

A number of studies have supported the claim made by Carpenter-Huffman et al. (1974:8) that: "schools have even more inertia than most other institutions, because their basic purpose is conservative--to transmit (and maintain) the culture." As a result, both educators and parents expect schools to perform this "cultural transmission" function and are often disquieted by innovative activities.

Carpenter-Huffman et al. (1974:8) asserted that, due to the very nature of schools, "deep social and emotional barriers to change in education run throughout the schools and community." For this

reason the implementation of change is a difficult process--not only because of variables within the organization but due to pressure exerted from outside the system.

Gross et al. (1971:202) contended that if members of an organization are resistant to change, then overcoming this barrier constitutes an initial prerequisite for the implementation of innovations. The degree to which an innovation is implemented will be a function of the extent to which several conditions are present during the period of attempted implementation. Gross et al. (1971) outlined five conditions: (1) the degree to which members of an organization have developed a clear understanding of the innovation; (2) the extent to which the members of an organization possess the capabilities needed to carry out the innovation; (3) the availability of the materials and other resources required by the innovation; (4) the compatibility of the innovation and the existing organization (If conditions that existed prior to the introduction of an innovation are not compatible and are not changed, then members of the organization will have a more difficult time attempting to carry out the innovation.); and, finally, (5) staff co-operation. (If the staff is willing to expend the required time and effort, implementation will be possible.)

On the basis of articles on planned organizational change by several authors, a list of facilitators emerged. Brickell (in Miles, 1964) reported on the necessity of external and internal support for change as well as of adequate funding. Havelock (1969) concluded that the innovation must meet the organization members' needs and its problem

if one exists. As well, he confirmed that the presence of a change agent to give needed support and advice would be a definite asset. Heathers (in Miller, 1967) stressed the availability of retraining of members for new tasks as an important facilitator.

Theoretical Framework

In an extensive review of literature on change and diffusion processes, Havelock (1969:10) concluded that "the study of adoption and diffusion curves has contributed to the identification of a regular sequence of events in the process." Rogers (1967:79), in his book Diffusion of Innovation, emphasized that dividing the process into such phases for conceptual purposes is "(1) consistent with the nature of the phenomena, (2) congruent with previous research findings, and (3) potentially useful for practical applications."

At this point it may be useful to trace the theoretical development of the change process. Wilkening (cited by Havelock, 1969:9), a rural sociologist, is usually credited with the first use of the concept of stages in the process of adoption. He described the adoption of an innovation as being "a process composed of learning, deciding, and acting over a period of time. The adoption of a specific practice is not the result of a single decision to act but of a series of actions and thought decisions" (in Havelock, 1969:9). Wilkening's model had four stages: awareness, obtaining information, conviction and trial, and adoption. Prior to his research, however, Paul Mort (in

Havelock, 1969), an educational researcher working in the early 1940s, implied the concept of stages of change but did not specify a model. According to Mort, change in the American school system has followed a "predictable pattern", a pattern which included four stages: (1) insight into a need; (2) the introduction of a way of meeting the need; (3) diffusion; and (4) adoption. Mort's conclusions formed the major components of models put forward by other prominent change and adoption researchers, namely, Everett Rogers (1962) and Matthew Miles (1964).

In the 1940s, Kurt Lewin (1951:188-237), a pioneer social psychologist, developed a model that consisted of three major stages in the process of change. His studies of group decision-making and social change illustrated: unfreezing, moving, and freezing stages. "Unfreezing" described the necessary initial phase in which the need for change is realized, and when a willingness to give up old ways of doing things is evidenced. "Moving" included the activity involved in implementing the decided-upon change in the organization, and "freezing" indicated the establishment and "firm rooting" of the new behaviour in the life of the organization.

In the past two decades, educational research and theory have drawn upon both the sociology and social psychology traditions. Miles (1964), for example, writing on change in the 1960s, based his discussion of stages on the works of Rogers (1962) and Mort (in Havelock, 1969); while Gross et al. (1971), writing on change in the 1970s, derived stages of change from the work of Lewin (1952).

Miles (1964) described a four-way model in which a strategy may be initiated: (1) design--the innovation is invented, discovered, and produced by research and development; (2) awareness/ interest--the potential receiver of the innovation comes to be aware of and interested in the existence of the designed innovation and seeks information about it; (3) evaluation--the receiver performs "a kind of mental trial" of the innovation; (4) trial--the receiver engages in a small-scale trial of the innovation. Miles (1964) pointed out that if the consequences of the trial are favourable, the innovation tends to be adopted and the strategy is complete.

Gross et al. (1971) distinguished three basic stages or time periods in the process of organizational change. First, the period of initiation of an organizational innovation--this stage covers the time in which a particular innovation is selected and introduced into an organization. It is the stage in which an organization defines a problem, decides on an innovation to solve it, and introduces the innovation to the organization's members. Second, the period of attempted implementation--this stage begins with the announcement that the innovation will be adopted and draws attention to efforts that must take place to make the changes in the behaviour of the organizational members specific to the innovation. The process breaks down at this point if the members cannot make the necessary changes. Third, the period of incorporation--this stage occurs when the implemented change becomes an "enduring part" of the operation of the organization.

A three-stage model was employed in the present study as the basis of a theoretical framework. The model is depicted in Figure 1.

Stage I of the model was titled awareness. This was considered to be the stage of non-adoption, however it is during this period of time that the potential receiver (the school) becomes aware of the innovation. This stage is similar to the awareness/interest stage of the Miles (1964) model of change. Stage II of the model used in the study was named the initiation stage. During this period the innovation is put into operation in the organization or school. Stage II of the present study's model is similar to the Gross et al. (1967) Stage II in which a decision to adopt occurs. The major difference between Stage II of the two models is in the name given the stage. The final stage-- implementation implies complete acceptance of the innovation and includes the period of time in which the innovation becomes an integral part of the school. Again Stage III of the model utilized in the present study is similar to Stage III of the Gross et al. (1967) model with a difference only in the name given to the stage.

The major focus of the study was on schools in Stage I and how schools moved from Stage I (awareness) to Stage II (initiation).

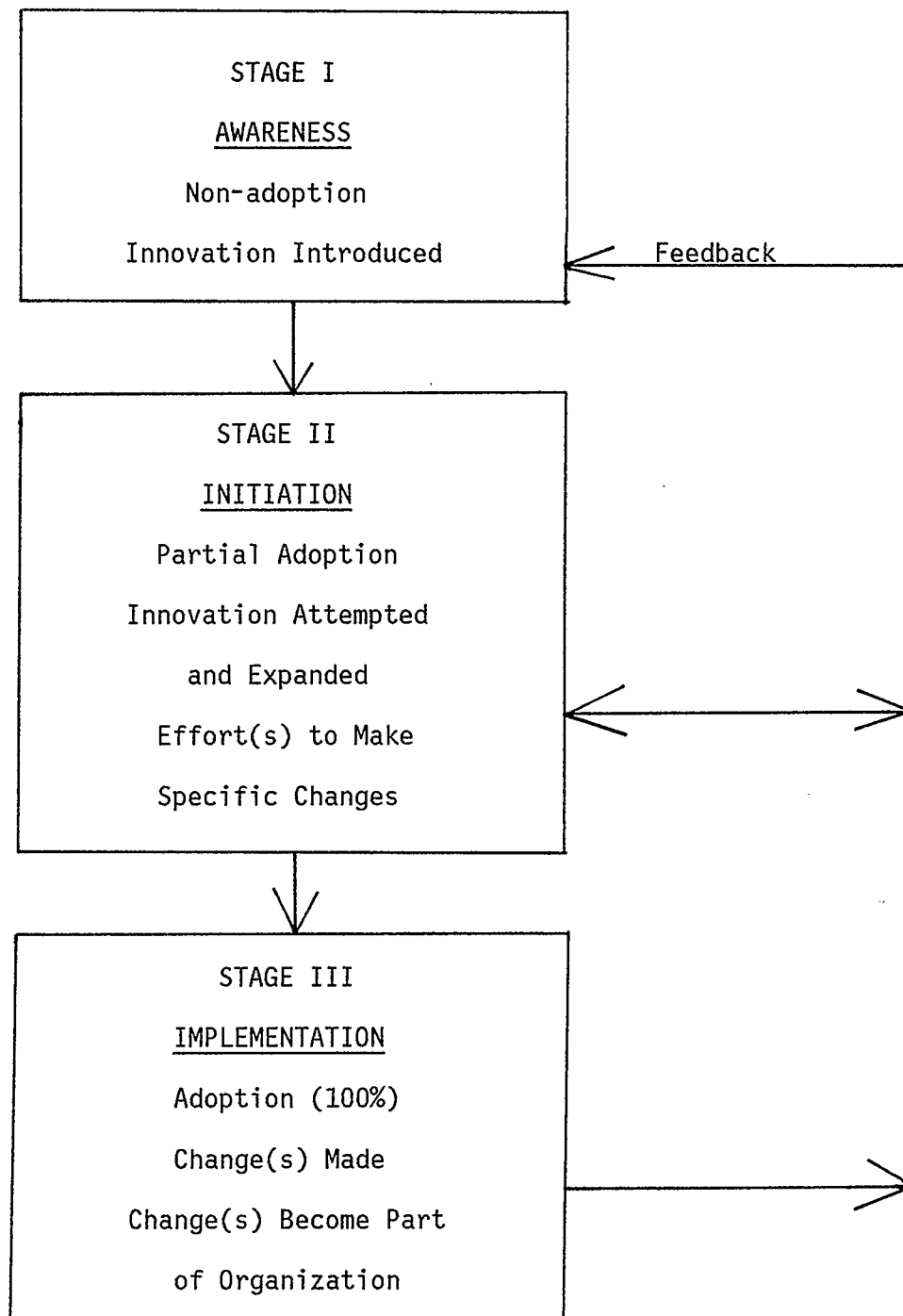


Figure 1 -- Model for Change

Summary of Chapter 2

Research findings have demonstrated that there is a definite need for regular, daily exercise, particularly for young school children. As well, educational, medical, and other professional groups of individuals have recognized the important role of the schools in providing daily P.E. The French study as well as the Spruce Grove, Alberta project are excellent examples of how P.E. taught on a daily basis can provide not only the much needed physical activity required by the child but, as well, can indirectly assist the child's abilities to work in other subject areas.

With respect to the literature on planned change, earlier works have illustrated the importance of acceptable conditions in an organization before change is introduced. Research indicated that, in order to introduce change, administrative support is required, change agents are essential, and subordinates' participation is necessary. However, several factors were seen as necessary in order to implement change: clear understanding, capabilities to carry out the change, availability of materials and resources, compatibility of innovation, and staff co-operation.

Finally, the theoretical model developed for the study was adapted from a model of change developed by Miles (1964) and a model originally introduced by Lewin (1951:188-237) and more recently developed by Gross et al. (1971).

Chapter 3

METHODOLOGY

Introduction

The methodology of this study was developed around the three-stage model as depicted in Figure 1 and dealt with the following questions:

1. To the present time, to what extent has daily P.E. been adopted by elementary schools in the School District?

2. What are the characteristics of schools that have adopted the innovation for the entire school, school's that have partially adopted the innovation, and schools that have not adopted the change?

3. What process of change have schools undergone relative to the adoption of daily P.E. in relation to the following sub-questions:

- a) How did schools become aware of the need for daily P.E.?
- b) To what extent were curricular changes and daily P.E. accepted by the schools' teachers?
- c) What were the compelling forces that caused schools to adopt daily P.E.?
- d) What changes were necessary in order to adopt daily P.E.?

- e) What resource investment was required to adopt daily P.E.?
- f) What types of communication took place prior to adoption?
- g) To what extent did obstacles hinder the adoption of daily P.E.?

4. What are the reasons for non-adoption and the problems encountered by non-adopting schools relative to the following sub-questions:

- a) To what extent is daily P.E. perceived as a need by principals at the elementary school level?
- b) To what extent are curricular changes and daily P.E. accepted by teachers in schools?
- c) What are the possible pressures that cause schools to become more aware of a need for daily P.E.?
- d) What reasons can be given for not adopting daily P.E.?
- e) What department, group, or individual should be responsible for encouraging the adoption of daily P.E. in schools?
- f) To what extent do possible obstacles prevent schools from adopting daily P.E.?

Data Collection

The extent to which daily P.E. had been adopted in the School District and the characteristics of schools in the three-model stages

were determined by a survey instrument (questionnaire). Following categorization of the schools, information regarding the process of change and factors relating to non-adoption were obtained by the use of the focussed interview conducted by the researcher.

Survey Population

The Co-ordinator of Special Services of the School District distributed a memo to all elementary school principals in the School District requesting their co-operation in participating in the proposed research survey and interview sessions (see Appendix C). All 33 principals in the system agreed to participate in the study.

Survey Instrument

The instrument consisted of 19 closed response sets and was divided into three sections called demographical data, biographical data, and school P.E. related data. The first section elicited information which identified the school, its size, and the number of P.E. teaching stations it supported. The second section enquired into facts concerning the school staff and principal. The third section sought information concerning time allotted to daily P.E., thus facilitating the school's classification into the predetermined stages of the change model; that is, Stage I, II, or III.

The instrument was developed by the researcher with the assistance of P.E. Supervisory personnel from the Public School System

and the School District. One elementary school administrator and five P.E. supervisors were asked to provide critiques of the instrument, following which it was revised and piloted in three, elementary/junior high schools.

Survey Administration

The survey instrument was distributed to all 33 elementary school principals of the School District and was completed by the researcher prior to the scheduled interviews.

Reliability of the Instrument

Fox (1969:353) defined reliability as "the accuracy of the data in the sense of their stability, repeatability, or precision." Reliability refers to a test instrument's ability to test or measure a variable, and, according to Asher (1976:92), "objectivity is reliability and reliability is objectivity." Objectivity can be defined as impersonal, unprejudiced, impartial, and unbiased, and Kerlinger (1973:491) has defined an objective procedure as "one in which agreement among observers is at a maximum."

For purposes of this study, it was considered more appropriate to emphasize reliability as objectivity. Since the instrument's primary function was to produce factual, descriptive data, for example, number of students and number of P.E. teaching stations, which would be

used to classify schools into predetermined categories --rather than to test, measure, or evaluate--it was considered objective.

Validity of the Instrument

It is generally recognized that the reliability of a procedure is essential before validity can be considered (Asher, 1976). Validity has been defined as "the extent to which the procedure actually accomplishes what it seeks to accomplish or measures what it seeks to measure" (Fox, 1969:367). Since the study was of a descriptive rather than a predictive nature, the instrument was intended to generate perceptual/descriptive factual data; thus, content validity was a satisfactory method of validating the instrument. According to Fox (1969:370), "for many data-gathering procedures, such as questionnaires . . . content validity is the strongest technique available to the researcher." In addition, validity is often established by asking a group of experts to judge whether the items are representative of a particular population (Jackson and Messick, 1967). On the basis of the method employed to critique the survey instrument, and on the pilot procedures, the instrument was assumed to have content validity.

The Focussed Interview

The focussed interview, a semi-structured instrument built around a core of structured questions, was used to explore the process

schools had undergone to change to daily P.E. programs. The focussed interview enabled the researcher to take a more flexible approach in determining the process of change that schools experienced in adopting daily P.E. programs.

Respondents

All of the principals of the 33 elementary schools, Grades 1 to 6, in the School District were interviewed.

The respondent group comprised 22 male and 11 female principals, representing 23 self-contained, 6 open-area, and 4 combination, open-area/ self-contained schools.

Schedule

The interview schedule consisted of 14 major questions, seven of which were posed to principals of non-adopter schools (those not offering daily P.E.). The other seven questions were posed to principals of schools that had initiated and/or implemented (adopted) daily P.E. programs. Where applicable, comparable questions were asked of both adopter and non-adopter schools.

The interview questions were constructed with the assistance of P.E. supervisory personnel from the Public School System and the School District, guided by the study's review of literature and theoretical framework. The major questions used to explore the change process are listed at the beginning of this Chapter on pages 29-30.

For the interviews themselves, more specific sub-questions pertinent to the major set were developed. As a result of the critiques and piloting of the interview schedule, it was shown that the more points of reference supplied by the researcher, the more thought-provoking became the exercise for the principal and the greater the scope of the responses obtained.

The interview schedule was critiqued and piloted in the same manner as the survey instrument. Assessment of the schedule was given by one elementary school administrator and five P.E. supervisory personnel. All members of the critique panel were familiar with elementary education and daily P.E. programs.

In addition to the critique panel, three administrators used in the pilot study also contributed helpful suggestions to the interview schedule. As a result of the critique and piloting, two items were deleted from the original instrument. As well, the positioning of two questions in the schedule and the wording of three were changed.

During piloting of the schedule, all three administrators expressed concern with respect to the proposed tape-recording of the proceedings. They contended that because the majority of elicited responses would be short, taping would distract from the quality and expediency of the interview. On the basis of these expressed concerns, it was decided to omit the tape recorder and to make detailed, written comments of responses.

Administration

Following the initial contact made by memo from a coordinator of the School District (Appendix C), each principal was contacted by telephone to arrange a suitable interview time with the researcher.

All interviews were conducted with only the principal and researcher present in a private setting. At this point, confidentiality of responses and the fact that information gathered from the interview would be used for research purposes only, was stressed to the respondents. As well, the researcher stated that names of schools and individuals would be omitted from the final research documentation. Respondents were also assured that results of the study would be available upon request to the schools. The survey instrument (questionnaire) was then completed by the researcher as principals responded to the questions.

The interview began once the survey instrument was completed and the researcher had determined into which stage of the change model the school fell (awareness, initiation, implementation). All comments were noted in detail on a special form of the instrument that provided space for written comments after each question. None of the respondents refused to answer any questions posed, and the order of questioning was maintained for all interviews. The researcher refrained from expressing any viewpoints throughout the interviews. Finally, when asked if any concerns had been overlooked, none of the respondents indicated that a significant area had been ignored.

The following set procedure was maintained throughout the interview sessions to ensure consistency:

1. All respondents were asked all questions in the same order from the appropriate schedule.
2. The researcher's opinion was not offered prior to or during the interview.
3. All responses were recorded manually.
4. No attempt was made to probe the rationale behind a response.
5. Questioning moved to the next item when a principal appeared to have exhausted his/her response.

Reliability

The function of the focussed interview was to elicit perceived data rather than to test, measure, or evaluate. Therefore, it was assumed that (1) all responses honestly reflected the respondent's perceptions; (2) all respondents understood the questionnaire terminology; and (3) the same interpretations were attached to each question by each respondent. Finally, reliability of the entire interview schedule was assumed to be adequate.

Validity

In this study, analysis of interview validity was in terms of content of the schedule. Content validity is evaluated by determining

the degree to which the items of a schedule (or questionnaire) sample the content of the area being investigated. As Fox (1969:367) stated: "Content validity is the extent to which the procedure accomplishes what it seeks to accomplish or measures what it seeks to measure."

Because the evaluation of content validity is usually a subjective, judgemental procedure, available experts (four administrators and five P.E. supervisory personnel) were called upon to pass validating judgements during the critique and piloting concerning content and clarity of the schedule items. As mentioned earlier, after each analysis, deletions and amendments were made to some items where appropriate. When these analyses were completed, it was assumed that the schedule questions were valid for investigating the adoption of daily P.E. in the School District.

Analysis of the Data

The analysis was conducted in four descriptive parts that corresponded to the four major questions.

Part 1 describes the number of schools and number of classes in the various stages of the model. The change model depicted in Figure 1 formed the basis of the analysis.

Part 2 describes the characteristics by school size of schools in the awareness, initiation and implementation stages.

Part 3 describes the responses to seven sub-questions regarding the change process undergone by schools during the adoption of daily P.E.

Part 4 describes the responses to six sub-questions regarding the reasons for non-adoption and problems encountered by non-adopting schools.

The question regarding communication (Number 5, Appendix B) was not used in the analysis.

Chapter 4

STUDY FINDINGS

Introduction

In this study there were four objectives. First, to determine the extent that daily P.E. had been partially or fully adopted by the School District's elementary schools. Second, to determine the characteristics of those schools and schools that had not adopted the change. Third, to describe the process of change that schools had undergone in order to adopt daily P.E. Fourth, to discover the reasons for non-adoption and the problems encountered by those schools that had not adopted daily P.E. Data for questions one and two were gathered by administering a survey instrument to all elementary school principals. While, to obtain data for questions three and four, focussed interviews, guided by a prepared interview schedule were held with each of the principals (respondents).

In this Chapter the findings of the survey and the interviews are reported, using change model stages, and school size as classifications.

Extent of Adoption of Daily P.E.

A survey was made of all elementary schools in the School

District of the extent to which daily P.E. had been adopted up to and including the school year 1979-1980. The population included 9 small, 9 medium, and 15 large schools. When the resulting data were analysed, the findings were as follows.

Table 1 shows the number of elementary schools and the model stage into which they were classified:

Table 1
FREQUENCY AND PERCENTAGE DISTRIBUTION OF SCHOOLS
BY MODEL STAGE AND SCHOOL SIZE

Model Stage	School Size			Total	Per Cent Of Total
	Small	Medium	Large		
III Implementation	2	0	1	3	9
II Initiation	3	4	4	11	33
I Awareness	4	5	10	19	58

The data indicated that nine per cent of the total had fully adopted daily P.E. and were classified in the implementation stage; 33 per cent of the schools had daily P.E. for some of their classes and were placed in the initiation stage; and 58 per cent did not offer daily P.E. to any classes and were classified in the awareness stage.

An examination was made of the extent to which P.E. was offered by individual classes in the School District. The total number of classes in all elementary schools (Grades 1 to 6) was 237.

Of these 42 (18 per cent) received daily P.E.; 37 (16 per cent) received P.E. four times per week; 116 (49) per cent received P.E. three times per week; and 42 (18 per cent) received P.E. twice per week. Table 2 data show the number of classes that received daily P.E. by model stage, school size, and frequency.

The rate at which schools have been introducing daily P.E. has been increasing since the first school did so in conjunction with the CALSEP Pep Program in 1975. Figure 2 illustrates the number of schools that introduced daily P.E. in each of the school year terms 1975-1976 through 1979-1980. Figure 3 presents these data as a cumulative frequency distribution. In 1975, one school had introduced the innovation and by 1979, 14 had introduced it.

Table 2
FREQUENCY DISTRIBUTION OF CLASSES RECEIVING DAILY P.E.,
BY MODEL STAGE AND SCHOOL SIZE

Model Stage	School Size			Total
	Small	Medium	Large	
III Implementation	6	0	10	16
II Initiation	6	9	11	26

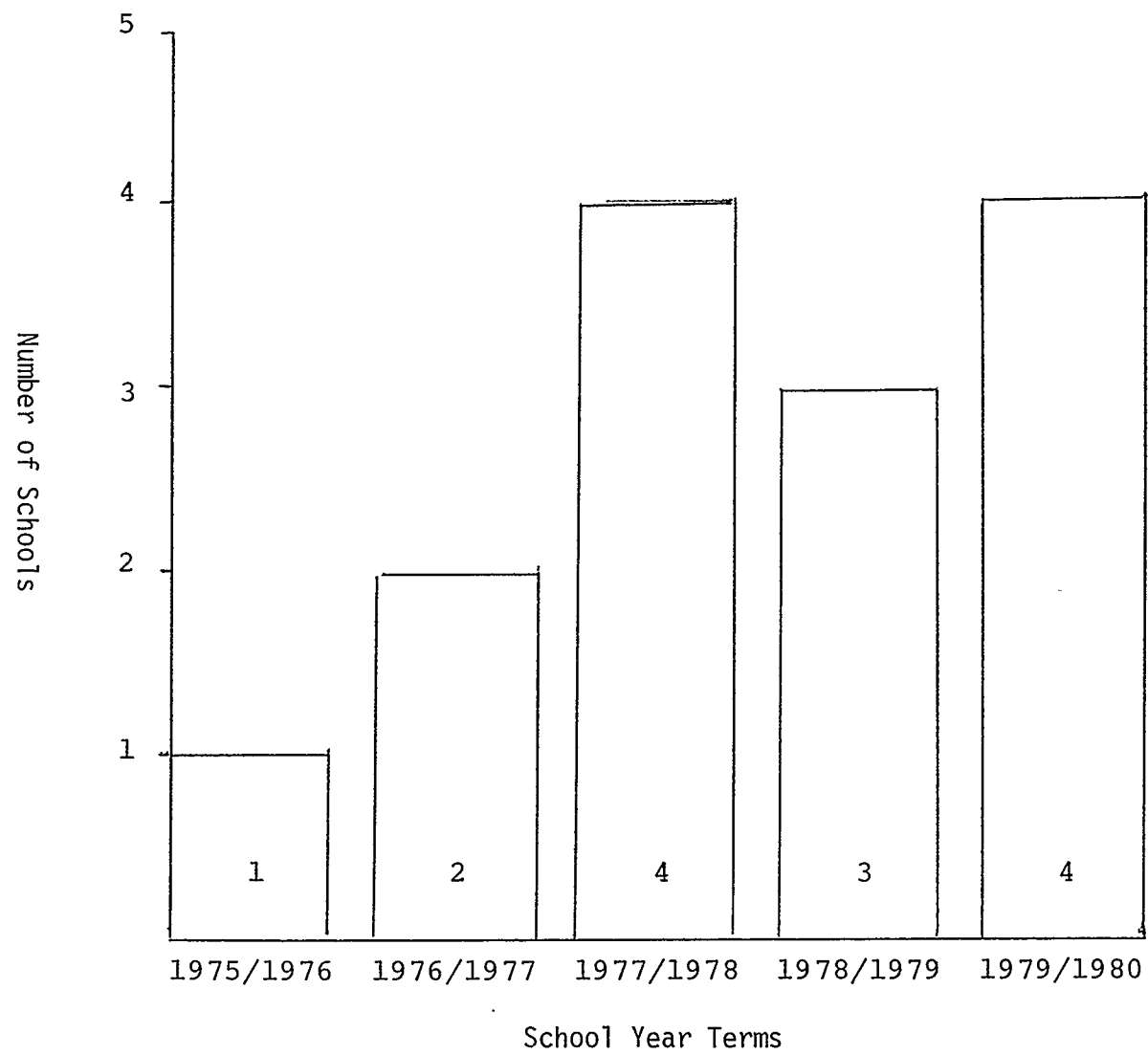


Figure 2 Frequency of Schools that Introduced Daily P.E. Programs

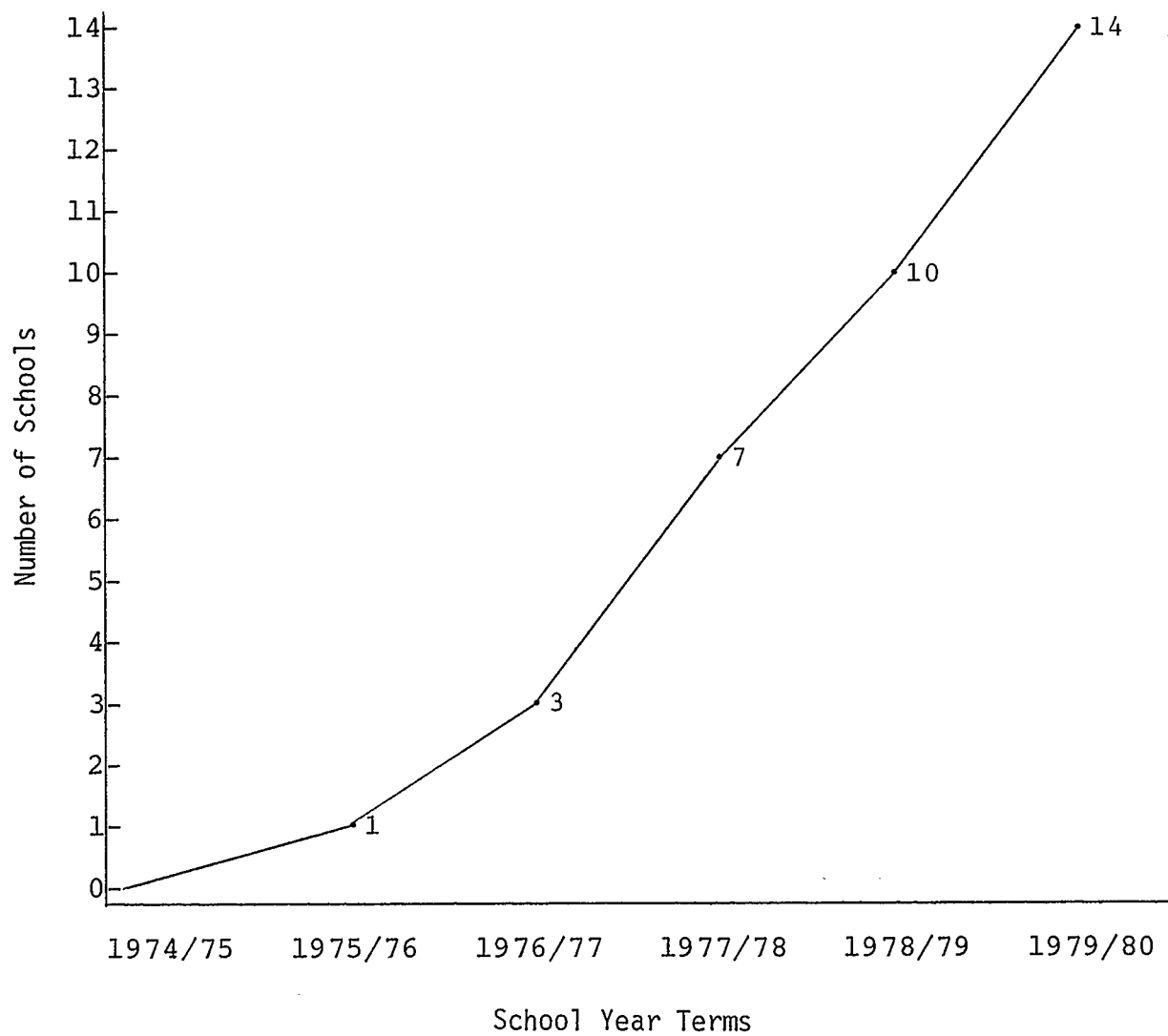


Figure 3 Cumulative Frequency of Schools that Introduced Daily P.E.

Table 3
DISTRIBUTION OF MEANS OF SCHOOL CHARACTERISTICS,
BY MODEL STAGE AND SCHOOL SIZE

Characteristic	Model Stage/School Size							
	Implementation		Initiation			Awareness		
	Small	Large	Small	Medium	Large	Small	Medium	Large
Total No. of Schools	(2)	(1)	(3)	(4)	(4)	(4)	(5)	(10)
P.E. Teaching Stations	1.50	1	1.30	1	1	1.50	1.75	1.60
Scheduled Gym Hours	2.25	3.75	2.30	3.50	4.25	1.75	3.20	3.50
Classes Per School	4	10	4	8.25	10.50	4.25	7.10	10.80
Total Teaching Staff	4.50	11	4.80*	9.60	12.00	6	8.50	13.40
Student Enrolment	97	285	92	187	290	99	198	323

* It should be noted that some schools are staffed with teachers working on a fraction of a day basis.

Characteristics of Schools in the
Awareness, Initiation and Implementation Stages

In this section the description of the findings again makes reference to schools in the three stages of the change model as well as to schools of three sizes--small, medium and large.

The survey instrument covered some 23 characteristics, which included information regarding the school, the staff, and the principal.

The school characteristics examined were: the number of P.E. teaching stations, the number of hours the gym was scheduled per day, the number of classes, the number of teachers, the number of students, the type of organization for P.E., and the amount of P.E. allocated funds each school spends in any given year.

Table 3 presents five of the characteristics of schools. No appreciable differences were found among schools of similar size in the awareness, initiation, and/or implementation stage concerning the five characteristics listed on Table 3.

With respect to the amount of P.E. allocated funds each school spends in any given year, it was found that virtually all schools spent all of their funds. Four respondents felt that more than 100 per cent of the allocated amount of money was spent on P.E. during the year their school introduced daily P.E. This money was spent on additional P.E. supplies that were required because the course content expanded with the introduction of daily P.E. In all cases additional funds were obtained from moneys raised by the individual schools through newspaper drives, chocolate bar sales and other fund raising endeavours.

Finally, as shown in Table 4, with respect to the type of organization for P.E., certain differences were noted among the three model stages. Firstly, two types of organizational structures for P.E. were utilized--a generalized structure whereby all teachers taught P.E. to their respective classes and a semi-departmentalized structure whereby a teacher(s) with an interest or some training in P.E. taught P.E. to the majority of the school's classes as well as the core sub-

jects to his/her own class(es). Secondly, it was noted that more schools (nine) that utilized the generalized organizational structure had adopted daily P.E. than schools (five) that utilized the semi-departmentalized organizational structure. Further, it was noted that of the total number of schools in the awareness stage, 16 were utilizing the semi-departmentalized structure while three were utilizing the generalized structure.

Table 4
FREQUENCY DISTRIBUTION OF TYPE OF ORGANIZATION
FOR P.E., BY MODEL STAGE

Type Of Organization	Model Stage		
	Implementation	Initiation	Awareness
Total No. of Schools	(3)	(11)	(19)
Semi-departmentalized Structure	0	5	16
Generalized Structure	3	6	3

The characteristics of the staff that were gathered included information regarding: the number of P.E. specialists in a school, the number of teachers with a minor in P.E., the number of teachers with no university training in P.E., the number of male teachers, the number of female teachers, the number of teachers that were members of the P.E. Specialist Council, the average age of teachers, and the average years of teaching experience of each school staff.

Table 5

DISTRIBUTION OF MEANS OF SCHOOL STAFF (TEACHERS)
CHARACTERISTICS, BY MODEL STAGE AND SCHOOL SIZE

Characteristic	Model Stage/School Size							
	Implementation		Initiation			Awareness		
	Small	Large	Small	Medium	Large	Small	Medium	Large
Total No. of Teachers	(9)	(11)	(14.4)*	(38)	(47.6)	(23.4)	(42.5)	(13.3)
P.E. Specialist	0.50	0	0.60	0	0.75	0	0	0.60
P.E. Minor	0	1	0	0.50	1.75	0.25	0.60	1.70
No P.E. Training	4	10	4.20	9	9.40	5.60	7.90	11
Male**	1.50	2	1.60	1.75	1.50	1	1	2.20
Female**	3	9	3.20	8	10.75	5	7.50	11.20
Members, P.E. Specialist Council	2.5	0	0.3	0.5	0.5	0	0.5	0.8

* It should be noted that some schools are staffed with teachers working on a fraction of a day basis.

** Means include part-time teachers.

Table 5 presents six characteristics of the schools' teachers. Data are quoted according to the average number of the particular characteristic in small, medium and large schools in the various model stages. Analysis of these characteristics by school size and model

stage yielded differences in the average number of P.E. specialists per school, and the average number of teachers who were members of the P.E. Specialist Council of the A.T.A. In small schools in the implementation stage, one school had a P.E. specialist teacher and the other did not, whereas none of the small schools in the awareness stage had P.E. specialists. In the large school that was in the implementation stage no P.E. specialist teachers were on staff, while six schools (of ten) in the awareness stage had one P.E. specialist per school.

As far as differences in the average number of teachers who were members of the P.E. Specialist Council of the A.T.A., more teachers in small schools of the implementation stage were members than were teachers of small schools of the initiation and/or awareness stage. This difference was due to one school in the implementation stage whose principal registered the entire staff for membership in the council.

Analysis of teachers' ages by school size and model stage yielded the information that the average age of the teachers in small schools in the implementation stage fell in the 30-39 year category. Whereas the average age of the teachers in small schools in both other stages fell in the 40-49 year category. No other differences were noted concerning this characteristic. Analysis of teachers' years of experienced yielded one notable difference. Teachers in large schools of the implementation stage had an average experience lying in the 11-14 year category, whereas teachers in the other two stages had average experience lying in the 7-10 year category.

The characteristics of principals that were examined gathered information regarding: sex, educational background, age, teaching

experience, years of administration in their present school, total years of administration, years of post secondary education and membership status on the P.E. Specialist Council.

Table 6 presents the sex of the principals ordered by model stage. Analysis of the data indicates that 10 of 22 male principals' schools had reached the initiation stage or beyond and 4 of 11 female principals' schools had accomplished the same.

Table 6
FREQUENCY DISTRIBUTION OF SCHOOL PRINCIPALS'
SEX, BY MODEL STAGE

	Model Stage		
	<u>Implementation</u>	<u>Initiation</u>	<u>Awareness</u>
Number of Principals	3	11	19
Male	1	9	12
Female	2	2	7

With respect to Table 7, which deals with the educational background of the principals, these data revealed that of the 13 principals with social as a major area of study, 6 had reached the initiation stage or beyond. Whereas, of the 7 principals with English as a major area of study, one had reached the initiation stage. Both of the principals with a P.E. background had reached the initiation stage, while all of the principals with reading as a background had reached the initiation stage or beyond. Two principals with math/

science backgrounds had reached the initiation stage and no principals with French and/or music backgrounds had reached the initiation stage.

Table 7
FREQUENCY DISTRIBUTION OF PRINCIPALS' MAJOR AREA
OF UNIVERSITY TRAINING, BY MODEL STAGE

Training Major	Implementation	Initiation	Awareness
Social	1	5	7
English	0	1	6
P.E.	0	2	0
Reading	2	1	0
Math/Science	0	2	2
French	0	0	3
Music	0	0	1

An analysis of the remaining six characteristics of principals by school size and model stage yielded the following observations. First, the average age of principals of all schools fell in the 40-49 year category with the exception of small school principals (50-59) and large school principals (30-39) of the awareness stage. Second, principals of medium sized schools in the initiation stage had an average of 11 to 15 years of teacher experience while principals of similar sized schools in the awareness stage had an average of 21+

years of teaching experience. No other differences were noted concerning this characteristic. Third, principals of medium sized schools in the initiation stage had an average of 4 to 5 years of administration in their present schools, while principals of similar sized schools in the awareness stage had an average of 8+ years. Fourth, with regard to the total number of years of administrative experience principals possessed, it was determined that all principals of each model stage had an average of six or more years of administrative experience. Fifth, it was determined that the average number of years of post-secondary education differed among large schools across the three model stages. The principal of the large school in the awareness stage had four years of post-secondary education, the principals of the large schools in the initiation stage had an average of 5.5 years, and the principals of large schools in the awareness stage had an average of 6.5 years of post-secondary education. Sixth, no principals of schools in the awareness stage were members of the P.E. Specialist Council, while two principals of schools in the initiation stage and one in the implementation stage were members.

The Change Process Undergone by Schools in Order to Adopt the Innovation

This section describes the process of change that schools had undergone in order to partially or fully adopt daily P.E. The findings pertain to sub-questions used in the interview of school principals in

the implementation and initiation stages. This group is referred to as "adopters" to facilitate analysis.

To avoid needless repetition and to facilitate reporting the "adopter" principals' responses, the text below has the question set out first, then the number of responses, with tabulated data interspersed where applicable.

Table 8

FREQUENCY OF PRINCIPALS' PERCEPTIONS OF WAYS IN WHICH
THEIR SCHOOLS BECAME AWARE OF THE NEED FOR DAILY P.E.

Frequency And Source Of Perceived Ways		
10	-	Through participation in the CALSEP Pep Program and the publicity generated by the program.
7	-	P.E. supervisor, through discussions, memos and literature he/she distributed.
7	-	Literature regarding daily P.E. other than above.
6	-	Personal knowledge and experience of need and benefits of daily P.E.
3	-	P.E. specialist presented a case for daily P.E. in the school.
2	-	Prior exposure in a school with daily P.E.
2	-	Board policy states daily P.E. wherever possible.

How did your school become aware of the need for daily P.E.?

Table 8 lists the responses of adopters with those most often cited being: through participation in the CALSEP Pep Program and the publicity generated by the program; through communication with the P.E. supervisor; from literature reviews; and personal awareness of the benefits.

Five respondents stated that teachers on their school staff had acted as curriculum writers for the CALSEP Pep Program and as a result their schools were aware of the program and the fact that the program was based on P.E. being taught daily.

Table 9

PRINCIPALS' PERCEPTIONS OF STAFF ATTITUDES/
WILLINGNESS TOWARD CURRICULAR CHANGE
AND DAILY P.E.

Response	Curricular Change	Daily P.E.
Resistant	0	0
Somewhat Resistant	2	0
Undecided	0	1
Somewhat Receptive	8	4
Receptive	4	9

How do you perceive the staff's current willingness/
attitude toward: (a) curricular change? (b) daily
P.E.?

Responses listed in Table 9 show that 12 respondents (86 per cent) perceived their staff to be favourable toward curricular change. With regards to staff attitude/willingness toward daily P.E. 13 respondents (93 per cent) perceived their staff to be favourable.

What compelling forces caused your school to adopt daily P.E.?

A summary of responses to this question as listed in Table 10 shows that a majority (9 of 14) of principals said the P.E. supervisor had encouraged adoption of daily P.E. Respondents indicated that he sent regular memos and literature to the schools encouraging adoption. Other sources of compelling forces that facilitated adoption were parents and the staff through involvement in the CALSEP Pep Program. Respondents noted that parental pressure was of a positive nature. With regard to parental involvement, one respondent observed that parents, although not a compelling force that caused adoption, noticed that their children benefited as a result of daily P.E. and became supporters of the program. With regard to staff pressure, four respondents noted that their teachers were involved in the writing of the CALSEP Pep Program and that as a result they were anxious to attempt the programs on a daily basis.

Other stated reasons were: the benefits of a daily P.E. program--four respondents felt their teachers had convinced them that daily P.E. offered many benefits to children; P.E. specialist teacher encouragement--four respondents whose schools had a P.E. specialist on

staff, reported that these specialists encouraged their colleagues to adopt daily P.E.; and the need to improve children's fitness. With regard to fitness, four respondents stated that fitness testing had taken place on an annual basis and it was clearly evident that children were attaining low scores (indicating poor fitness). In an attempt to improve the children's fitness levels, principals reported that teachers requested the school adopt daily P.E.

Table 10

FREQUENCY OF PRINCIPALS' PERCEPTIONS OF FORCES
THAT BROUGHT ABOUT ADOPTION OF DAILY P.E.

Frequency And Source Of Perceived Force		
9	-	P.E. supervisor's encouragement and actions.
8	-	Parents were P.E. conscious and encouraged the school to adopt.
8	-	Staff participation in CALSEP Pep Program and in-services which stressed daily P.E.
4	-	Staff perceive that daily P.E. benefits are many: childrens school behaviour is better, more attentive children, less number of discipline problems, fitness level improves.
4	-	P.E. specialists encouraged staff and discussed benefits of a daily program.
4	-	Principal and staff were aware of poor fitness level and need for daily P.E. for their students.
2	-	Children enjoy daily P.E. and can experience success which makes a better day for them.
2	-	Literature and supportive research for daily P.E.

What changes were necessary in order to adopt a daily P.E. program with reference to: (a) time changes; (b) staff changes; (c) facility changes; (d) other changes?

With respect to "time changes":

1. Four respondents (29 per cent) indicated their school added additional time to P.E. without changing total time allocations to other subjects. This was accomplished by integrating the subject contents of social studies, English, math and other subjects into P.E. classes. Integration enabled the student to do more than one subject at one time.

2. Four respondents (29 per cent) said that a few minutes were taken from the daily time allotted to other subjects such as language arts, math, social studies, and science and added to the time for P.E..

3. Three respondents (21 per cent) reported that language arts periods were shortened and time added to P.E..

4. Three respondents (21 per cent) said that P.E. had to be scheduled at 9:00 a.m., an uncommon practice in most schools, as 9:00 to 10:30 a.m. was perceived as prime time for such subjects as math, language arts and social studies by many teachers.

5. None reported that the length of the school instructional day was altered in order to accommodate daily P.E.

With respect to "staff changes":

1. Three respondents (21 per cent) had secured a P.E. specialist teacher for their school prior to the year of adoption.

2. Two respondents said their schools began to use a semi-departmentalized organizational structure for P.E. whereby one or two teachers taught daily P.E. to all classes. This was done because the remainder of the staff felt they lacked P.E. expertise. However, three respondents stated that their schools removed the semi-departmentalized structure for P.E. and asked all teachers to instruct it to their respective classes. Respondents perceived that this had to be done because the one teacher who was responsible for P.E. for all classes under the semi-departmentalized structure could not possibly teach P.E. on a daily basis to all classes.

With respect to "facility changes":

1. All respondents felt that the use of the gymnasium increased and four (29 per cent) indicated that other facilities such as gymnasium stages, ancillary rooms, and hallways had become P.E. teaching stations.

2. Four said the outdoor facilities were utilized more.

Responses to part (c) "other changes," elicited only one comment: that excursion trips were encouraged and incorporated the integration of several subjects such as P.E., science, and language arts.

What resource investment was required to adopt daily P.E.?

For the foregoing question, three points of reference were offered to assist the respondent: (a) human resources; (b) financial resources (facilities, equipment, supplies); and (c) time resources.

With respect to "human resources":

1. Four respondents (29 per cent) said the task of time-tabling the schools' subjects and staff became more difficult.

2. Ten (71 per cent) said staff members attended special CALSEP Pep Program workshops which were usually followed by informal sharing and planning meetings held the next day at the school.

3. Three (21 per cent) commented that some of their staff attended university courses and A.T.A. drive-in workshops in an attempt to become more familiar with P.E. curricula.

4. Four (29 per cent) indicated that parents invested a considerable amount of effort discussing daily P.E. and, more specifically, planning and constructing outdoor creative playgrounds to be used in conjunction with daily P.E.

5. One respondent, who was familiar with the daily P.E. curriculum, indicated that a team-teaching situation was employed to assist inexperienced teachers with programs.

With respect to "financial resources":

1. Four respondents (29 per cent) claimed increased budgets were needed for supplies and equipment in order to meet the demands of daily use.

2. Respondents pointed out that their schools obtained creative playgrounds as a by-product of adopting daily P.E. Parents of the school parent-council groups wanted to assist the school in order to facilitate daily P.E.

The suggestion that constructing a creative playground could be used in the daily P.E. program as well as during recess and other free time periods was presented to the school parent-council groups. In the four schools whose parent-council groups constructed such playgrounds, funds were raised by the parents through various projects and by means of community association donations.

With respect to "time resources":

1. All respondents perceived that there was a large initial outlay of time by administrators, staff, and parents. In particular, teachers had to make the greatest time investment in attempting to become familiar with more P.E. curriculum in order to provide instruction on a daily basis.

2. Four respondents said that the school parent-council group spent time in meetings to discuss the implications of daily P.E. and to show their support for the practice.

What types of communication regarding daily P.E. took place prior to adoption?

Responses to this question included:

1. Informal discussions between the P.E. supervisor and staff, at the school, and at in-service sessions.

2. Formal meetings of the staff to discuss P.E. and school board policy regarding daily P.E.

3. Discussions (principal-to-principal) with other schools that had already adopted daily P.E.

4. Formal meetings where the school staff and parents listened to presentations on daily P.E. presented by the P.E. supervisor.

5. Informal meetings between the principal planning adoption and the principals of schools in the Calgary Public System that had adopted daily P.E.

6. Informal meetings which involved the sharing of curriculum ideas among teachers and P.E. specialist teachers.

7. Meetings where the elementary education co-ordinator and the principal discussed adoption of P.E. and time allocations of other subjects.

Table 11 lists the frequency with which communication by way of meetings occurred, according to individuals involved. The data revealed that the teachers, principals, the P.E. supervisor and parents played a major role in the types of communications pertaining to daily P.E. prior to its adoption. In fact, four respondents reported that meetings regarding daily P.E. took place which involved the entire school staff, the P.E. supervisor, and parents prior to adoption. Six other respondents reported that they had met with school parent-council groups to discuss daily P.E. With regard to teachers, respondents indicated that their teachers met with the P.E. supervisor (14 reported meetings), teachers of adopter schools (6 reported) and CALSEP Pep curriculum writers (4 reported) to discuss adoption of daily P.E. As well, four respondents whose schools had a P.E. specialist teacher reported that these specialists played an important role in aiding

adoption of daily P.E., by meeting with them, parents, curriculum writers and teachers to discuss various aspects of a daily P.E. program.

Table 11

FREQUENCY OF MEETINGS BY INDIVIDUALS INVOLVED REGARDING
DAILY P.E. PRIOR TO ADOPTION AS PERCEIVED BY PRINCIPALS

Individuals Involved	Individuals Involved								Total
	1	2	3	4	5	6	7	8	
1. P.E. Supervisor	X	2	4	*	14	6	4	12	42
2. Teachers of Adopter Schools	2	X	*	*	2	*	*	6	10
3. Parents of Schools Adopting Daily P.E.	4	*	X	*	6	4	*	6	20
4. Public School System Adopter Principals	*	*	*	X	2	*	*	*	2
5. School District Principals Contemplating Adoption	14	2	6	2	X	4	4	14	46
6. P.E. Specialists/Teachers	6	*	4	*	4	X	4	4	22
7. CALSEP Pep Curriculum Writers	4	*	*	*	4	4	X	4	16
8. Teachers In Schools Contemplating Adoption	12	6	6	*	14	4	4	X	46
* - Not Applicable									

Listed below are nine possible obstacles that often prevent or hinder the adoption of daily P.E. Indicate the degree of hindrance that each obstacle presented to your school during the adoption of daily P.E.

The possible obstacles listed were: teacher attitudes, budget, facilities, teacher P.E. expertise, availability of teacher in-service, practical teaching curriculum, time allotment within the school day, central office supervisory assistance, and provincial program of study guidelines. As shown on a continuum, choices were: great deal, considerable, some, very little, and none. Table 12 data show the extent to which principals perceived the obstacles to have hindered adoption of daily P.E. in their schools.

Table 12

FREQUENCY DISTRIBUTION OF PRINCIPALS' PERCEPTIONS OF
HINDRANCE TO ADOPTION OF DAILY P.E., BY POSSIBLE OBSTACLES

Possible Obstacle	Great Deal	Considerable	Some	Very Little	None
Attitudes	2	2	1	5	4
Budget	1	3	0	6	4
Facilities	2	1	0	4	7
Expertise	1	8	0	1	4
In-service	0	1	0	5	8
Curriculum	0	0	0	4	10
Time	2	4	1	2	5
Assistance	1	1	0	4	8
Guidelines	1	0	0	5	8

Analysis of the data revealed that:

1. A majority of respondents felt the obstacles of teacher attitudes, budget, facilities, and central office supervisory assistance were of very little or no hindrance.

2. Nine (64 per cent) of them felt a lack of teacher P.E. expertise was at least a considerable hindrance.

3. The provincial program of study guidelines and the availability of in-service were perceived as adequate by 13 of the 14 respondents. All of them felt the availability of curriculum relative to daily P.E. was very little or no hindrance.

4. Six respondents (43 per cent) reported lack of adequate time within the school day to be at least a considerable hindrance. After the completion of this question five respondents commented with regard to time allotments, that it was difficult to provide each subject with the amount of time considered appropriate by subject supervisors.

Reasons for Non-Adoption and Problems Encountered

This section covers the reasons for non-adoption of daily P.E. and the problems encountered by the 19 schools in the awareness stage that had not adopted daily P.E. (referred to as "non-adopters").

As in the previous section, to avoid needless repetition and to facilitate reporting the "non-adopter" principals' responses, the text below has the questions listed first, then the number/type of responses, with tabulated data interspersed where applicable.

To what extent do you perceive a need for daily P.E. at the elementary school level?

Table 13 presents the distribution of responses with respect to the need for daily P.E. as perceived by non-adopters.

Table 13
FREQUENCY DISTRIBUTION OF NON-ADOPTER PRINCIPALS'
PERCEPTIONS OF NEED FOR DAILY P.E., BY NUMBER OF SCHOOLS

<u>Response Perception</u>	<u>Number Of Schools</u>
None	1
Little	1
Undecided	1
Some	10
A Great Deal	6

These data indicate that 16 of 19 respondents (84 per cent) perceived either "some" or "a great deal" of need for daily P.E.

How do you perceive the staff's current willingness/attitude toward: (a) curricular change; (b) daily P.E.?

Responses to this question are listed in Table 14. With respect to part (a) "curricular change," almost all respondents (18 of 19) indicated that their staff's attitude was either "somewhat receptive" or "receptive." With respect to part (b) "daily P.E.," ten of

the respondents (53 per cent) felt their staffs were either "somewhat receptive" or "receptive" to daily P.E.

Table 14

NON-ADOPTER PRINCIPALS' PERCEPTIONS OF STAFF ATTITUDES/
WILLINGNESS TOWARD CURRICULAR CHANGE AND DAILY P.E.

<u>Response</u>	<u>Curricular Change</u>	<u>Daily P.E.</u>
Resistant	0	0
Somewhat Resistant	1	3
Undecided	0	6
Somewhat Receptive	10	6
Receptive	8	4

Are you aware of a need for daily P.E. in your school as a result of possible pressures from: (a) P.E. supervisor; (b) staff; (c) parents; (d) others.

Examination of responses to this question yielded the following information: Three respondents felt the P.E. supervisor was applying pressure to adopt daily P.E. and as a result they were more aware of a need, only because they felt they should satisfy the P.E. supervisor. Sixteen respondents felt that the P.E. supervisor encouraged their school to adopt daily P.E. and, therefore, made them more aware. Two respondents mentioned possible pressure from the P.E. specialist teacher in the school, and two felt they became more aware of a need

for daily P.E. because of interested staff members' requests for it. Four respondents felt they had become more aware of a need for daily P.E. as a result of the school-parent council, and several said that daily P.E. had been a topic of discussion at school-parent council meetings.

In addition, two respondents felt that students' fitness levels were perceived to be very low and they thought daily P.E. would help in this respect. One respondent maintained that P.E. was a subject which provided the majority of children with many successful experiences and, in an attempt to provide as many of these opportunities as possible, more P.E. was contemplated. One respondent indicated that the publicity emanating from other schools' daily P.E. programs was exerting pressure on his school to change the existing program.

What reasons can be given for not adopting a daily P.E. program in your school?

To assist respondents in their replies to this question, several key words were offered by the interviewer: school staff, time, facility, school system, or "other."

As responses listed in Table 15 indicate, several common themes emerged as being major reasons for not adopting daily P.E.: (a) the shortage of instruction time within the school day; (b) a stated preference that priority be given to the traditional core subjects; and (c) the lack of teachers' P.E. expertise. Other respondents said it was because P.E. was semi-departmentalized in each of their schools;

that is, the one or two teachers available for P.E. instruction could not possibly teach daily P.E. to all classes, and the other teachers lacked P.E. expertise.

Table 15
FREQUENCY OF PRINCIPALS' REASONS FOR NOT
ADOPTING DAILY P.E.

Frequency Of Reason		
9	-	P.E. not a priority because of time constraints.
9	-	Staff do not feel adequate to teach daily P.E.
7	-	Academic subjects are more important.
6	-	Present staff organization (semi-departmentalized with only one teacher looking after P.E. classes) makes adoption of daily P.E. difficult.
2	-	No P.E. specialist teacher available who could teach several classes and assist others.

What department, group, or individual do you think should be responsible for encouraging the adoption of daily P.E. in schools?

Responses to this question were as follows:

1. Six respondents felt encouragement to adopt should be the responsibility of the principal and staff, with outside help available upon request.

2. Five felt that the principal, with assistance of central

office personnel (supervisors and co-ordinators), should be responsible for the encouragement of daily P.E. adoption.

3. Five respondents perceived the responsibility to encourage adoption should come from the P.E. specialist.

4. Two felt the P.E. supervisor is responsible and that he should offer alternative methods of adopting daily P.E.

5. Two respondents said the provincial government should be responsible for providing the initial thrust through legislation requiring a minimum of 30 minutes of daily P.E.

Listed below are nine possible obstacles that often prevent or hinder the adoption of daily P.E. Indicate the degree to which each obstacle prevents you from adopting daily P.E. in your school.

The list of possible obstacles included: teacher attitudes, budget, facilities, teacher P.E. expertise, availability of teacher in-service, practical teaching curriculum, time allotment within the school day, central office supervisory assistance, and provincial program of study guidelines. The degree of choice on a continuum included: great deal, considerable, some, very little, and none.

Table 16 shows the non-adopters' perceptions of hindrances to adoption of daily P.E., by possible obstacles, and analysis of the data revealed the following:

1. A majority of respondents perceived that teacher attitudes, budget, facilities, availability of teacher in-service, practical teaching curriculum, central office assistance, and provincial program

of study guidelines were not obstacles to adoption of daily P.E. in their schools.

2. Twelve respondents (63 per cent) cited lack of teacher P.E. expertise to be at least a considerable hindrance.

3. Seventeen (89 per cent) felt lack of time available within the school day was an obstacle of at least a considerable hindrance to the adoption of daily P.E. in their schools. In fact, six respondents commented that it was difficult to provide each subject with the amount of time considered appropriate by subject supervisors.

Table 16

FREQUENCY DISTRIBUTION OF PRINCIPALS' PERCEPTIONS
OF HINDRANCES TO ADOPTION OF DAILY P.E., BY POSSIBLE OBSTACLES

Obstacle	Great Deal	Considerable	Some	Very Little	None
Attitudes	1	4	1	8	5
Budget	1	1	0	7	10
Facilities	3	4	0	6	6
Expertise	3	9	0	5	2
In-service	0	0	0	6	13
Curriculum	0	3	2	5	9
Time	13	4	1	1	0
Assistance	1	2	1	6	9
Guidelines	1	1	0	6	11

Chapter 5

SUMMARY OF FINDINGS, IMPLICATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

In this Chapter the findings of the study are discussed. The first section summarizes the findings according to four basic research questions. The second section offers certain practical implications of the type of educational innovation being discussed--the adoption of daily physical education (P.E.) in elementary schools throughout entire school districts. The third section includes suggestions for further research.

Summary of Findings

The study focussed upon the adoption of daily P.E. by elementary schools in the Calgary Roman Catholic Separate School District #1 (the School District), and answers were sought to the following research questions:

1. To the present time, to what extent has daily P.E. been adopted by elementary schools in the School District?
2. What are the characteristics of schools that had adopted the innovation for the entire school, schools that had partially adopted the innovation, and schools that had not adopted the innovation?

3. What process of change have schools undergone relative to the adoption of daily P.E.?

4. What are the reasons for non-adoption and the problems encountered by non-adopting schools?

The population from which the data were obtained consisted of the principals of each of the 33 elementary schools in the School District.

Methodology

Each principal of the School District was surveyed and interviewed by the researcher by means of a survey instrument and focussed interview schedule prepared by the researcher. The findings of the study are summarized below according to the four research questions stated above.

Question 1: Three of 33 schools had fully adopted daily P.E. for all classes, and 11 had done so for some of their classes. Nineteen schools had not adopted any form of daily P.E.

In terms of the stages of the change model that served as the theoretical framework to the investigation, three schools had "implemented" daily P.E., eleven had "initiated" daily P.E., and 19 were classified in the "awareness" stage.

Question 2: The second question focussed upon the characteristics of schools in the implementation, initiation and awareness stages. Of the 23 characteristics analysed, certain ones yield differ-

ences when viewed across school size classifications and the three model stages.

Important characteristics that differed included the following.

Firstly, it was found that two types of organizational structure for P.E. were utilized--a generalized structure whereby all teachers taught P.E. to their respective classes and a semi-departmentalized structure whereby a teacher(s) with an interest or some training in P.E. taught P.E. to the majority of the school's classes as well as the core subjects to his/her own class(es). It was noted that more schools (9) that utilized the generalized organizational structure had partially or fully adopted daily P.E. than schools (5) that utilized the semi-departmentalized organizational structure. Second, it was found that principals of large schools in the awareness stage had an average age that was less than principals of large schools in the implementation and initiation stages. Third, it was noted that in small schools in the implementation stage, one school had a P.E. specialist teacher and the other did not, whereas none of the small schools in the awareness stage had P.E. specialists. In the large school that was in the implementation stage no P.E. specialist teachers were on staff, while six schools (of ten) in the awareness stage had one P.E. specialist per school.

Question 3: With respect to the change process undergone by schools in order to adopt daily P.E., several notable findings were observed.

First, the major influencing factors that caused the schools to become aware of the need for daily P.E. were: (a) participation in

the CALSEP Pep Program--a pilot attempt undertaken in the School District to develop a scope and sequence curriculum for daily P.E. in the District's elementary schools; and (b) the communications and literature transmitted to schools by the School District's P.E. supervisor.

Second, principals' perceptions of staff attitudes toward the concept of daily P.E. were found to be quite favourable. No perceived unwillingness to adopt daily P.E. among the staff was discernible by the principals.

Third, the major sources of pressure on schools to adopt daily P.E. were found to be: (a) the efforts of the P.E. supervisor, (b) parental involvement in parent-school councils, (c) staff participation in the CALSEP Pep Program, and (d) the perceptions held by many staff members which were conveyed to the principal of the possible benefits of daily P.E. to a child's general health and fitness.

Fourth, an examination of the changes necessitated by the introduction of daily P.E. into the curriculum revealed that the adopting schools had in some cases integrated other subjects with P.E., while in other cases core subject times were shortened so as to provide the additional time for daily P.E. In a third set of cases, other indoor school facilities besides the gymnasium had to be used for P.E. in order to accommodate the expansion to all the school's classes.

Fifth, it was found that a number of human resources were necessarily invested so as to adopt the change. These included administrative time and energy for planning and timetabling, teacher time and energy in becoming familiar with the P.E. curriculum, and parent time

and energy in assisting with certain aspects of the program. Additional financial investments (up to 500 dollars) were required by some schools to purchase additional supplies such as individual mats, balls, and hoops.

Sixth, several forms of communication were found to have taken place among administrators, teachers, and parents of the adopter schools prior to adoption. These included: informal discussions between the district supervisor and teachers; frequent staff meetings at which the process of adopting daily P.E. was the main agenda item; informal discussions between principals planning to adopt and those who had already done so; informal meetings between principals of the School District and the Public School System; parent-staff meetings addressed by the district supervisor; and parent-staff meetings at which details of the program were discussed.

Seventh, an examination of the extent to which several listed obstacles hindered the adoption of daily P.E. in the School District's schools determined that lack of teacher P.E. expertise was definitely a hindering factor. To a lesser extent, the insufficient time allotment within the school day was found to be a hindrance.

Question 4: The fourth question examined the reasons for non-adoption and the problems encountered by schools that had not adopted daily P.E.

The major reasons for not adopting daily P.E. were found to be: (a) the shortage of instructional time within the school day for accommodating daily P.E., (b) a stated preference that priority be

given to the traditional core subjects to the exclusion of P.E. in the daily curriculum, (c) the lack of P.E. expertise among a majority of teachers, and (d) that the semi-departmentalized organizational structure used for P.E. in some schools makes daily instruction impossible if only one person is responsible for all P.E. instruction.

Several other findings were observed. First, the perceived need for daily P.E. was very high among non-adopter schools. An expression of concern about the need for more P.E. was clearly evident. Second, information concerning possible pressures that caused greater awareness of a need for daily P.E. centred around key personnel. It was found that the district P.E. supervisor encouraged adoption as did the P.E. specialist teachers, other interested teachers, and parent interest groups. Other reported pressures were: the observable low fitness level of students, benefits to be gained, and the publicity received by other schools that had adopted daily P.E. Third, it was found that the principal perceived responsibility to encourage the adoption of daily P.E. should come from two major sources: (a) the combined influence of the principal and his staff; and (b) the combined influence of the principal, staff, and central office personnel (P.E. supervisor and the elementary co-ordinator).

Implications

On the basis of the review of literature and the findings of the study, the following implications seem warranted.

Recently, provincial governments in various parts of Canada legislated compulsory daily P.E. for all school children. Alberta Education has not as yet enacted such legislation, however, several studies commissioned by that body (Cameron, 1959; Glassford et al., 1977) have made recommendations that P.E. be offered in Alberta schools for 30 minutes on a daily basis. In 1977, the Calgary Roman Catholic Separate School Board approved a motion that encouraged daily P.E. Despite this encouragement, only 42 per cent of the District's elementary schools have adopted some form of daily P.E. To ensure full adoption, it appears that a stronger mandate than heretofore is desirable. Findings of the study indicated that school principals would prefer that this pressure be exerted by the local authority. Hence, it appears the School District should take further measures to encourage adoption.

Subordinate participation throughout the total planned change process is a necessary part of successful change (Trump, in Miller, 1967). In the present work, it appeared that several schools that adopted daily P.E. were those where a number of staff members had actively participated in the pilot program (CALSEP Pep) undertaken in the School District.

Gross et al. (1971) contended that the degree to which an innovation is implemented will be a function of the degree to which members of an organization have developed a clear understanding of the innovation. In this study, principals reported that a lack of P.E. teacher expertise was a major obstacle to adoption. To overcome this

weakness, the School District had offered some in-service programs in conjunction with the CALSEP Pep Program. These were found to be beneficial and probably should be continued.

Educational change may be brought about by one or more persons, either external or internal to the organization (Havelock, 1973; Leithwood et al., 1979). In the innovation studied, the district supervisor, the principal, and teachers at varying times, all acted as change agents. One of the roles of a change agent is to set forces in motion that will increase communication (Gross et al., 1971). This study demonstrated that the supervisor set the forces in motion in the School District, while the principal and teachers worked at adoption in the individual, adopting schools.

Suggestions for Further Research

The study findings indicated the relative importance of the contribution to successful adoption of daily P.E. made by individual staff members and parents. This study has utilized the perceptions of principals of elementary schools. Any replication might well benefit from an examination of the perceptions held by the teachers and the parents of both adopting and non-adopting schools.

Further, it is recommended that more research of the different types of subject organization (generalized versus semi-departmentalized) at the elementary school level be conducted.

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APPENDICES

APPENDIX A

SURVEY INSTRUMENT: P.E. PROGRAMS

SURVEY OF PHYSICAL EDUCATION PROGRAMS

1. School _____, Number of classes _____.
2. Number of P.E. teaching stations ____: ____gym(s), ____stage,
____dividing gym door, ____ancillary room, _____other.
3. Average number of hours the gym is scheduled per day ____.
4. Number of professional staff _____. Number of students _____.
5. The following questions concern the staff, please indicate:
 - a. the number of professional staff in each category:
____ no training in physical education,
____ minimum of three full courses in P.E.,
____ more than three full courses in P.E.
 - b. the staff's average number of years of experience:
3-6 ____, 7-10 ____, 11-14 ____, 15-18 ____, 19+ ____
 - c. the school's staff average age:
20-29 ____, 30-39 ____, 40-49 ____, 50+ ____

- d. the number of male staff ____, female staff ____.
- e. the number of staff members that are members of the Health and Physical Education Council of the A.T.A. ____.
6. The following questions concern the principal. For each question, please check the appropriate response.
- a. Number of years you have been a principal (include 1979-80):
1 ____, 2-3 ____, 4-5 ____, 6-7 ____, 8+ ____
- b. Years of administration in your present school:
1 ____, 2-3 ____, 4-5 ____, 6-7 ____, 8+ ____
- c. Years of teaching experience:
3-5 ____, 6-10 ____, 11-15 ____, 16-20 ____, 21+ ____
- d. Years of post-secondary education:
4 ____, 5 ____, 6 ____, 7 ____, 8+ ____
- e. Present age:
20-29 ____, 30-39 ____, 40-49 ____, 50-59 ____, 60+ ____
- f. Indicate your major field of undergraduate study while in university _____
- g. Are you a member of the Health and Physical Education Council of the A.T.A.? Yes ____, No ____

7. Indicate the average length of P.E. classes in your school.
____ Minutes
8. Indicate the number of classes in your school that receive daily physical education: ____ (P.E. 5 times per week)
9. Indicate the number of classes that receive physical education:
____ 4 times per week
____ 3 times per week
____ 2 times per week
____ 1 time per week
____ no times per week
10. If your school has classes involved in daily P.E., indicate the year the program was introduced. ____
11. If your schools does not have classes involved in daily P.E., was the school ever on daily P.E.? Yes ____, No ____
12. Would you like to have all of your school's classes involved in daily P.E.? Yes ____, No ____
13. If your entire school has daily P.E., what year did 100 per cent adoption occur? ____

14. Indicate the number of classes at each grade level that receive daily P.E. ECS ____, 1 ____, 2 ____, 3 ____, 4 ____, 5 ____, 6 ____
15. Type of school: open area ____, self-contained ____, other ____
16. What subjects are taught by specialists in your school?

17. Indicate the schools hours of a typical day. _____
18. Has your school adopted any new or varied programs within the past five years? Yes ____, No ____, Type(s) _____

19. What portion of the allocated funds are spent on the P.E. program in any given year?
Less than 70% ____, 70-79% ____, 80-89% ____, 90-99% ____, 100%+ ____

APPENDIX B
SURVEY INSTRUMENT: INTERVIEW SCHEDULES STAGES I,
AND STAGES II OR III

INTERVIEW SCHEDULE STAGE I

1. To what extent do you perceive a need for daily P.E. at the elementary school level?

None	Little	Undecided	Some	Great Deal
1	2	3	4	5

2. How do you perceive the staff's current willingness/attitude toward:

a. curricular change

	Somewhat		Somewhat	
Resistant	Resistant	Neutral	Receptive	Receptive
1	2	3	4	5

b. daily P.E.

1	2	3	4	5
---	---	---	---	---

3. Are you aware of a need for daily P.E. in your school as a result of possible pressures from:

P.E. Supervisor

Staff

Parents

Others

4. What reasons can be given for not adopting daily P.E. in your school?

School - staff

- time

- facility

System - assistance

Other -

5. Regarding your present P.E. program, to what extent do you perceive the quality of communication with:

Somewhat		Somewhat		
Poor	Poor	Undecided	Good	Very Good
1	2	3	4	5
a. The P.E. Supervisor				
1	2	3	4	5
b. Principals of schools with some classes on daily P.E.				
1	2	3	4	5
c. Principals of schools with 100% of classes on daily P.E.				
1	2	3	4	5
d. The Co-ordinator of Elementary Education				
1	2	3	4	5

6. What department, group or individual do you think should be responsible for encouraging the adoption of daily P.E. in schools?

7. Listed below are nine possible obstacles that often prevent or hinder the adoption of daily P.E. Indicate the degree to which each obstacle prevents you from adopting daily P.E. in your school.

	None	Very Little	Some	Considerable	Great Deal
	1	2	3	4	5
a. Teacher attitudes					
	1	2	3	4	5
b. Budget					
	1	2	3	4	5
c. Facilities					
	1	2	3	4	5
d. Teacher expertise					
	1	2	3	4	5
e. Availability of teacher in-service					
	1	2	3	4	5
f. Practical teaching curriculum					
	1	2	3	4	5
g. Time allotment within the school day					
	1	2	3	4	5
h. Central office supervisory assistance					
	1	2	3	4	5
i. Provincial program of study guidelines					
	1	2	3	4	5

INTERVIEW SCHEDULE CATEGORY II OR III

1. How did your school become aware of the need for daily P.E.?

2. How do you perceive the staff's current willingness/attitude toward:

a. curricular change

	Somewhat		Somewhat	
Resistant	Resistant	Neutral	Receptive	Receptive
1	2	3	4	5

b. daily P.E.

1	2	3	4	5
---	---	---	---	---

3. What compelling forces caused your school to adopt daily P.E.?

principal -

staff -

system -

parents -

other -

4. What noticeable changes had to be made in order to adopt daily P.E.?

a. Time changes - time allotment per subject

- timetable

- time of school day

- b. Staff changes - utilization
 - recruitment
 - c. Facility changes -
 - d. Other changes -
5. What investment of resources were required by the school in order to adopt daily P.E.?
- a. Human - administrator
 - teacher
 - parent
 - other
 - b. Financial - facilities
 - equipment
 - supplies
 - c. Time - planning
 - communication
 - training
6. What types of communication regarding daily P.E. took place prior to adoption of daily P.E.?
- with the P.E. supervisor
 - with partial adopter schools
 - with adopter schools
 - with others

7. Listed below are nine possible obstacles that often prevent or hinder the adoption of daily P.E. Indicate the degree of hindrances that each obstacle presented to your schools during the adoption of daily P.E.

	None	Very Little	Some	Consderable	Great Deal
	1	2	3	4	5
a. Teacher attitudes					
	1	2	3	4	5
b. Budget					
	1	2	3	4	5
c. Facilities					
	1	2	3	4	5
d. Teacher expertise					
	1	2	3	4	5
e. Availability of teacher in-service					
	1	2	3	4	5
f. Practical teaching curriculum					
	1	2	3	4	5
g. Time allotment within the school day					
	1	2	3	4	5
h. Central office supervisory assistance					
	1	2	3	4	5
i. Provincial program of study guidelines					
	1	2	3	4	5

APPENDIX C
LETTER OF PERMISSION TO CONDUCT SURVEY

CALGARY CATHOLIC BOARD OF EDUCATION

MEMO

TO: ALL ELEMENTARY SCHOOL PRINCIPALS
FROM: A. E. KOWALSKI, CO-ORDINATOR, SPECIAL SERVICES
DATE: APRIL 8, 1980

Mr. Bernard Bajnok has received the permission of the Joint University Schools Research Liaison Committee to conduct his research entitled "An Examination of the Adoption of Daily Physical Education in the Calgary Separate System". Mr. Bajnok will be contacting you with additional information during the week of April 14, 1980.

Thank you for your co-operation in this worthwhile study.

AEK/jr