A STUDY OF USER PERCEPTION AND ATTITUDE TOWARD IMPLEMENTATION OF HIGH SCHOOL PHYSICAL EDUCATION COURSES

PAUL ALAN HOUSE

A STUDY OF USER PERCEPTION AND ATTITUDE TOWARD IMPLEMENTATION OF HIGH SCHOOL PHYSICAL EDUCATION COURSES

by

© Paul House

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Education

Department of Curriculum and Instruction
Memorial University of Newfoundland

SEPTEMBER 1986

St. John's Newfoundland

ABSTRACT

The purpose of this study was to investigate the user perception of and attitude towards the implementation of the new physical education program.

The data collected consisted of the responses of 154 high school principals and 170 high school physical education teachers to a 45 item, Likert style, survey developed by the writer. In addition, responses were collected from 1000 students enrolled in Physical Education 1100, 1000 students enrolled in Physical Education 2100, and 1000 students enrolled in Physical Education 3100, to 17 items from the teacher/principal survey. The 45 items on the survey were clustered according to Fullan's fifteen factors affecting implementation.

In order to assess the significant differences among the user groups a oneway ANOVA was carried out for each variable cluster. When comparing responses of three groups a Scheffe test was used to determine between which groups the significant difference existed.

In order to assess the overall attitude of principal, teacher, and student groups a crosstabulation was carried out for the 45 unclustered survey items. The responses demonstrated that all three user groups were generally positive toward the program. Principals were the most positive, teachers were the next most positive, and students were the least positive. Although the attitudes were positive, concerns were indicated by all three user groups.

Findings indicated that the users viewed the program as having good potential yet there was agreement that there were drawbacks that

needed to be addressed. Students demonstrated concern with the increased cognitive workload while teachers and principals agreed with the need for improving the fun and enjoyment of the program as a means of increasing student motivation. Students indicated a desire for more choice and input into the new program and principals and teachers appeared to agree but not to the same extent as the students. Teachers and principals expressed a desire for more administrative support from the school board level. Connected with this concern was the desire for continuous access to qualified help in the implementation of the new program, supporting the idea that implementation is a process and not a one time event.

An interesting finding noted throughout the study was that the principals appeared to be distant from the practical use of the program. This point was not severely criticized by the teachers. Instead it was recognized as a fact difficult to avoid given the many responsibilities of the principals. In conjunction with this point principals were extremely confident with the teachers comprehension of the new program as well their preparation to teach it. However, teachers did not express confidence in either their comprehension or preparedness to teach the curriculum.

Inadequate communication at all levels was expressed as a problem by all subjects in the survey. The prominent communication deficiencies were among teachers, between teachers and administrators, between schools and school boards, and finally between curriculum users and curriculum developers. It was agreed that improved feedback channels are required as means for providing neccessary user information to the developers for possible program improvement and revision.

ACKNOWLEDGEMENTS

It is with genuine pleasure and appreciation that the writer acknowledges the assistance of those who contributed to the development and completion of this study. A special thank you is extended to Dr. R. K. Crocker for his patient help and invaluable critiques.

A sincere appreciation is also extended to Dr. F. Cramm, who so quickly and efficiently took on the role of supervisor, for his helpful advice and encouragement.

A very warm thank you goes to the writers mother-in-law and her family for their help in the many hours of typing and proof reading.

Finally, the writer greatly appreciates the cooperation of the school boards, principals, teachers, and students of this province without whom the data under analysis would not be available.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE PROBLEM

When an innovation is introduced to an existing program or when a program is completely revised, change takes place. This study focuses on such a change and on the perceptions and attitudes of those experiencing the change.

The complexity of educational change is very much underestimated. Fullan (1982) suggests that people rarely think about the personal experience of change because they have become so accustomed to its presence. More important, many almost never stop to think about the perceptions of those around them experiencing change situations. Fullan stresses that the turning point of the change process lies with individuals and how they come to grips with the reality of that change.

One measure of success of an educational change is the level of its implementation. The level of implementation is determined by how the change is perceived by those directly involved in its use. Hughes and Keith (1980) point out that all the research emphasizes this point. The perception of the potential user is an important variable. An objective view of the innovation or how it is regarded by experts is not as critical. The potential users which this study concentrated its investigation on were the secondary school principals, teachers, and students in Newfoundland and Labrador. The change these users experienced was the introduction of the new credit physical education program.

From 1981 to 1983 three new physical education courses were implemented. Physical Education 1100 was introduced in 1981, Physical Education 2100 was introduced in 1982, and Physical Education 3100 was introduced in 1983. The major differences from the previous program were as follows:

1. The new courses were given credit status, which meant they could be used to complete the requirements for a high school diploma.

2. An academic section was added to each course requiring written tests and examinations.

3. More extensive skill testing was required for the physical activities.

4. New physical activities not previously taught were introduced with the idea of promoting physical activity and fitness for life (examples: golf, curling, cross-country skiing, camping).

5. The addition of one more period per six-day cycle, making it three periods per cycle rather than the previous two periods per cycle.

The study focused on the perceptions and attitudes of the users concerning the new Physical Education courses. Answers were sought to the following questions:

1. What are the attitudes of school principals, physical education teachers, and participating students concerning the new physical education program?

2. How do the attitudes compare among the three user groups?

3. From the viewpoint of the principals and physical education teachers, does the teacher preparation program match the needs created by the new program?

4. Are the needs of the students, as perceived by principals and physical educators, being met by the new program?

5. How do physical education teachers perceive the level of support available to teach the new courses?

6. How do principals and physical educators perceive the availability of feedback channels concerning the new courses?

7. Do students value and enjoy the new physical education courses?

8. How much input do students believe they have concerning the content and quality of the new courses?

9. What are the perceptions of principals and physical education teachers concerning the effectiveness and success of the implementation of the new physical education program?

10. What is the level of agreement of the subjects surveyed as to the role of principals, students, and physical education teachers as related to the new physical education program?

11. What is the attitude of principals, students and teachers concerning the need for program change in physical education?

The framework used in developing the survey sent to the subjects was a theoretical model developed by Michael Fullan, and a series of personal interviews with a group of principals and teachers. Although Fullan's model will be discussed in more detail later, a brief discussion of it and how it related to the interview responses is appropriate at this point in explaining how the user response was hypothesized. Fullan's model, which contains fifteen factors that have an effect on implementation, is divided into four major headings, the first of which is entitled Characteristics of the Change. Fullan

suggested that the need and relevance, clarity, complexity, and the quality and practicality of the change must be viewed positively by the users for success in implimentation. With consideration of the response in the personal interviews, it was hypothesized that teachers, principals and students would generally agree that the new physical education program was needed. However, the clarity and complexity of the change might present an obstacle from a user perspective. In terms of the quality and practicality, it was thought that the response would be mixed. Many of those interviewed were negative to certain aspects of the program, such as the evaluation process and availability of materials and resources; while others were not.

The second heading, Characteristics of the School District Level, focused on such factors as history of change attempts, the adoption process, central administative support, staff development, time-line and information system, and, finally, the board and community characteristics. The perceptions of the users concerning the history of change attempts were not investigated, because in the past there has been little innovation in the high school physical education program of the same scope as the new program. The adoption process, in the opinion of many interviewed, was poor. Many thought the new program was simply delivered to the schools without adequate explanation and opportunity for feedback. It was hypothesized that this feeling would also be prevalent in the provincial population. When considering central administreative support from the school boards, those interviewed did have access to a qualified physical education coordinator and, therefore, their attitude was fairly positive towards board involvement. It was thought, however, that because of the lack

of qualified physical education coordinators in most boards across the Province, the attitude in this area would be more negative.

Those interviewed were generally not satisfied with staff development and inservicing for the new program, an attitude that was hypothesized to exist Provincially also. The time-line for implementation produced mixed reactions from those interviewed. Many thought it was too rushed; others thought it was appropriate yet not well organized. Given the expression of inadequate inservicing and the perceived rushing of program introduction, it was hypothesized that the majority of users surveyed would hold the opinion that the program was implemented too quickly.

The subjects interviewed were not asked questions related to, the last factor under the second heading, factor ten: Board and Community Characteristics. It was hypothesized, however, that the users would be of the opinion that the community is, in most cases, unaware of what the new physical education program entails.

The third section, labelled Characteristics of School District Level, includes three factors: the principal, teacher-teacher relations, and teacher characteristics and orientations. The subjects interviewed were asked questions related to the role and responsibility of the principal concerning the new program. The majority expressed the opinion that although the principal plays an important part in the success of the new physical education program, his/her involvement is often limited by other responsibilities. As before, this opinion was hypothesized to exist also across the provincial population.

An interesting observation from the interviews showed that the principals' understanding of the program in its practical application

was limited in comparison with that of the teachers. Many answers given were conservative in nature and tended to be less negative than the teachers' responses. It was thought that this would also be the case across the Province.

When considering teacher-teacher relations, those interviewed generally believed that communication among teachers was good. Questions were not asked directly related to this point, yet the comments made did leave this positive impression with the investigator. Realizing those interviewed were from an urban area, meaning they would have greater access to each other, it was thought that this ease of communication might not exist in rural areas. It was, therefore, hypothesized that the responses would be mixed across the Province because of the mixture of rural and urban teachers in the survey population.

In terms of teacher characteristics and orientations, the questions asked those interviewed, and hence the questions included in the survey, focused on teacher roles and capabilities related to the new program. Principals were generally positive toward this point in the interviews, whereas the teachers were positive but not to the same extent as were the the principals. It was hypothesized that Provincially both principals and teachers would also be positive toward this point, but principals would be more positive than teachers.

The final section, Characteristics External to the Local System, has only two factors listed under it. They are: The role of government, and external assistance. Specific questions were not asked in the interviews related to either of these two factors. However, during the conversations the idea of external assistance was mentioned

by several of those interviewed. Several of the teachers mentioned the use of such outside resources as the Y.M.C.A. and provincial sport governing bodies. They were generally positive toward the idea of outside assistance. The principals, however, did not mention anything related to this point. It was hypothesized that Provincially this positive teacher attitude would not exist to the same extent because of the geographical distance of most teachers from such resources as those mentioned. Because of this distance it was thought that teachers would not perceive those resources as being accessible. The subjects interviewed had nothing to say concerning the role of government in the program. In fact, the entire survey development process did not produce any statements related to this point.

Significance and Purpose of the Study

To simply develop a new curriculum and then deliver it to the schools for adoption without investigating the environment into which the curriculum is delivered would be too narrow an approach. Arends et al. (1978) contend that the complexity of school social systems requires a broader understanding of their nature as organizations in order for important and lasting educational improvements to take place. Successful innovations require changes in the skills of individual educators. Understanding the complex social system of the school involves a comprehension of the individuals who make up that system, both the educators and students. A survey of high school principals, physical educators, and students who are enrolled in either Physical Education 1100, 2100, or 3100 can provide many insights into the level of success of the new physical education program and possible feedback information for future improvement.

The attitudes and perceptions of these three groups are highly significant to the success of a curriculum. Research suggests that school principals are in a key position of influence. Berman and McLaughlin (1977) found that with the active support of the principal, projects would most likely be successful. The principal can either provide a tremendous amount of help or hinderance to a new program. Their passive indifference, while not a direct negative influence, can also slow the implementation process. Understanding their perceptions is therefore a worthwhile task when studying the success of a new program.

The teachers are the individuals who actually put a program into practice. They can either be going through the motions or genuinely give their best effort. Teacher understanding of the nature of the program can be a major determinant of how it is implemented. Hughes and Keith (1980) concluded the degree of implementation was greater when teachers perceived the innovation positively from four perspectives. Is it an improvement over the previous curriculum? Does it suit the teacher's existing values, past experiences, and needs? Does it allow the teacher to experiment with it on a limited basis? Will others clearly recognize the results of the new program? Whether teachers adequately implement a new program depends on their perceptions of that program. Their perceptions are not discernable from their choice to use the program or even their seemingly accurate use of terminology. Their thoughts must be inveatigated much more deeply to determine their level of understanding.

Students are often neglected when implementing a new program even though their opinions, values, and needs can be useful. Fullan

(1982) expressed the following:

> ..."But what about the students?" Innovations and their inherent conflicts often become ends in themselves, and students often get thoroughly lost in the shuffle. When adults do think of students, they think of them as the potential beneficiaries of change. They think of achievement, results, skills, attitudes, and jobs. They rarely think of students as participants in a process of change and organizational life ... What would happen if we treated the student as someone whose opinion mattered in the introduction and implementation of change in schools? (p. 147)

It is easy to forget the effects students can have on the success of a new program. If they demonstrate interest and enthusiasm towards a program they can provide a strong motivation for the teacher. If they show no interest and even discontentment with a program, the teacher can become frustrated in attempting to do an effective teaching job regardless of how dedicated he/she is to the innovation. Leithwood and MacDonald (1981) discovered that over 60% of teachers they studied used student interest as the basis for curriculum choices and methods of teaching. It would be appropriate to consult students in an attempt to understand their needs as well as their perceptions of an innovation in practice. This would be profitable in determining the success of a program.

Scope and Limitations

In this study a survey of all school boards in the province was used to obtain information on user perception of the new physical education program. An interview study of a random sample from the provincial population would produce information of greater depth, while an observation study of a random sample of subjects would provide the best picture of how the new program is perceived and used.

An observation study of this scope would require a team of

trained observers to visit the schools selected, and a provincial interview or observation study is not feasible for a graduate student because of the financial cost and time required. This study, therefore, was limited to a provincial attitude survey mailed to the entire population of high school principals, physical education teachers, and a random sample of secondary physical education students. Although such a study decreases the depth of information acquired, it increases the inferential application. The end result will be a provincial view of the implementation of the new program from a user perspective.

Organization of the Report

Chapter II contains a review of the related literature. The sample methodology, the procedure for developing the surveys, a description of the instrument developed, and how the data were analyzed are given in the third chapter. Chapter IV presents the findings of the study and Chapter V, interpretations and recommendations.

CHAPTER II

REVIEW OF RELATED LITERATURE

The idea of studying implementation or change in practice at the classroom level was, in the words of Charters and Jones (1973), a "nonevent" in the 1970's. In the 1960's, it was not even called anything (Fullan and Park, 1981). Although neglected in the past, implementation is receiving a great deal of attention in the 1980's. The failure of many attempts at innovation over the years has motivated many to develop an understanding of the implementation process in the hope of improving change attempts in education.

Before proceeding further, an important question must be answered - What is implementation? Implementation is the process of translating the theoretical into the practical. It is the means of taking what is planned by curriculum developers and delivering it to the schools to be incorporated by the teachers into their teaching. It is important to be cognizant of the fact that implementation is not synonymous with adoption. A teacher can adopt a curriculum change but not believe in it. A teacher can actually put the curriculum into practice but not with the intended aims and objectives of the developers. Fullan and Park (1981) stressed that curriculum change must occur at three dimensions: materials, teaching, and beliefs. It is quite possible for a teacher to adopt and use curriculum materials without using appropriate teaching methods. It is even possible to use materials and some of the intended teaching strategies but not come to grips with the underlying beliefs of the program. Ultimately, for

implementation to be a success the teacher should use the materials, practice the suggested teaching method, and develop a belief in the merits of the program. The first two dimensions are observable but the third, being in the affective domain, is difficult to ascertain.

As implied by Fullan and Park, the danger of using implementation as a dichotomous phenomenon must be avoided. One should not view an innovation as being implemented or not implemented, in use or not in use. It is more accurate to observe the success or failure of an innovation based on its varying degrees of implementation. Hall and Loucks (1977) used the concept of Levels of Use of the Innovation (LOU) in their research, treating implementation as a developmental phenomenon. In this model, eight levels of use of the innovation have been identified and are illustrated in the following way:

Levels of Use	Definition of Use
0 Nonuse	State in which the user has little or no knowledge of the innovation, and is doing nothing toward becoming involved.
Decision Point A	Takes action to learn more detailed information about the innovation.
I Orientation	State in which the user has recently acquired or is acquiring information about the innovation and/or has recently explored or is exploring its value orientation and its demands upon the user and user system.
Decision Point B	Makes a decision to use the innovation by establishing a time to

begin.

II Preparation

State in which the user is preparing for first use of the innovation.

Decision Point C

Changes, if any, and use are dominated by user needs.

III Mechanical Use

State in which the user focuses most effort on the short-term, day-to-day use of the innovation with little time for reflection. Changes in use are made more to meet user needs than client needs. The user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation, often resulting in a disjointed, superficial use.

Decision Point D-1

A routine pattern of use is established.

IVA' Routine

Use of the innovation is established. Few, if any, changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.

Decision Point D-2

Changes use of the innovation based on formal or informal evaluation in order to increase client outcomes.

IVB

State in which the user varies the use of the innovation to increase the impact on clients within the immediate sphere of influence. Variations are based on knowledge of both short and long-term consequences for clients.

Decision Point E

Initiates changes in use of innovation based on input of and in coordination with what colleagues are doing.

V	Integration	State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.
	Decision Point F	Begins exploring alternatives to or major modifications of the innovation presently in use.
VI	Renewal	State in which the user re-evaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system. (p. 266)

The level at which an innovation is being used is related to how the user perceives it. Hughes and Keith (1980) suggested that teacher perceptions of the attributes of an innovation are related to successful implementation. Five attributes cited were (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability, and (e) observability. These researchers determined that all of the attributes, with the exception of complexity (i.e. the relative difficulty of the innovation to use and understand), correlated positively and significantly with the degree of implementation of the innovation.

The complexity of implementing an innovation is apparent from that mentioned so far. Michael Fullan (1982), in his book "The Meaning of Educational Change", discussed implementation as it applies to the social environment in which it operates. It is the unpredictability of

this environment which makes it difficult to deal with, yet its consideration is essential for success. Fullan lists fifteen factors that affect implementation, which are illustrated in the following way:

Factors Affecting Implementation

A. Characteristics of the Change

1. Need and relevance of the change
2. Clarity
3. Complexity
4. Quality and practicality of program (materials, etc.)

B. Characteristics at the School District Level

5. The history of innovative attempts
6. The adoption process
7. Central administrative support and involvement
8. Staff development (in-service) and participation
9. Time-line and information system (evaluation)
10. Board and community characteristics.

C. Characteristics at the School Level

11. The principal
12. Teacher-teacher relations
13. Teacher characteristics and orientations.

D. Characteristics External to the Local System

14. Role of government
15. External assistance. (p. 56)

If any one or more factors are negatively affecting implementation, the

process will be less effective. The more factors working in favour of the implementation, the more change in practice will be accomplished. It is also important to understand that the factors do not function in isolation but function as a system of variables affecting the change process.

Fullan (1982) provided an explanation of each of these factors. The first factor, Need, is important in that teachers will more readily accept and use a change if that change is perceived to be needed. Often the clarity of the change is poor, thus impairing the success of the change. If the teachers do not understand the change they are unable to implement it effectively. In addition, there is a danger of false clarity when an innovation is oversimplified and the users think they understand it when, in fact, there is more to it than they perceive or realize. The second, Complexity, refers to the difficulty and extent of change required of the individuals responsible for implementation. The complexity is related to the skill required, and extent of alterations in beliefs, teaching strategies, and use of materials. If an innovation is too complex the level of implementation can be reduced. It has been found, however, that more complex innovations result in greater teacher change than will simpler innovations, but clarity must be at a maximum. The Quality and Practicality of the program is of great significance to the success of implementation. Teachers must see the innovation as tangible, relevant, and of good quality. If it appears rushed or unorganized they will be less motivated to accept it. Fullan (1982) suggests poor quality results when a program is rushed and when adoption is more important than implementation. Decisions are often made without follow-up or

preparation time necessary to produce adequate materials. If teachers do not develop a sense of meaning and practicality toward an innovation early in the process it will eventually be abandoned.

When considering the characteristics of the school district level, the district's history of innovative attempts is a factor to be considered. The more negative experiences with previous attempts of implementation teachers and others have had, the more cynical or apathetic they will be about the next change presented, no matter how good the program is. As for the adoption process, if the decision to change has been carefully planned with commitment and follow-through by the district, implementation is much more likely to be taken seriously by the users. Also, user participation in adoption decisions and/or development is not always related to effective implementation. It is the quality of the planning process that is important, not the number of people involved in the process. The district administrative support is essential to district-wide change. Teachers and others will not take the change seriously unless they see evidence of such administrative support. Fullan (1982) found that the amount of superintendent involvement in program decisions influenced implementation positively whereas the amount of decision-making by teachers without outside influence negatively influenced the implementation process.

When considering staff development and participation, Fullan suggests that one-shot workshops are not effective no matter how many are given. In fact, the amount of staff training is not related to the quality of implementation. What is required is an ongoing source of support through interaction with resource consultants and fellow

implementers which will bring about a gradual increase in self-confidence concerning the new program. Also, where user participation in adoption and/or development decisions is not seen as important, their participation in implementation decisions produces positive results. Not only does teacher decision-making aid teacher acceptance of the change, it is essential for the identification and solution of implementation problems. The concept of time is often neglected in relation to implementation, yet time-line and information systems (evaluation) are an important factor in the success of the change process. As mentioned earlier, Fullan suggests that decisions-makers for educational change think in terms of adoption rather than implementation. When change decisions are connected to politics, the time perspective is often neglected. Often when the decision is made to change, the change is required too quickly using unrealistic time-lines. As a result of the rush, materials fail to arrive on time, orientation and training is neglected, communication is poor, and people become overloaded with the requirements of new progams in addition to their present responsibilities. The converse should also be avoided. An open-ended time-line creates ambiguity about what is expected and when. In addition to the time-line the information or evaluation component is important. Fullan makes three observations. First, information on student achievement by itself does not result in improved implementation or provide insight into the specific problems of implementation. Second, information on implementation concerns can be effective if it is connected with a means of improving the system. Third, it is at the school and classroom levels where information counts.

In relation to the factors of board and community characteristics it has been found that community support of the school correlates positively with innovativeness. The environment into which an innovation is implemented greatly affects the success of the implementation and the board and community greatly affect this environment. If they are positive toward a change, the change process is more successful. If they are negative toward a change, the change process is impaired.

There are three main school-level factors that influence implementation, according to Fullan. The role of the principal has a direct influence on the implementation of an innovation. Most research indicates that if a principal supports an innovation the change process is enhanced; if the principal is apathetic or negative toward an innovation the change process is influenced negatively. As mentioned earlier, interaction is important in implementation. This interaction is illustrated in teacher-teacher relations. The quality of peer relationships is directly related to the success or failure of implementation. In reference to teacher characteristics and orientations the level of education or years of experience does not seem to matter when considering implementation. However, the teacher's sense of efficacy is related to the success of the change process. If teachers see the innovation as enabling them to help even the most difficult or unmotivated student they will react positively toward it.

The external environment also has an influence. Government agencies, primarily provincial departments of education, are often the forces that put pressure on the educational system to reform. The problem is that policy makers at the government level, until recently,

have not considered the problems and processes of implementation. The result is the policy maker and the local practitioner may exist in different worlds. Fullan (1982) stated, "To the extent that each side is ignorant of the subjective world of the other, reform will fail - and the extent is great" (p. 74). The degree that these two groups communicate effectively will influence the degree of success of implementation. Finally, external assistance is another factor to consider. There are available from other government sources (i.e. Federal government) financial and technical assistance for implementation. Whether these resources are used for better implementation depends on the characteristics of the local system (i.e. categories B and C).

The significance of studying implementation is supported by the literature. Eden and Tamir (1978) point out that the failure or success in curriculum reform is determined by the implementation process and by the involvement of teachers in the process. Fullan and Pomfret (1977) offered four reasons why concern should be shown for implementation:

> 1. The first reason is that we simply do not know what has changed unless we attempt to conceptualize and measure it directly.
>
> The whole area of implementation, what the innovation actually consists of in practice and why it develops as it does, was viewed as a "black box" where innovations entering one side somehow produce the consequences emanating from the other.
>
> 2. A second reason why it is important to examine implementation is to understand some of the reasons why so many educational changes fail to become established.
>
> The main problem appears to be that curriculum change usually necessitates certain organization changes, particularly changes in the roles and role

> relationships of those organization members most directly involved in putting the innovation into practice.
>
> 3. A third reason for studying implementation is that failure to do so may result in implementation being ignored or else being confused with other aspects of the change process such as adoption (decision to use an innovation) or even confusing the determinants of implementation with implementation itself.
>
> 4. A fourth and final reason for examining implementation separately is that unless this is done, it may be difficult to interpret learning outcomes and relate these to possible determinants. (p. 337)

In summary, the common feature related to success in implementation discussed by most authors is the users and how they perceive, value, and understand an innovation. Hall and Loucks' (1977) concept of increasing levels of use of a change as the users' knowledge and experience with it increases, Hughes and Keith's (1980) emphasis on teachers' perceptions of a new program's attributes, Fullan and Park's (1981) ideal that curriculum change must occur at three dimensions, and Fullan's (1982) fifteen factors in the social environment which can negatively or positively influence change all focus on this key feature. A survey of user attitude and perception of the new physical education program can, therefore, provide information concerning the success of the new program's implementation, given the significant influence of user attitude and understanding. Fullan's fifteen factors are a good theoretical guideline for the development of such a survey. As stated earlier, Fullan suggests that if any one or more of the factors affect the implementation negatively, the process will be less effective. User responses can be connected to the negative or positive influence of the fifteen factors providing insight into the success of

the new program from a user perspective.

CHAPTER III

PROCEDURES FOR CONDUCTING THE STUDY

Population and Sample

This study focused on the entire population of high school physical education teachers and principals in the province of Newfoundland and Labrador, and a random sample of students enrolled in each of the three physical education courses (i.e. 1100, 2100, and 3100). The total number of subjects surveyed was approximately 3300.

To obtain the random sample of students all teachers surveyed were asked to return with their survey a list of their physical education classes and the number of students in each class. They were also instructed to label each of their classes (i.e. 10A, 10B, 11A, 11B, etc.). Each class from the list obtained was assigned a number by the investigator. Using a table of random numbers a random sample of classes to be surveyed was determined. To insure an equal number of students would be sampled from each grade level the selection process was carried out separately for each of the three courses. Survey size and percentage is illustrated in table 1 (see Table 1). Although the student return was lower, if one considers the number of schools which returned student surveys, the figure was 60%. It was observed that many schools returned fewer surveys than sent for each class. This may have been caused by student absenteeism or by student dropout. It was also noted that the number of surveys returned from third level was not as high as the other two levels.

TABLE 1
SURVEY SIZE AND RATE OF RETURN

	Teachers	Principals	Students	Total
No. Survey	170	154	3000	3324
Percentage Returned	68.8	57.7	52.6	53.7

Student Comparison by Course

	P.E. 1100	P.E. 2100	P.E. 3100	Total
No. Survey	1000	1000	1000	3000
Percentage Returned	60	50.5	47.1	52.6

A possible reason for the low return of surveys from level three students was that the students received the survey late in the school year. Some teachers indicated that they were unable to give the survey to level three students because they were studying for final exams. When discussing the student survey data it is important to understand that, although teachers were requested to give the surveys to specific classes, there was no way of controlling which classes were actually given the surveys.

Sampling Error

When dealing with samples from a population one must ask an important question. Is the sample n representative of the total population N? This question does not apply to the teacher and principal responses because the entire population of these groups was surveyed. In the case of the students, however, a random sample of 1000 was selected from each grade level. A sampling error was calculated for each grade level using the relationship

$$d = 4pq/n$$

where d is the error rate at the .95 confidence level, p is the percent

of respondents having a particular characteristic, q = 1-p, and n is the sample size. In addition, because the total population of students was known, a finite error rate was calculated. This finite error is given by

$$d(\text{finite}) = d \quad (1-n/N)$$

It was determined that the error rates for each grade level were:

Physical Education 1100 - 3%

Physical Education 2100 - 2%

Physical Education 3100 - 2%

One should keep these error rates in mind during the discussion of results.

Instrument Development

Interviews were conducted to establish a basis for the first selection of attitude statements for use in the survey. Before the initial set of interviews a series of informal discussions were carried out with physical education specialists and other related persons. In addition to answering some general questions, all those in this discussion group were asked to add anything that the investigator may have neglected to ask that they considered relevant to the topic. From these discussions the interview questions were established.

To complete the interviews, the investigator visited the selected schools in a specific geographic area and met with thirty principals and teachers personally. Each interview lasted approximately forty minutes. The tapes made from these interviews were studied and specific statements made by those interviewed were written down. It is significant to note that all those interviewed agreed that

the topic in question was covered effectively. A list of 91 attitude statements (see Appendix D) was established on the basis of two criteria. First, was the same or similar statement made by more than one of those interviewed? Second, was the statement related to Fullan's theoretical model of implementation? The resulting list of attitude statements was then categorized according to the fifteen factors of Fullan's model. It was originally intended that a group of students would also be interviewed in a similar manner. However, school board policy at the time of the interviews prevented this. Student input at this stage was limited to informal discussions with as many students as possible.

The list of statements compiled from this procedure was submitted to a group of judges which included physical education specialists and other relevant individuals. This judging group was asked to judge the validity of each statement, to indicate whether, in their opinion, the statements were negative, positive, or neutral. Finally they were asked to decide whether the statements would be appropriate for a student survey or teacher/principal survey or both. A finalized survey of 45 statements was developed based on the judgements of the judging group and how applicable the statements were to Fullan's model. Only 17 statements were deemed appropriate for the student survey.

Data Collection

The finalized survey was sent to what was believed to be all of the high school physical education teachers, principals and a random sample of students. There was an oversight in sending surveys to the

schools. At the time the surveys were mailed access to the Department of Education data regarding which schools have the physical education program in place, was not available. The criteria used for the selection of schools to be sent the survey was a student population of 100 or greater. It was thought that schools with populations smaller than 100 would not have sufficient staff or facility to offer the physical education program. Although this was in fact the case for many of the smaller schools approximately 14 such schools did have physical education programs in place. These schools were omitted from the survey population. In addition, all subjects in the interview and judging groups were excluded from the provincial written survey.

In Appendices A and B are the general questions used during the personal interviews with principals and teachers. Appendix C is the list of questions that would have been used in the student interviews. These questions were used as a guide to ensure some commonality among the different interviews. Many of the questions are the same for each group. There are some differences and, hence, the separate sets provided.

During the interviews it was stressed that those being questioned were in no way being evaluated and that all information would be held in strict confidence. It should also be understood that, although some questions were explained or reworded slightly, care was taken not to influence the answers given in any way.

In Appendix D is a list of attitude statements derived from the interviews and categorized according to Fullan's list of "Factors Affecting Implementation".

In Appendix E the format in which the statements were presented

to the judges is illustrated. It was stressed to the judges that it was the validity of the statements that they were evaluating. They were not to allow their opinions regarding the attitudes expressed to influence their decisions. They were to decide if the statement should be included and in which category it belongs (i.e., student survey, teacher/principal survey, positive, negative, neutral). The level of agreement among the judges was the criteria used for final selection of statements for the provincial survey.

Appendices F and G are copies of the the final surveys sent to the provincial subjects. As with the interviews, the subjects were assured that they were not being evaluated and that their anonymity would be maintained. The principal/teacher surveys were sent out first and after the list of classes were sent back the student surveys were mailed out.

The surveys were modelled after the Likert format thus allowing ease in statistical analysis of the data. All subjects were asked to indicate on a five-point continuum (illustrated below) their level of agreement or disagreement with each statement.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	4	3	2	1

Analysis of Data

The data collected from the judging group was analyzed to determine a list of 45 valid attitude statements. Only 17 of the 45 statements were rated appropriate for the student survey. The basis for selection was the degree of agreement among the judges as to the validity of the statements. The total score was calculated for each

statement and all statements with a score of 55 or greater were selected for the survey. An approximate equal number of negative and positive statements as well as several neutral statements were selected. It was also intended that the statements selected be related to the fifteen factors of Fullan's model. This was accomplished for all but two factors.

By using the positive and negative statements from the surveys returned, a crosstabulation of respondents' position by attitude to the program was carried out. An overall percentage of positive, negative, and neutral attitude was determined for each group.

Rather than calculating the survey scores by group for each variable, the 45 variables were clustered into groups according to Fullan's Theoretical Model. The numbered responses of all negative statements were recoded such that they would correspond with the numbered responses of the positive statements (i.e. a 2 would represent a negative response and a 4 would represent a positive response for all statements). The neutral statements were not changed and were treated individually in the data analysis. Several statements could not be classified exclusively to one of Fullan's factors but rather applied to two or more. These statements were also analyzed individually. A oneway analysis of variance was carried out for the clustered variables. Comparisons were made across various groupings of subjects to investigate possible differences between groups and to relate these differences to group characteristics and Fullan's model. The major comparison was made according to the status of the subjects, that is, the subjects grouped as either teachers, principals, or students. The other group comparisons were as follows:

A. Teachers grouped according to the courses taught. There were seven groups:

1. Teachers who teach Physical Education 1100 only
2. Teachers who teach Physical Education 2100 only
3. Teachers who teach Physical Education 3100 only
4. Teachers who teach 1100 and 2100 only
5. Teachers who teach 1100 and 3100 only
6. Teachers who teach 2100 and 3100 only
7. Teachers who teach 1100, 2100, and 3100

B. Students grouped according to the course in which they were enrolled during the time of the survey. There were three groups:

1. Students enrolled in Physical Education 1100
2. Students enrolled in Physical Education 2100
3. Students enrolled in Physical Education 3100

C. Teachers grouped according to holding a degree in physical education or not.

A Scheffe test of significance was carried out for each of the above group comparisons. This test determined if the differences in the scores between particular pairs of groups were significant or not.

CHAPTER IV

FINDINGS OF THE STUDY

Preliminary analysis of the data showed no significant difference among teacher groups by course concerning on any of the variables. It was, therefore, decided that course groups would be combined for further analysis.

An appropriate way of presenting the data is to list for each variable cluster the response for each group and point out the significant group response differences. By way of explanation of how the results were reported in tabular form, the values given were determined from user responses to a Likert type scale illustrated as follows;

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	4	3	2	1

It must be noted that the scores given for each variable cluster are mean scores across all items in the cluster.

Results Related to Characteristics of the Change

The first variable cluster 1A groups attitude statements 1, 2, 3, 6, and 44 and corresponds with Fullan's first factor affecting implementation - Need and Relevance of the Change. The statements cover such things as student needs met by the program, increase of student motivation by the program, student preference of the program,

the increased variety of physical activities, and the cognitive advantage of the program (see Table 2). It was found that all groups generally agreed positively with such statements. The mean was 3.2 or greater in all cases. Although the mean was slightly higher for prinipals than for teachers and students there was no significant difference among the three groups. There was also no significant difference among the student grade levels or between teachers with a physical education degree and teachers without a degree (see Table 3). The list a statements referred to in this chapter can be found in appendix F, pages 134-139.

TABLE 2

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, STUDENTS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 1A (NEED AND RELEVANCE OF THE CHANGE)

	Response Percentage				
Values*	Teacher	Principal	Student	Teachers With Degree	Teachers Without Degree
<2.0	3.7	1.2	0.9	4.3	0.0
2.4	3.7	4.7	5.8	4.3	0.0
2.8	19.5	9.4	13.6	20.2	18.2
3.2	16.7	28.2	26.5	15.9	18.2
3.6	40.8	40.0	32.8	39.3	54.6
4.0	14.8	18.5	15.7	15.9	0.0
4.4	0.9	0.0	3.2	0.0	9.1
4.8	0.0	0.0	0.1	0.0	0.0
Mean	3.25	3.32	3.26	3.23	3.38
N	108	85	1530	94	11

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.27	.14	.52	.59
Within Groups	1720	445.26	.26		
Total	1722	445.26			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.39	.39	1.84	.18
Within Groups	188	40.15	.21		
Total	189	40.54			

* Values represent ranges with intervals of .40

TABLE 3

DISTRIBUTIONS OF LEVEL I, II, AND III STUDENTS FOR VARIABLE CLUSTER 1A (NEED AND RELEVANCE OF THE CHANGE)

	Reponse Percentage		
Values*	Level I	Level II	Level III
<2.0	3.0	2.6	1.7
2.4	4.4	6.8	6.3
2.8	12.8	14.6	13.5
3.2	29.0	24.9	25.1
3.6	34.6	30.9	32.5
4.0	14.0	16.9	16.3
4.4	2.0	3.3	4.6
4.8	0.2	0.0	0.0
Mean	3.25	3.25	3.29
N	586	486	459

Oneway ANOVA for Level I, II, and III Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.52	.26	.99	.37
Within Groups	1528	404.03	.26		
Total	1530	404.55			

*Values represent ranges with intervals of .40

Variable 2A, which corresponds to Fullan's second factor - Clarity - had only one attitude statement exclusively related to it. Item four focused on the clarity of the goals and objectives of the new curriculum to the teachers. Both teachers and prinipals agreed that the program is clear in this respect. The mean for both groups was 3.5 or greater. No significant difference was found between the two groups. There was also no significant difference between teachers with

a degree and teachers without (see Table 4).

TABLE 4

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 2A (CLARITY)

	Response Percentage			
Teachers Values*	Teacher	Principal	With Degree	Without Degree
1.00	3.4	0.0	4.0	0.0
2.00	14.7	10.2	15.8	8.3
3.00	15.5	18.2	16.8	8.3
4.00	53.4	65.9	51.5	66.7
5.00	12.9	5.7	11.9	16.7
Mean	3.58	3.67	3.52	3.92
N	116	88	101	12

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.43	.43	.53	.47
Within Groups	202	163.75	.81		
Total	203	164.18			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1.72	1.72	2.14	.15
Within Groups	199	160.23	.81		
Total	200	161.95			

* Values represent ranges with intervals of 1.00

Variable 3A groups statements 5 and 41 and corresponds with Fullan's third factor - Complexity. The statements dealt with the evaluation procedure and the over abundance of different activities covered in the program. Although both teachers and principals agree that the evaluation procedure is too time-consuming and that there are too many non-traditional activities and not enough traditional activities, the percentage of teachers scoring negatively was much higher than the percentage of principals (see Table 5). The Scheffe test showed a significant difference between the two groups at less than the .01 level. The mean for teachers was 2.074 and the mean for principals was 2.349. In percentages, 92.2% of teachers scored 2.50 or lower, while only 79.1% of the principals scored 2.50 or lower.

In addition, when comparing teachers having a degree with teachers not having a degree there was also a significant difference between groups. The mean for teachers with a degree was 2.061, while the mean for teachers without a degree was 2.231. 92.9% of degree teachers scored 2.50 or lower and 84.6% of teachers without a degree scored 2.50 or lower.

TABLE 5

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREEE FOR VARIABLE CLUSTER 3A (COMPLEXITY)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.00	5.2	1.2	5.1	0.0
1.50	13.9	5.8	16.2	0.0
2.00	49.6	36.0	47.5	69.2
2.50	23.5	36.0	24.2	15.4
3.00	7.8	20.9	7.1	15.4
Mean	2.07	2.35	2.06	2.23
N	115	86	99	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	3.72	3.72	17.35	.00 **
Within Groups	199	42.66	.21		
Total	200	46.38			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	3.68	3.68	17.54	.00 **
Within Groups	196	41.14	.21		
Total	197	44.82			

* Values represent ranges with intervals of .50
** Difference is significant at better than the .01 level.

Variable 4A groups statements 8, 9, 10, 20, 25, 26, and 43 and corresponds with Fullan's fourth factor - Quality and Practicality of the Program. The statements cover such points as: time to complete course requirement, adequate equipment and facilities, adequate funding, how the theoretical program works in the practical situation, overcrowding in the classes, student enjoyment, and general program success. Although both teacher and principal groups scored less than 3, indicating a negative response to the items, the principals were shown to be significantly more positive about the quality and practicality of the program than were teachers at less than the .01 level of confidence (see Table 6). In percentages, 84.5% of teachers scored 2.29 or lower, while only 61.4% of principals scored 2.29 or lower. Also, teachers with degrees were significantly more negative than teachers without degrees. Only statements 26 and 43 were answered by students and, therefore, should be discussed independently (see Tables 7 and 8). Both items were scored negatively by students. Only with item 26, referring to overcrowding in classes, was there a significant difference found between students and teachers. The students were found to be less negative to overcrowding than the teachers.

TABLE 6

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 4A (QUALITY AND PRACTICALITY OF PROGRAM)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.29	.9	1.1	1.0	0.0
1.57	3.4	1.1	3.0	7.7
1.86	18.1	4.5	19.0	15.4
2.14	42.2	27.3	41.0	46.2
2.43	25.8	46.6	27.0	15.4
>2.71	9.5	19.3	9.0	15.4
Mean	2.12	2.29	2.12	2.10
N	116	88	100	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1.46	1.46	19.71	.00 **
Within Groups	202	14.95	.07		
Total	203	16.41			

Oneway ANOVA for Teachers with Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1.07	1.07	13.97	.00 **
Within Groups	199	15.24	.08		
Total	200	16.31			

* Values represent ranges with intervals of .283
** Difference is significant at better than the .01 level.

TABLE 7

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, AND STUDENTS FOR ITEM 26 (OVERCROWDING IN CLASSES)

	Response Percentages		
Values	Teacher	Principal	Student
1.00	4.3	4.5	11.1
2.00	17.1	38.2	28.6
3.00	20.5	15.7	17.0
4.00	34.2	36.0	23.3
5.00	23.9	5.6	19.9
Mean	3.56	3.00	3.12
N	117	89	1555

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	23.14	11.57	6.84	.00 **
Within Groups	1758	2973.06	1.69		
Total	1760	2996.20			

** Scheffe Test showed Teachers to be significantly different from Principals and Students at the .05 level

TABLE 8

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, AND STUDENTS FOR ITEM 43 (STUDENT BOREDOM WITH COGNITIVE ASPECT)

	Response Percentage		
Values	Teacher	Principal	Student
1.00	0.9	0.0	7.3
2.00	31.6	39.3	25.1
3.00	22.2	33.7	32.2
4.00	31.6	23.6	21.5
5.00	13.7	3.4	13.9
Mean	3.26	2.91	3.10
N	117	89	1557

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	6.08	3.04	2.40	.09
Within Groups	1760	2232.75	1.27		
Total	1762	2238.83			

* Values represent ranges with intervals of 1.00

Results Related to Characteristics at the School District Level

Although factor five was considered in the pilot survey, attitude statements were not selected by the judges and, as a result, data related to this factor was not collected.

Variable 6A has only statement 27 exclusively related to it, which states students do not have the opportunity to select activities that interest them. This variable corresponds with Fullan's sixth factor - The Adoption Process. Although all three groups of teachers, principals, and students are in fairly strong agreement with this

statement, all scoring with a mean less than 2.3, there were significant differences. Students with a mean of 1.771 were in the strongest agreement, teachers with a mean of 1.991 were in the next strongest agreement, and principals with a mean of 2.247 were in the least agreement (see Table 9). The Scheffe Test showed teachers to be significantly different from students, principals to be significantly different from students, and principals to be significantly different from teachers at the .05 level. Remembering that the lower the score on this variable the higher the level of agreement; 87.2% of students scored 2 or lower, 83.6% of teachers scored 2 or lower, and only 70.8% of principals scored 2 or lower. When student were compared by course, it was found that level three students with a mean of 1.867 scored significantly higher than level two students, who scored the lowest, 1.679, and were in the most agreement with the statement (see Table 10). Finally, teachers without a degree scored with a mean of 1.923, significantly lower than teachers with a degree whose mean score was 2.010 (see Table 9).

TABLE 9

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, STUDENTS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 6A (THE ADOPTION PROCESS)

	Response Percentage				
Values*	Teacher	Principal	Student	Teachers With Degree	Teachers Without Degree
1.00	17.2	4.5	35.8	17.0	15.4
2.00	66.4	66.3	51.4	65.0	76.9
3.00	16.4	29.2	12.8	18.0	7.7
Mean	1.99	2.25	1.77	2.01	1.92
N	116	89	1558	100	13

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	23.21	11.61	27.65	0.0 **
Within Groups	1760	738.75	.42		
Total	1762	761.96			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1.94	1.94	6.09	.02 **
Within Groups	200	63.67	.32		
Total	201	65.60			

* Values represent ranges with intervals of 1.00

** Scheffe Test showed Teachers and Principals to be significantly different from Students, and Principals to be significantly different from Teachers at the .05 level

TABLE 10

DISTRIBUTIONS OF LEVEL I, II, AND III STUDENTS FOR VARIABLE CLUSTER 6A (THE ADOPTION PROCESS)

	Response Percentage		
Values*	Level I	Level II	Level III
1.00	37.5	41.8	27.0
2.00	47.7	48.4	59.3
3.00	14.7	9.8	13.7
Mean	1.77	1.68	1.87
N	597	502	460

Oneway ANOVA for Level I, II, and III Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	8.50	4.25	9.91	.00 **
Within Groups.	1556	667.29	.43		
Total	1558	675.79			

* Values represent ranges with intervals of 1.00

** Scheffe Test showed Level III Students to be significantly different from Level II Students at the .05 level

Variable 7A, which corresponds with Fullan's seventh factor - Central Administrative Support and Involvement - has statement 36 exclusively related to it. This statement indicates that teachers are alone in their efforts to administer the new physical education program. Again, both teachers and principals scored in agreement with this statement. However, teachers were significantly in greater agreement than principals (see Table 11). The mean for teachers was 1.923 which was lower than the principals' mean of 2.079. The Scheffe Test showed this difference to be significant. Teachers with a degree proved to be significantly in greater agreement than teachers without a degree.

Variable 8A corresponds with Fullan's eighth factor - Staff Development and Participation (inservice) - and has statement 12 related to it. Statement 12 refers to the adequate preparation of teachers, through inservice workshops, to teach the new program. With this being a positive statement, the higher the score the greater the level of agreement and the more positive the group was to the statement. Principals were much more positive than teachers concerning this issue (see Table 12).

TABLE 11

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE AND TEACHERS WITHOUT A DEGREE FOR VARIABLE 7A (CENTRAL ADMINISTRATIVE SUPPORT AND INVOLVEMENT)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.00	19.7	6.7	21.8	7.7
2.00	68.4	78.7	68.3	69.2
3.00	12.0	14.6	9.9	23.1
Mean	1.92	2.08	1.88	2.15
N	117	89	101	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1.22	1.22	4.56	.03 **
Within Groups	204	54.76	.27		
Total	205	55.98			

Oneway ANOVA for Teachers with a Degree and Teachers wthout a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	2.18	2.18	8.29	.00 **
Within Groups	201	52.78	.26		
Total	202	54.96			

* Values represent ranges with intervals of 1.00
** Difference is significant

TABLE 12

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE 8A (STAFF DEVELOPMENT AND PARTICIPATION)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.00	32.5	5.6	33.7	30.8
2.00	46.2	36.0	43.6	61.5
3.00	4.3	18.0	4.0	7.7
4.00	14.5	40.4	15.8	0.0
5.00	2.6	0.0	3.0	0.0
Mean	2.09	2.93	2.11	1.77
N	117	89	101	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	36.27	36.27	32.93	.00 **
Within Groups	204	224.74	1.10		
Total	205	261.02			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	23.15	23.15	19.80	.00 **
Within Groups	201	235.06	1.17		
Total	202	258.21			

* Values represent ranges with intervals of 1.00
** Difference is significant at better than the .01 level.

The mean for principals was 2.933 and the mean for teachers was 2.085. In percentage terms, 78.6% of teachers scored 2 or less, while only 41.6% of principals scored 2 or less. A significant difference was found between groups at better than a .01 level. Teachers with a degree were less negative than teachers without a degree. 77.2% of teachers with a degree scored 2 or less, while 92% of teachers without a degree scored 2 or less.

Variable 8N has the neutral statement 13 related to it and also corresponds to Fullan's eighth factor. The statement indicates that teachers need continuous access to qualified help. Both teachers and principals were in agreement with this statement; however, the teachers showed a significantly higher level of agreement than principals (see Table 13). The mean for teachers was 4.147, and the mean for principals was 3.798. 87.9% of teachers scored 4 or greater, while only 78.7% of principals scored 4 or greater. In the case of this statement the higher the score the higher the level of agreement. Teachers with a degree were found to be significantly in greater agreement than teachers without a degree. Although the means were very much the same for both, 88% of teachers with a degree scored 4 or greater, while 84.6% of teachers without a degree scored 4 or greater.

Variable 9A groups statements 11, 24, 28 and 37 together and corresponds with Fullan's ninth factor - Time-Line Information System (Evaluation). The statements deal with feedback systems, need for communication, and time frame for program implementation. Both teachers and principals responded negatively toward these statements; however, teachers were significantly more negative than principals at less than the .01 level of significance (see Table 14).

TABLE 13

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE 8N (STAFF DEVELOPMENT AND PARTICPATION)

	Response percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.00	0.0	1.1	0.0	0.0
2.00	2.6	6.7	3.0	0.0
3.00	9.5	13.5	9.0	15.4
4.00	58.6	68.5	58.0	53.8
5.00	29.3	10.1	30.0	30.8
Mean	4.15	3.80	4.15	4.15
N	116	89	100	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	6.13	6.13	11.86	.00 **
Within Groups	203	104.87	.52		
Total	204	111.00			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	4.76	4.76	8.95	.00 **
Within Groups	200	106.24	.53		
Total	201	111.00			

* Values represent ranges with intervals of 1.00
** Difference is significant at better than the .01 level.

TABLE 14

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 9A (TIME-LINE INFORMATION SYSTEM)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
<1.25	5.2	1.2	6.0	0.0
1.50	8.7	0.0	10.1	0.0
1.75	15.7	3.4	13.1	30.8
2.00	23.5	23.3	25.3	15.4
2.25	17.4	12.8	18.2	15.4
2.50	19.1	34.9	16.2	30.8
2.75	7.0	22.1	7.1	7.7
3.00	3.5	1.2	4.0	0.0
3.25	0.0	1.2	0.0	0.0
Mean	2.10	2.38	2.09	2.17
N	115	86	99	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	3.88	3.88	24.37	.00 **
Within Groups	199	31.69	.16		
Total	200	35.57			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	3.55	3.55	21.97	.00 **
Within Groups	196	31.65	.16		
Total	197	35.19			

* Values represent ranges with intervals of 0.25
** Difference is significant at better than the .01 level.

With this variable the lower the score the more negative the attitude. Teachers had a mean of 2.1 while principals had a mean of 2.381. 89.6% of teachers scored 2.5 or less, while only 75.6 of principals scored 2.5 or less. Teachers with a degree also scored significantly more negative than teachers without a degree. With a mean of 2.086, 88.9% of teachers with a degree scored 2.5 or less, and with a mean of 2.173, only 61.5% of teachers without a degree scored 2.5 or less.

Variable 10A groups statements 14 and 15 and corresponds with Fullan's tenth factor - Board and Community Characteristics. The statements deal mainly with community knowledge and understanding of the new physical education program. All three groups agreed that this knowledge and understanding is poor (see Table 15). Teachers scored the most negative with a mean of 1.709, the principals were the least negative with a mean of 1.966, and the students were in between with a mean of 1.856. The Scheffe test showed the difference between teachers and principals and the difference between teachers and students to be significant at the .05 level. The difference between students and principals was not significant. In percentages, 86.3% of teachers scored 2 or less, 83% of principals scored 2 or less, and 78.2% of students scored 2 or less. The difference between teachers with a degree and teachers without a degree was found to be significant. The means were very much the same; however, 85.1% of teachers with a degree scored 2 or less while 97.3% of teachers without a degree scored 2 or less. Comparison of students by course showed no significant difference (see Table 16).

TABLE 15

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, STUDENTS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE 10A (BOARD AND COMMUNITY CHARACTERISTICS)

	Response Percentage				
Values*	Teacher	Principal	Student	Teachers With Degree	Teachers Without Degree
1.00	29.9	6.8	15.5	29.7	30.8
1.50	15.4	17.0	23.0	17.8	0.0
2.00	41.0	59.1	39.7	37.6	61.5
2.50	10.3	10.2	18.4	10.9	7.7
3.00	3.4	6.8	3.4	4.0	0.0
Mean	1.70	1.97	1.86	1.70	1.73
N	117	88	1571	101	13

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	3.55	1.78	6.54	.00 **
Within Groups	1773	481.90	.27		
Total	1775	485.45			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	2.62	2.62	9.62	.00 **
Within Groups	200	54.47	.27		
Total	201	57.08			

* Values represent ranges with intervals of .50
** Scheffe Test showed Students and Principals to be significantly different from Teachers at the .05 level

TABLE 16

DISTRIBUTIONS OF LEVEL I, II, AND III STUDENTS FOR VARIABLE CLUSTER 10A (BOARD AND COMMUNITY CHARACTERISTICS)

	Response Percentage		
Values*	Level I	Level II	Level III
1.00	16.4	15.3	14.6
1.50	22.1	26.0	21.0
2.00	38.0	35.8	45.9
2.50	19.1	20.1	15.7
3.00	4.5	2.8	2.8
Mean	1.87	1.85	1.86
N	598	503	471

Oneway ANOVA for Level I, II, and III Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.13	.06	.23	.80
Within Groups	1569	427.99	.27		
Total	1571	428.12			

* Values represent ranges with intervals of .50

Results Related to Characteristics at the School Level

Variable 11A groups statements 16 and 17 and corresponds with Fullan's eleventh factor - The Principal. The statements deal with the principal's role in development and implementation of the new program. Both groups agreed that the principal plays a positive and important role in both program development and implementation. The mean for both groups was approximately 3.8. There was no significant difference between groups. There was also no significant difference between teachers with a degree and teachers without a degree (see Table 17).

TABLE 17

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 11A (THE PRINCIPAL)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
<2.00	6.9	4.5	7.0	7.7
2.50	6.8	1.1	6.9	7.7
3.00	12.8	13.6	10.9	30.8
3.50	12.8	9.1	12.9	15.4
4.00	32.5	52.3	32.7	38.5
4.50	5.1	12.5	5.9	0.0
5.00	23.1	6.8	23.8	0.0
Mean	3.80	3.84	3.83	3.35
N	117	88	101	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.05	.05	.07	.79
Within Groups	203	145.84	.72		
Total	204	145.89			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.15	.15	.21	.65
Within Groups	200	141.48	.71		
Total	201	141.63			

* Values represent ranges with intervals of .50

Variable 11N also corresponds with Fullan's eleventh factor and groups the neutral statements 29, 30, and 38. The statements deal with the principal's responsibility to learn about and promote the new program and also the fact that principals are often too tied down by other responsibilities. Both groups responded positively towards these statements. The mean for both groups was approximately 3.1. There was no significant difference between teachers and principals, however there was a significant difference at the .05 level between teachers with a degree and teachers without a degree. When comparing the responses between 11A and 11N the response was not as positive to 11N (see Table 18).

Variable 12A groups statements 31, 32, and 33 and corresponds with Fullan's twelfth factor - Teacher-Teacher Relations. The central theme is communication among teachers, in particular, the amount of communication that takes place, the willingness of teachers to communicate with each other, and the opportunity for teachers to communicate. Both teachers and principals indicated a negative response. When comparing the means, there is a significant difference between the two groups (see Table 19).

TABLE 18

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 11N (THE PRINCIPAL)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
<2.33	7.8	4.5	9.0	0.0
2.67	21.6	27.0	23.0	0.0
3.00	22.4	9.0	23.0	23.1
3.33	31.0	40.4	31.0	38.5
3.67	14.7	14.6	12.0	30.8
4.00	2.6	4.5	2.0	7.7
Mean	3.10	3.15	3.06	3.41
N	116	89	100	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.14	.14	.77	.38
Within Groups	203	37.40	.18		
Total	204	37.54			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.76	.76	4.23	.04 **
Within Groups	200	36.06	.18		
Total	201	36.82			

*Values represent ranges with intervals of .33
** Difference is significant

TABLE 19

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 12A (TEACHER-TEACHER RELATIONS)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
<1.67	7.7	0.0	8.9	0.0
2.00	16.2	3.4	17.8	7.7
2.33	22.2	17.0	23.8	7.7
2.67	28.2	44.3	25.7	46.2
3.00	19.7	26.1	17.8	30.8
3.33	6.0	0.0	5.9	7.7
Mean	2.51	2.73	2.48	2.74
N	117	88	101	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	2.54	2.54	15.81	.00 **
Within Groups	203	32.61	.16		
Total	204	35.15			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	3.43	3.43	21.81	.00 **
Within Groups	200	31.48	.16		
Total	201	34.91			

* Values represent ranges with intervals of .33
** Difference is significant

Principals were significantly less negative than teachers, demonstrated by the Analysis of Variance. The mean for teachers was 2.510 and for principals it was 2.735. 74.4% of teachers scored 2.67 or less while 64.8% of principals scored 2.67 or less. It is important to point out that when considering statement 33 independently the trend is very different. Statement 33 deals with teachers feeling free to contact each other or their willingness to communicate (see Table 20). Both principals and teachers agreed positively with this statement. Both groups had means of greater than 3.7. For Variable Cluster 12A a comparison of teachers holding a degree with teachers who do not have a degree also showed a significant difference (see Table 19). The mean for teachers with a degree was 2.474 while the mean for teachers without a degree is 2.744. 76.2% of teachers with a degree scored 2.67 or less while 61.5% of teachers without a degree scored 2.67 or less.

TABLE 20

DISTRIBUTIONS OF TEACHERS AND PRINCIPALS FOR ITEM 33 (TEACHERS WILLINGNESS TO COMMUNICATE)

	Response Percentage	
Values	Teacher	Principal
<2.00	10.3	2.3
3.00	23.9	25.0
4.00	51.3	65.9
5.00	14.5	6.8
Mean	3.70	3.77
N	117	8

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.26	.26	.46	.50
Within Groups	203	113.99	.56		
Total	204	114.24			

Variable 13A groups statements 18, 19, 35 and 39 and corresponds with Fullan's thirteenth factor - Teacher Characteristics and Orientations. The statements deal with teacher university preparation for the program, teacher role in promotion of the program, and finally whether teachers carry out all the recommendations of the program guide. Principals scored just above the neutral point, showing a more positive perception of the above statements than teachers who scored just below the neutral point (see Table 21). The mean for teachers was 2.925 and the mean for principals was 3.247. The Analysis of Variance showed a significant difference between teachers and principals at better than the .01 level. 65% of teachers scored 3 and lower while only 30% of principals scored 3 and lower. Teachers with a degree also scored significantly lower than teachers without a degree, indicating a lower positive attitude toward the statements. Teachers with a degree had a mean of 2.911 and teachers without a degree had a mean of 3.019. 49.5% of teachers with a degree scored 3 or greater while 61.5% of teachers without a degree scored 3 or greater.

TABLE 21

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 13A (TEACHER CHARACTERISTICS AND ORIENTATIONS)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
<2.00	3.4	1.1	4.0	0.0
2.25	8.5	4.5	9.9	0.0
2.50	17.1	6.7	18.8	7.7
2.75	19.7	5.6	17.8	30.8
3.00	16.2	12.4	13.9	30.8
3.25	14.5	29.2	13.9	15.4
3.50	11.1	23.6	11.9	7.7
3.75	9.4	7.9	9.9	7.7
4.00	0.0	9.0	0.0	0.0
Mean	2.93	3.25	2.91	3.02
*N	117	89	101	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	5.24	5.24	23.51	.00 **
Within Groups	204	45.47	.22		
Total	205	50.71			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	4.79	4.79	21.03	.00 **
Within Groups	201	45.78	.23		
Total	202	50.57			

* Values represent ranges with intervals of .25
** Difference is significant

Results Related to Characteristics External to the Local System

Factor 14 as with factor 5 did not have any attitude statements related to it included in the survey and, therefore, data was not collected related to it.

Variable 15A groups statements 21 and 22 and corresponds to Fullan's fifteenth factor - External Assistance. The statements deal with the availability of resources external to the regular education circles that may aid teachers in teaching the new program. Examples of such resources are the YMCA and provincial sport governing bodies. With no significant difference between principals and teachers, both groups were generally negative towards these statements with means of 2.5 or less (see Table 22). There was also no significant difference between teachers with a degree and teachers without a degree.

Results of Statements Classified Under More Than One Heading

In addition to the statements that were exclusively related to the factors listed by Fullan, there were several statements that could not be grouped with one factor only. These statements, because they applied to two or more of Fullan's factors, were dealt with individually.

Variable 16A refers to statement 42 and corresponds with two of Fullan's factors, these being number 2 - Clarity - and number 13 - Teacher Characteristics and Orientations. The statement deals with whether teachers clearly understand the goals and objectives of the new curriculum. Both teachers and principals indicated a negative response to this statement, suggesting that they feel teachers do not clearly understand the goals and objectives of the new program(see Table 23).

The mean for teachers was 2.197 and for principals the mean was 2.317. There was no significant difference between teachers and principals and between teachers with a degree and teachers without a degree.

TABLE 22

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 15A (EXTERNAL ASSISTANCE)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.00	10.3	8.0	11.0	7.7
1.50	8.6	9.2	9.0	7.7
2.00	23.3	42.5	20.0	38.5
2.50	22.4	13.8	23.0	15.4
3.00	15.5	19.5	16.0	15.4
3.50	8.6	1.1	10.0	0.0
4.00	6.0	4.6	5.0	15.4
4.50	2.6	1.1	3.0	0.0
5.50	2.6	0.0	3.0	0.0
Mean	2.51	2.28	2.54	2.42
N	116	87	100	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	2.79	2.79	3.70	.06
Within Groups	201	151.61	.75		
Total	202	154.40			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	2.88	2.88	3.77	.05
Within Groups	198	151.18	.76		
Total	199	154.06			

* Values represent ranges with intervals of .50.

TABLE 23

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 16A (FACTORS 2 AND 13)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.00	8.5	1.1	8.9	7.7
2.00	63.2	64.0	62.4	69.2
3.00	28.2	34.8	28.7	23.1
Mean	2.20	2.34	2.20	2.15
N	117	89	101	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1.00	1.00	3.37	.07
Within Groups	204	60.37	.30		
Total	205	61.36			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.68	.68	2.28	.13
Within Groups	201	60.00	.30		
Total	202	60.68			

* Values represent ranges with intervals of 1.00

Variable 17A refers to statement 7 and corresponds with Fullan's factor 4, Quality and Practicality of the Program, and factor 3, Complexity. The statement deals with the point that the courses put too much emphasis on skills and cognitive ability and not enough on fun

and enjoyment. Of the three groups, students scored the lowest, indicating the most negative attitude toward the topic. All three groups held a negative attitude toward the topic (see Table 24).

TABLE 24

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, STUDENTS TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE CLUSTER 17A (FACTORS 4 AND 3)

	Response Percentage				
Values*	Teacher	Principal	student	Teachers With Degree	Teachers Without Degree
1.00	12.0	1.1	30.1	11.9	15.4
2.00	70.1	83.1	52.3	67.3	84.6
3.00	17.9	15.7	17.6	20.8	0.0
Mean	2.06	2.15	1.88	2.09	1.85
N	117	89	1571	101	13

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	9.34	4.67	10.71	.00 **
Within Groups	1774	773.23	.44		
Total	1776	782.57			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.02	.02	.08	.79
Within Groups	201	48.01	.24		
Total	202	48.03			

* Values represent ranges with intervals of 1.00
** Scheffe Test showed Teachers and Principals to be significantly different from Students at the .05 level

The mean for teachers was 2.060, for principals it was 2.146 and for students it was 1.875. The Scheffe test showed a significant difference between the principals and students and between the teachers and students. No significant difference was found between teachers and principals. In percentages, 12% of teachers scored 1, 1.1% of principals scored 1, and 30% of students scored 1. There was also no significant difference between teachers with a degree and without a degree and among the three student grade levels (see Table 25).

TABLE 25

DISTRIBUTIONS FOR LEVEL I, II, AND III STUDENTS FOR VARIABLE, V1A (FACTORS 4 AND 3)

	Response Percentage		
Values*	Level I	Level II	Level III
1.00	31.4	30.4	28.1
2.00	52.8	51.0	53.1
3.00	15.9	18.7	18.8
Mean	1.85	1.88	1.91
N	599	504	469

Oneway ANOVA for Level I, II, and III Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.47	.23	.14	.87
Within Groups	1569	2679.88	1.71		
Total	1571	2680.35			

* Values represent ranges with intervals of 1.00.

Variable 18A refers to statement 34 and corresponds with Fullan's factor 1 - Need and Relevance of the Change, factor 4 - Quality and Practicality of the Program, and factor 13 - Teacher Characteristics and Orientations. The statement refers to whether the new program provides for the flexibility and creativity of teachers. Both teachers and principals scored high and are therefore positive toward this statement (see Table 26). The mean for teachers was 3.436, and the mean for principals was 3.640. There was no significant difference between teacher and principal groups, however there was a significant difference at the .05 level between teachers with a degree and teachers without a degree.

Variable 19N refers to the neutral statement 40 and corresponds with Fullan's factor 4 - Quality and Practicality of the Program, and factor 6 - The Adoption Process. The statement refers to whether students should be given the opportunity to choose activities that interest them. All three groups responded positively to this statement, indicating that students should be given the opportunity to select the activities. Students, in particular, showed a very positive attitude towards the statement (see Table 27).

TABLE 26

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR 18A (FACTORS 1, 4, AND 13)

	Response Percentage			
Values*	Teacher	Principal	Teachers With Degree	Teachers Without Degree
1.00	0.9	2.2	1.0	0.0
2.00	17.9	9.0	18.8	15.4
3.00	25.6	16.9	27.7	15.4
4.00	47.9	66.3	44.6	61.5
5.00	7.7	5.6	7.9	7.7
Mean	3.44	3.64	3.40	3.62
N	117	89	101	13

Oneway ANOVA for Teachers and Principals

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	2.12	2.12	2.82	.10
Within Groups	204	153.26	.75		
Total	205	155.38			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	2.95	2.95	3.91	.05 **
Within Groups	201	151.74	.76		
Total	202	154.69			

* Values represent ranges with intervals of 1.00
** Difference is significant

TABLE 27

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, STUDENTS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE 19N (FACTORS 4 AND 6)

	Response Percentage				
Values*	Teacher	Principal	Student	Teachers With Degree	Teachers Without Degree
1.00	2.6	1.1	2.0	3.0	0.0
2.00	21.6	12.4	3.5	22.0	23.1
3.00	13.8	16.9	8.7	15.0	0.0
4.00	49.1	64.0	35.2	47.0	61.5
5.00	12.9	5.6	50.6	13.0	15.4
Mean	3.48	3.61	4.29	3.45	3.69
N	116	89	1556	100	13

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	103.03	51.51	61.22	0.0 **
Within Groups	1758	1479.21	.84		
Total	1760	1582.24			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	1.42	1.42	1.54	.22
Within Groups	200	184.84	.92		
Total	201	186.26			

* Values represent ranges with intervals of 1.00
** Scheffe Test showed Students to be significantly different from both Teachers and Principals at the .05 level.

The mean for principals was 3.607, for teachers it was 3.483, and for students it was 4.288. The Scheffe Test showed a significant difference between teachers and students and between principals and students but not between principals and teachers. In percentages, 62.1% of teachers scored 4 or greater, 69.7% of principals scored 4 or greater, and 85.7% of students scored 4 or greater. There was no significant difference found between student grade levels (see Table 28) or between teachers with and without a degree.

Variable 20A refers to statement 23 and corresponds with Fullan's factor 2 - Clarity, and factor 6 - The Adoption Process. The statement deals with the point that the content of the new courses was not explained to the students before they registered. All three groups responded negatively to this statement, indicating that the courses were not explained to the students (see Table 29). The mean for teachers was 2.051, for principals was 2.079, and for students was 1.967. The lower the score the more negative the response. No two groups were significantly different in all group comparisons (see Table 30).

TABLE 28

DISTRIBUTIONS OF LEVEL I, II, AND III STUDENTS FOR VARIABLE 19N (FACTORS 4 AND 6)

	Response Percentages		
Values*	Level I	Level II	Level III
1.00	1.8	2.0	2.2
2.00	3.9	2.4	4.3
3.00	9.7	8.8	7.4
4.00	32.2	33.9	40.3
5.00	52.4	52.9	45.8
Mean	4.30	4.33	4.23
N	597	499	461

Oneway ANOVA for Level I, II, and III Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	2.46	1.23	1.48	.23
Within Groups	1554	1291.06	.83		
Total	1556	1293.52			

* Values represent ranges with intervals of 1.00

TABLE 29

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, STUDENTS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE 20A (FACTORS 8 AND 6)

	Response Percentage				
Values*	Teacher	Principal	Student	Teachers With Degree	Teachers Without Degree
1.00	14.5	4.5	21.6	14.9	15.4
2.00	65.8	83.1	60.2	63.4	76.9
3.00	19.7	12.4	18.2	21.8	7.7
Mean	2.05	2.08	1.97	2.07	1.92
N	117	89	1559	101	13

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	1.73	.87	2.27	.10
Within Groups	1762	672.41	.38		
Total	1764	674.14			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.01	.01	.02	.89
Within Groups	201	54.16	.27		
Total	202	54.17			

* Values represent ranges with intervals of 1.00

TABLE 30

DISTRIBUTIONS OF LEVEL I, II, AND III STUDENTS FOR VARIABLE 20A (FACTORS 2 AND 6)

	Response Percentage		
Values*	Level I	Level II	Level III
1.00	23.3	23.5	17.4
2.00	57.5	58.2	65.9
3.00	19.3	18.3	16.7
Mean	1.96	1.95	1.99
N	597	502	461

Oneway ANOVA for Level I, II, and III Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.53	.27	.67	.51
Within Groups	1557	618.67	.40		
Total	1559	619.20			

* Values represent ranges with intervals of 1.00

Variable 20A refers to statement 45 and corresponds to Fullan's factor 1 - Need and Relevance of the Change, and factor 4 - Quality and Practicality of the Program. The statement deals with whether the program is a successful form of motivation for students because of its credit status. All three groups agreed positively with this statement (see Tables 31 and 32). The means for all groups were 3.7 or greater. No two groups were significantly different for all group comparisons.

TABLE 31

DISTRIBUTIONS OF TEACHERS, PRINCIPALS, STUDENTS, TEACHERS WITH A DEGREE, AND TEACHERS WITHOUT A DEGREE FOR VARIABLE 21A (FACTORS 1 AND 4)

	Response Percentage				
Values*	Teacher	Principal	Student	Teachers With Degree	Teachers Without Degree
1.00	1.7	1.1	3.1	2.0	0.0
2.00	15.5	7.9	8.1	17.0	0.0
3.00	9.5	11.2	22.2	8.0	15.4
4.00	55.2	66.3	48.7	53.0	76.9
5.00	18.1	13.5	17.9	20.0	7.7
Mean	3.72	3.83	3.70	3.72	3.92
N	116	89	1557	100	13

Oneway ANOVA for Teachers, Principals, and Students

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	1.40	.70	.78	.46
Within Groups	1759	1592.56	.91		
Total	1761	1593.96			

Oneway ANOVA for Teachers with a Degree and Teachers without a Degree

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	.77	.77	.92	.34
Within Groups	200	165.65	.83		
Total	201	166.42			

*Values represent ranges with intervals of 1.00

TABLE 32

DIATRIBUTIONS OF LEVEL I, II, AND III STUDENTS FOR VARIABLE 21A (FACTORS 1 AND 4)

	Response Percentage		
Values*	Level I	Level II	Level III
1.00	2.7	3.0	3.7
2.00	7.0	9.4	8.0
3.00	25.8	19.8	20.0
4.00	45.6	47.6	54.2
5.00	18.9	20.2	14.1
Mean	3.71	3.73	3.67
N	597	500	461

Oneway ANOVA for Level I, II, and III Students

Source	D.F.	Sum of Squares	Sum of Squares	F Ratio	F Prob.
Between Groups	2	.79	.39	.43	.65
Within Groups	1555	1422.21	.92		
Total	1557	1423.00			

* Values represent ranges with intervals of 1.00

Attitude Results of Subjects Surveyed

A crosstabulation of respondent position by attitude to the program was carried out by using the unclustered variables. From a general observation, the majority within each group was positive towards the program. There were, however, differences noted (see Table 33). Principals were the most positive, with 79.8% positive, 11.2% neutral, and 9% negative. The teachers were the next most positive with 72.6% positive, 10.3% neutral, and 17.1% negative. The students

were the least positive with 66% positive, 22% neutral, and 12% negative.

TABLE 33

CROSSTABULATION OF STATUS
RESPONDENTS POSITION BY ATTITUDE TOWARDS PROGRAM

Status		Attitude Positive	Neutral	Negative
Teacher	No.	85	12	20
	%	72.6	10.3	17.1
Principal	No.	71	10	8
	%	79.8	11.2	9.0
Student	No.	1041	347	190
	%	66.0	22.0	12.0

CHAPTER V

INTERPRETATIONS AND RECOMMENDATIONS

An overview of all the data showed a general level of agreement among groups in terms of a positive, negative, or neutral response. For most variable clusters if one group was positive the other group(s) were also positive, which was also the case for the other responses. When significant differences occurred it was in the degree of positive or negative response. In carrying out a more detailed discussion and interpretation of the results, it is appropriate to focus on each of Fullan's 15 factors individually and analyze how the data return is related.

Interpretations Related to Characteristics of the Change

When considering Fullan's first factor, Need and Relevance of the Change, all three groups responsed positively without any significant difference to variable 1A. This agreement indicates that the program was implemented in a positive attitude environment. Because the survey completed after the program had been in place in its entirety for one year, one might also conclude that the program itself is perceived as possibly meeting the needs. Although the score was positive, it was not overwhelmingly positive. One should not, therefore, suggest that everything is perfect in this category. Variable 18A, also related to factor 1, yielded the same positive response from both principals and teachers. Both groups agreed that the program allows for flexibility and creativity. The level of

agreement was, in fact, higher than for 1A. Variable 18A corresponds with Hughes and Keith's third point related to the degree of implementation (i.e. Does the program allow the teacher to experiment?). One might surmise from the positive response that the users do not feel restricted by the new program. Possible reasons for a significantly greater percentage of teachers without a degree being more positive toward this point than teachers with a degree, can be suggested from two perspectives. First, one might think that teachers without a degree have not had sufficient training to be able to critically determine the level of creativity possible with the new program, and thus they are more satisfied with what they are able to accomplish. Conversely, one might suggest that the lack of training of these teachers has forced them to be more creative than teachers with a degree who have developed set ways of approaching the curriculum based on their university training. Regardless of the reasons for the differences, one must not lose sight of the point that all teachers, those with and without a degree, agreed that the new program allows for flexibility and creativity.

The ability to motivate is an important requirement of any educational program. Variable 21A directly relates to the success of the program in terms of its ability to motivate. All three groups responded very positively that the program is meeting this need. A possible drawback of the survey is that it asked the subjects to comment only on the needs presented. There may have been other detected needs which may or may not have been met by the program. Subjects were not given the opportunity to add and discuss other needs. The survey development process, however, should have produced the most

prominently recognized needs.

The second factor, Clarity, has variables 2A, 16A, and 20A related to it. When comparing the responses to 2A and 16A there is an apparent contradiction. Both teachers and principals responded very positively to 2A, suggesting that the goals and objectives are clear to the teacher. In the case of 16A, which also deals with the clarity of the goals and objectives, both teachers and principals responded negatively. Observation of the two statements shows two distinct differences. The statement connected to 16A uses the words "confusing" and "many". The word "confusing" refers to the goals and objectives and is not used in the statement associated with 2A. It is possible that although the subjects believe the goals and objectives are clearly understood by physical educators, as demonstrated by the response to 2A, they are still confusing, as demonstrated by the response to 16A. The word "many" used in reference to physical educators may have been perceived as refering to teachers other than themselves. The subjects may have viewed 2A as related to their own school. Hence, one might guess that the subjects viewed themselves as understanding the goals and objectives but felt that many other teachers do not understand them.

Varable 20A refers to the clarity of the progam to students. All subjects agreed that students do not have the program explained to them before they register. If the students do not understand the program before they actually take the course, the possible confusion that may result while they are participating may make them negative and less acceptive of the program. In addition to the differences in activities covered, a major change from what they were used to in

grades 7, 8, and 9 is the extent of written evaluation and skills testing. If students are unprepared to handle this increased workload they may do poorly and react negatively to the program. It is possible, however, that students will develop an understanding from talking with other students; yet the level of this understandng may not be adequate.

In reference to the third factor, Fullan suggests that greater complexity may produce greater results in implementation but must be presented in a way that maximizes clarity. Variable 3A refers to the evaluation procedure. Both teachers and principals were negative toward the evaluation procedure; however, teachers were significantly more negative than principals. A possible reason for this result is that teachers are more directly involved. Credit evaluation is relatively new to physical education, and many teachers may have difficulty in compiling a combined cognitive and psychomotor evaluation score for students. Teachers without a degree were found to be significantly less negative than teachers with a degree. A possible reason for this difference is that teachers with a degree are more knowledgeable as to what to expect in results and are therefore more frustrated with the system.

Variable 17A, also related to the third factor, refers to the point that the program puts too much emphasis on skills and cognitive ability and not enough on fun and enjoyment. All three groups scored negatively to this statement. The students were significantly the most negative. From a learner perspective the program now involves work in the form of tests and evaluation. Remembering the relaxed atmosphere of the past, students are probably responding to the increased

workload. Teachers and principals, although not positive toward the cognitive and skills emphasis, would tend to be more acceptive of such work in the school atmosphere. The teacher response, indicating that teachers would like the course to be more enjoyable for the students, corresponds with Leithwood and MacDonald's (1981) findings that student interest greatly influences teacher curriculum choices.

Factor four, Quality and Practicality of the Program, had the most statements related to it. In the case of variable 4A, both principals and teachers responded negatively, showing dissatisfaction with the quality and practicality of the program. Although there was agreement between teachers and principals, there was a significant difference. Teachers were much more negative than principals. This might suggest that the principals are more distant from the practical use of the program. Teachers who are more or less on the front line of implementing the program, most probably experience the program's shortcomings firsthand. In many cases, the principals have established their attitude based on the feedback provided by the teacher.

Two statements clustered into variable 4A, that were also answered by students, demonstrated interesting results when analyzed independently. Students were negative toward item 43, which suggested that students were bored with the cognitive aspect of the program. All three groups agreed with this point. As stated earlier, student attitude often greatly influences the teacher's attitude. Item 26 made reference to overcrowding in the classes. Interestingly enough, students, like principals, were significantly less negative than teachers. It is understandable that teachers would be more negative because their view is from a teaching perspective. Class control,

activity scheduling, individualized instruction, and other concerns are all impaired by overcrowding. Students would be less likely to recognize these problems. Note, however, that none of the groups were satisfied regarding this point.

Other variables related to the fourth factor were 17A, 18A, 19N, and 21A. In the case of 17A all three groups agreed that the program does not stress enough fun and enjoyment and the students expressed the greatest level of frustration with this point. In 18A teachers and principals responded positively indicating agreement that there is room for creativity in the program. In 21A all three groups agreed that the program provides motivation to students.

To suggest that the users were completely negative to the new program in the area of quality and practicality would be much too narrow in thought. The level of negative response does not substantiate such a conclusion. When considering availablity of equipment, funding, and time scheduling, there are very few people that are completely satisfied. In fact, there is always room for improvement. However, one cannot ignore the negative response completely either. If implementation is to be successful the program must be viewed as being feasible and the feasibility is governed by the quality and practicality of the program. Efforts must be made to develop and maintain a level of quality. This is not to say the program must be perfect before implementation; however, it must be monitored and improved where necessary. If the users see steps toward improvement, they will in turn attempt to improve their knowledge and accurate use of the curriculum.

Interpretations Related to Characteristics at the School District

A possible reason for the judging group not selecting attitude statements related to Fullan's fifth factor, The History of Innovative Attempts, is that the history of major innovations in the high school physical education program is very limited. Many teachers have had no experience of past innovation attempts. The exception to this was the credit program that existed before the reorganized high school program. These credit courses were in place in a limited number of schools in the province.

Factor 6, The Adoption Process, had only statements referring to the students. The statements dealt with the way the program was introduced to the students and how teachers and principals perceive that introduction. Variable 6A focuses on whether students had the opportunity to choose activities that interest them. All three groups agreed that students do not have a choice. The attitude statement in question (i.e. number 27 on the teacher/principal survey) may be viewed from two perspectives: one, the students are not given the opportunity to choose activities and two, students do not have interesting activities to choose from. The latter does not suggest the lack of choice but the lack of interesting activities. Students were significantly the most negative, suggesting a strong desire for choice and/or more interesting activities. This corresponds with the negative student attitude toward the lack of fun and enjoyment in the program, demonstrated by the response to varible 17A, and also with the student response to statement 43 which suggests that they are bored with the cognitive aspect.

The response to variable 19N, which is also related to factor

six, showed that all three groups agreed that students should have the choice. Again, students were significantly the most in favour. From a consideration of the responses to these variables, it would appear that students are not content with their input into the new program. The fact that students are not given an explanation of the program before they register (see response to variable 20A) further increases this negative feeling. If one were to take the view of Leithwood and MacDonald, the teachers, and possibly the principals, are influenced by the students' attitude and hence their similar responses to the variables connected with this factor. The results suggest that teachers would like to offer the students more say in terms of choice; yet they are not as strongly in favour of it as students. A possible reason for this lower negative attitude is the teacher knowledge of the implications of offering the students choice. Another reason is that many teachers may not wish to give students a choice because teachers lack experience and training with many of the activities. This point will later be discussed further.

A significant difference was shown between students in the 2100 course and students in the 3100 course. The students in 2100 were in greater agreement with statement 27, indicating a higher negative feeling regarding the lack of choice of interesting activities. It is difficult to determine the exact reason for this difference; however, it is possible that students in 3100 are more satisfied with the choice of interesting activities. The characteristics of the 3100 classes may also be different. These classes are generally smaller and the students who choose to be in them are generally more positive to physical education and thus more acceptive of the activities offered.

On this same line of thought, it would make sense that students in the 1100 course would be the most negative because the first course is usually obligatory. In fact, the Level I students scored in between the Level II and Level III means and were not significantly different from either. It is possible that the novelty of the Level I course may tend to make the students a little less negative than 2100 students. With all this discussion it is important to keep in perspective that all three groups were negative overall.

The amount of central administrative support and involvement is an important factor in the success of implementation. The survey had only one statement related to this 7th factor. Both teachers and principals agreed fairly strongly that teachers are alone in their efforts to administer the program. Teachers were significantly in greater agreement than principals concerning this point. A possible reason for this difference, as mentioned earlier for other points, is that teachers are in more direct contact with the running of the program and its problems. Teachers may perceive administrative involvement as coming from three sources: the principal of the school, the school board, and the Department of Education. One might suggest some possible reasons for this perceived lack of involvement. Principals may view teachers as possessing greater expertise in the program than themselves. They may feel they would be interfering in an area they know little about. The lack of school board involvement may be the result of the absence of qualified staff to deal with physical education concerns. At present there are only three qualified physical education coordinators in the Province, one of whom is on a half-time basis. The remaining boards have given the responsibility for physical

education to coordinators of other disciplines. Until recently the Department of Education has not had a full-time qualified physical education consultant, which may have reduced the amount of visible involvement from that level. Teachers without a degree did not score as negative toward this point as teachers with a degree. This may be because the non-degreed teachers are not left alone to the same extent because of their lesser qualifications. This perceived overall lack of administrative involvement is, in Fullan's opinion, detrimental to successful implementation. If teachers do not perceive the innovation as being important to the school board, demonstrated by their level involvement, they will not value the change themselves. This may also be the case with principals.

Factor 8 has two variables pertaining to it, variable 8A which deals with the adequate preparation of teachers through inservice training, and variable 8N, a neutral statement which states that teachers require continuous access to qualified help. Principals were positive toward the success of inservice training; whereas teachers were negative. Teachers know more specifically what they require from inservicing. They know the problems and concerns to which they want answers. Principals, on the other hand, generally have been inserviced on the high school program as a whole and may not be aware of the specific needs of the program. Teachers without a degree were significantly more negative than teachers with a degree. These teachers require even more from inservice training because of the lack of preservice training. They would probably have difficulty assimilating the amount of information given in a one or two-day workshop. These findings agree with Fullan who suggested that one-day

workshops do not work no matter how many there are.

Teachers require continuous access to qualified help, and the response by both teachers and principals to variable 8N exhibits their agreement with this point. Teachers expressed a significantly higher level of agreement than principals. This suggests a greater desire for outside help by teachers than by principals. Teachers with a degree also showed a significantly higher level of agreement than teachers without a degree. One might guess from this that qualified teachers in the practical situation are more knowledgeable of the problems and needs of the program. In keeping with the discussion related to variable 7A, it is possible that the non-degree teachers are receiving what they feel to be sufficient qualified help. Overall, if one combines the results of 8N with the responses of 7A it might be said that teachers are not obtaining the continuous qualified help they require.

Factor 9, Time-Line Information System (Evaluation), also elicited a negative response from teachers and principals. The subjects generally felt that there is a need for communication and further discussion concerning the new program, while at the same time they seemed to suggest that the channels available for feedback were poor. The overall impression was that the curriculum was introduced too fast. It appears from the response that the users think the program has been rushed and that their opinions of it have not been considered. Teachers with degrees were the most negative, which is understandable in that their training and resultant knowledge should give them the ability to develop ideas and suggestions for improvement and also the desire to express these ideas. Any lack of communication

and feedback channels must frustrate them. If the users feel the program is rushed and possibly even pushed upon them they may develop a negative attitude toward it. The notion that the ideals of the curriculum have not been communicated adequately and the users have not been given sufficient opportunity to give feedback should arouse concern in the developers and implementors. It is difficult for those using the program to move beyond the adoption stage to the point where they understand and value the ideals of it if good two-way communication has not taken place.

The user response regarding factor 10 intimates that the community was not satisfactorily considered in the implementation of the curriculum. All three groups agreed that the community perceives physical education as sports and competition and that it has very little to do with education, an attitude that certainly is not promoted by the new program. The users agree that the community is not knowledgeable about the new curriculum. The teachers who have the greatest understanding of the topics of physical education showed a significantly more negative opinion regarding this point. Fullan pointed out that community understanding and support is extremely important to the success of implementation. One must remember that the findings regarding this point are based only on the opinion of the users. To determine the exact level of understanding of the communities, they themselves must be studied.

Interpretations Related to Characteristics at the School Level

When comparing teachers' and principals' responses to the factors discussed so far, a definite trend can be observed. The

principals have tended to be less extreme in their opinions concerning the points raised. It has been suggested that the reason for this is that principals are in less direct contact with the practical situation (i.e. actually teaching the courses). Factor 11 zeros in on the principal's role in implementation as perceived by teachers and the principals themelves. Both teachers and principals responded very positively with variable 11A indicating agreement that principals play a positive and important role in the implementation of the new physical educaton curriculum. This, in turn agrees with the literature cited on the topic. The response to 11N, however, suggests that the degree to which the principal can be involved is limited by other administrative duties. Both groups agree that this is the case. The principal has the responsiblity of learning about, understanding and promoting the new program, yet this involvement is limited. Other courses and responsibiities also demand equal time and consideration. To coin a phrase, the principal is "Jack of all trades but master of one", the one being administration. The results also showed teachers without a degree to be signficantly in greater agreement with this point than teachers with a degree. This response may reflect a greater understanding of what it is like trying to deal meaningfully with a program that one is not sufficiently trained for, because of the situation in which teachers wthout a degree have found themselves.

Most would agree that individuals learn the most from their peer groups. Teacher-teacher relations is, therefore, a significant factor in the implementation of the physical education program. In order for ideas and support to come from teacher peer groups, teachers must have the opportunity to communicate with each other. Once again,

teachers were significantly more negative than principals, and teachers with degrees were significantly more negative than teachers without a degree. The findings also suggest that teachers are willing to communicate but do not have the opportunity to do so. Most schools have only one, or maybe two, physical education teachers. Geographical distance and lack of available time hinder communication between teachers of different schools. The point made earlier that teachers feel alone in their efforts to implement the new physical education program has application here. This feeling of loneliness could be rectified if teachers were given the opportunity to communicate with each other on a more regular basis. Given that most school boards do not have qualified physical education resource personnel, other physical education teachers in the district are the best resources available. Teacher communication and mutual consultation should, therefore, be encouraged and provided for by the school boards.

A major factor of the environment in which a program is implemented is the characteristics and orientations of the teacher. Variable 13A brought about different responses from teachers and principals. Principals scored positively, suggesting, although marginally, that teachers do have adequate university preparation, teachers are playing an important role in the promotion of physical education, and teachers carry out all the recommendations of the program. Teachers, on the other hand, scored negatively on this point, and again the score was marginally negative. The difference between groups, however, was significant. Degree teachers also scored significantly lower than teachers without a degree. If one combines these results with the findings of factor 8, factor 7, variable 16A and

variable 18A, one might surmise, from the teacher perspective, that although the program is seen as providing for the creativity of the teacher, the goals and objectives are not clearly understood, possibly as a result of teachers being alone in their efforts to administer the program. Teachers recognize their role in promoting the program; yet they feel their training for the program is not adequate. Most of their energy is expended dealing with the program themselves rather than the promotion of it. Principals, conversely, have a greater positive attitude toward teacher preparedness for and understanding of the program, possibly because the teachers are unwilling to express the extent of their misunderstanding of the program to their principals. Teachers with a degree have a greater negative attitude regarding this point than teachers without a degree because their training has given them higher expectations from themselves and the curriculum.

Interpretations Related to Characteristics External to Local System

In terms of Fullan's fifteenth factor, External Assistance, both principals and teachers agree that there is little outside assistance available. One must remember that the large majority of those surveyed were teaching in rural areas where accessibility to outside organizations, such as provincial sport governing bodies, is viewed to be limited. This is not to say that such resources are not available, rather the user does not perceive them as being available. Possibly a promotion by these outside agencies may remedy that perception.

Interpretations of Attitude Results of Subjects Surveyed

The positive attitude shown in the crosstabulation indicates that the majority of users are positive toward the curriculum; yet the data does not demonstrate a complete satisfaction, especially among teachers and students. The fact that principals were the most positive corresponds with the results to the 15 factors discussed previously, where principals were generally less negative than the other groups. The student attitude being the least positive may suggest a problem with the curriculum, or simply an attitude of students toward school work in general. It would be interesting to compare student attitude towards other curricula to determine whether physical education would fare better or worse. The teacher attitude, although not as positive as the principal, is very good, suggesting an acceptance of the program. The lower positive attitude, however, may indicate that teachers are cognizant of problems of which principals are unaware. To complete the discussion of user attitude one must remember that although positive attitude contributes to the success of implementation, it does not mean complete implementation has taken place.

Additional Discussion

It is reasonable to say that the users agree that change is needed in the physical-education program and they consider the new curriculum as having potential in meeting this need. The majority of those surveyed were found to have a positive attitude toward the program. The problems that were noted appear to be centered around poor communication at all levels.

The literature suggests that the users of an innovation cannot be expected to assimilate all the information, concepts, values, ideals, goals, and objectives of the change immediately and without help. Fullan and other authors suggest that the complexity of the school environment, as well as the individuals themselves, does not allow effortless implementation. A continuous interchange of ideas and concerns is essential; yet the survey results illustrate from a user perspective that teachers are alone in their efforts to administer the program, students should but do not have the courses explained to them, and the community is unaware of the ideas of the new program.

Community awareness and understanding of the program are important and effort must be made to improve it. To assume that teachers and principals are doing an effective public relations job concerning the new physical education curriculum would be incorrect. More than likely most of their energy is being devoted to coping with the program themselves. Part of the implementation process should include a public awareness program carried out by the developers directly, or by helping the users to do so.

Sarason (1982) proposed that if teaching is a lonely profession, it becomes even more so when a new program is introduced. Although this independence is characteristic of the teaching profession, teachers should not be left completely alone when implementing a new program. They require help from someone knowledgeable of the program, its ideals and its objectives. The literature and teachers themselves agree that inservice workshops have not met the preparation needs of the teachers. The focus should be on the need for continuous access to qualified help. Implementation is a

process, and help should be available throughout this process. Such help can be provided by trained physical education coordinators at the school- board level.

From this discussion one should also stress the importance of effective implementation strategies which, as pointed out by Berman and McLaughlin (1978), should promote mutual adaptation. The word mutual connotates that adaptation should take place from both the developer and user perspective. Coordinators should be trained to disseminate the ideals of the new program, to evaluate the success of the implementation of these ideals and, finally, to take the feedback information back to the developers for possible revision of the program. The users should be trained to accept and put into practice the concepts of the program and then to be able to constructively criticize them, producing useful feedback information. At the development level there should be a willingness to adapt or change the program to meet the expressed needs of the users. The goal is the successful adaptation of the theoretical program to the reality of the practical school environment. The success of implementation is dependent on the mutual support and communication of both users and developers.

Remembering Fullan's point that if any one or more of the 15 factors of his theoretical model are negatively affecting implementation the process will be less effective, one can make comment to the effectiveness of the implementation of the new physical education curriculum relative to the findings of the study. An overriding characteristic of the study is that it does not indicate whether a specific factor is, in its totality, negatively affecting or

positively affecting the change process. It would be more appropriate to take the point of view that each factor is by varying degrees affecting the process of implementation.

It is apparent from the findings that Fullan's emphasis on the complexity of the social environment into which a inovation is being introduced was not overplayed. A few examples of the complexity that exists in the change environment for the new program are the user feeling that the program was good and the change needed, while at the same time showing concern about various aspects of the program; the point that principals showed confidence in the preparation of the teachers, yet teachers did not feel confident in their preparation to teach the new curriculum; the willingness of teachers to communicate, yet good communication channels were seen as unavailable; the student desire for more choice, and the teacher/principal concern for student enjoyment and motivation. Fullan's warning that such an environment does not allow for a one immediate implementation must be heeded. Although the new program is now in place in its entirety, it must not be seen as being completely implemented. The goal must be to encourage the growing success of the change process of the new physical education curriculum and to increase the positive influence of the factors affecting its implementation.

Recommendations

With consideration of the data return and the interpretation of the results, several recommendations can be made.

1. Avenues of two-way communication must be established

permanently between the program users and the program developers. This will allow ongoing evaluation of both the program and the way the users use the program.

2. Communication among physical education specialists should be encouraged and opportunity for such communication should be provided. This communication of peers can take place both at the school district level and the provincial level.

3. Provision should be made to better inform principals of the workings of the physical education program, including the negative and positive aspects of it. The differences in attitude between principals and teachers, apparant from the survey return, can be decreased by better communication between the teachers and the principals.

4. School boards should demonstrate to the users a greater concern and involvement in the implementation of the new physical education program.

5. Student feedback must become part of the evaluation process of the new program. This may be accomplished through annual evaluation forms given to the students at the end of the school year. (Note: this would be an evaluation of the program, not the teacher). Students who have opted out of the program should be included in this evaluation to determine why they have chosen not to continue with the program.

6. An effective public relations program must be established between the physical educators and the community. The purpose of this would be to make the community aware of what the new physical education program entails and, hopefully, to value it.

7. Given that teachers feel alone in their effort to implement the new program, school boards should be encouraged to hire qualified

physical education coordinators. Such personnel can provide the continuous access to qualified help that both principals and teachers agree is needed. Physical education coordinators can be central figures in the carrying out of the recommendations mentioned so far. They can provide the intermediate stage of communication between teachers and principals and the curriculum developers; coordinate communication and the sharing of ideas among physical educators within the school board; help establish the public relations program to the community; coordinate the collection of feedback data from the teachers, principals and students concerning the new program; and provide a useable school board presence and involvement in the implementation of the new pogram.

8. At present it is not clear as to how well the new physical education program has been implemented. It has been pointed out that first-hand observation is the best way of determining the level of implementation. Physical education coordinators can carry out this first-hand observation, possibly using Hall and Louck's levels of use model as a framework for evaluation. Teachers often require feedback and help as they move from one level of use to the next. Through observation and input a coordinator can speed the movement from one level to the next higher level of use.

9. Opportunity should be given to teachers to upgrade their physical education training. This is especially important for those teachers without a degree in physical education. University courses must be scheduled at times convenient for working teachers to take advantage of them. Evening and summer time slots are appropriate. For those areas away from the university, extension courses should be made

available.

10. An ongoing evaluation of equipment and resources should be carried out. The results of this evaluation should be used to either improve the quality and availability of equipment and resources, or to adapt the program to fit the resources available.

BIBLIOGRAPHY

Arends, R., et al. Inservice Education and the 6 O'Clock News. Oregon: Oregon School Study Council, 1978. (ERIC Document Reproduction Service No. ED 150 746)

Berman, P., and McLaughlin, M. W. Federal Programs Supporting Educational Change, VII: Factors Affecting Implementation and Continuation. Santa Monica, California: Rand Corporation, 1977.

Berman, P., and McLaughlin, M. W. Federal Programs Supporting Educational Change, VII: Implementing and Sustaining Innovations. Santa Monica, California: Rand Corporation, 1978.

Charters, W. W. and Jones, J. "On the Risk of Appraising Nonevents in Program Evaluation". Educational Researcher, 1973, 2.

Eden, S. and Tamin, P. Curriculum Implementation - Retrospect and Prospect. Paper presented at the International Seminar on Curriculum Development in Science, held in Rehovot, Jerusalem, 1979.

Edwards, A. L. Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, Inc., 1957.

Fullan, M. The Meaning of Educational Change. Toronto: OISE Press, 1982.

Fullan, M. and Park, P. Curriculum Implementation: A Resource Booklet. Toronto: The Minister of Education, Ontario, 1981.

Fullan, M. and Pomfret, A. "Research in Curriculum and Instruction Implementation". Review of Educational Research, 1977, 14, 263-276.

Hall, G. Loucks, S. A. "Developmental Model for Determining Whether the Treatment is Actually Implemented". American Educational Research Journal, 1977, 14, 263-276.

Hughes, A. S. and Keith, J. J. "Teacher Perceptions of an Innovation and Degree of Implementation". Canadian Journal of Education, 1980, 5, 43-51.

Leithwood, K. A. and MacDonald. "Reasons Given by Teachers for Their Curriculum Choices". Canadian Journal of Education, 1981, 6, 103-116.

Sarason, S. B. The Culture of the School and the Problem of Change, Second Edition. Toronto: Allyn and Bacon, Inc., 1982.

APPENDIX A

INTERVIEW QUESTIONS: PRINCIPALS

1. How was the new physical education program introduced into your school?

2. Why do you think the new physical education program was developed and introduced into the schools?

3. What would you say are the aims and objectives of the new courses?

4. How would you describe the new courses in terms of their usefulness and worth?

5. What are the needs of students in the area of physical education?

6. Do you think the new program adequately meets the needs of the students?

7. Over the past two years, how would you rate the success of the new physical education courses?

8. Do you think the physical education teacher(s) in your school has/have been adequately prepared to teach the new program?

9. What in your opinion are the weaknesses of the new program?

10. How would you make these weaknesses known for possible revision and improvement?

11. What is your role and responsibility as related to the new program?

12. What is the role and responsibility of the physical education teachers as related to the new program?

13. How do you see the student fitting into the new program in terms of role and responsibility?

14. There are many educators who believe physical education is mainly for skill development, others say it is for fitness and health development, and still others say it is chiefly for the sociological development of the students. What is your opinion concerning these and other issues that come to your mind?

APPENDIX B

INTERVIEW QUESTIONS: PHYSICAL EDUCATION TEACHERS

1. How was the new physical education program introduced into your school?

2. Why do you think the new physical education program was developed and introduced into the schools?

3. What would you say are the aims and objectives of the new courses?

4. How would you describe the new courses in terms of their usefulness and worth?

5. What are the needs of students in the area of physical education?

6. Do you think the new program adequately meets the needs of the student?

7. Over the past two years, how would you rate the success of the new physical education courses?

8. If you need help with some aspect of the new program, who would you turn to for help?

9. What would say are the weaknesses of the new program?

10. How would you make these weaknesses known for possible revision and improvement?

11. What is your role and responsibility as related to the new program?

12. What is the role and responsibility of the principal as related to the new program?

13. How do you see the student fitting into the new program in terms of role and responsibility?

14. What would you say are the major issues in physical education?

15. There are many educators who believe physical education is mainly for skill development, others say it is chiefly for the sociological development of the students. What is your opinion concerning these and other issues that come to your mind?

APPENDIX C

INTERVIEW QUESTIONS: STUDENTS

1. Why do you think the new physical education courses were developed and introduced into the schools?

2. What would you say are the aims and objectives of the new courses?

3. How would you describe the new courses in terms of their usefulness, worth, and enjoyment?

4. What would you like to get out of a physical education course? What are your needs?

5. Does the new physical education program satisfy your needs?

6. How would rate the success of the new physical education courses that you have taken?

7. Would you choose to take another physical education course next year?

8. If you found something in the new program that you did not like or you thought needed to be changed, to whom and how would you make it known?

9. What part do you think you play in the new program?

10. What part do you think the physical education teacher plays in the new program?

11. What part do you think the principal plays in the new program?

APPENDIX D

ATTITUDE STATEMENTS CATEGORIZED ACCORDING TO FULLAN'S LIST OF "FACTORS AFFECTING IMPLEMENTATION"

A. Characteristics of the Change

1. Need and relevance of the change

The new physical education curriculum does not meet the needs of the students.

The new physical education program is improving the status of physical education in Newfoundland.

The present physical education curriculum is not as beneficial to the student as the previous noncredit program.

The new physical education curriculum, as developed and implemented, increases student motivation towards physical activity and its benefits.

If given the opportunity to go back to the old noncredit program, most teachers would choose to go back.

If students had the choice of doing noncredit or credit physical education, most would choose the credit program.

The new physical education program is a step in the right direction.

2. Clarity

The goals and objectives of the new physical education curriculum are clearly understood by physical educators.

The evaluation scheme produces a representative grade of student psychomotor and cognitive performance. (Note: May also be categorized under factor 3)

The process of introducing the new physical education courses is confusing.

The new program is the result of good intentions and poor planning.

3. Complexity

The evaluation scheme for the courses is too burdensome for teachers, impairing teaching.

Evaluation procedures of the new courses are too time-consuming.

The reorganized physical education program has too many different physical activities and not enough traditional.

The goals and objectives of the new physical education program are confusing and not well understood by many physical education teachers. (Note: May also be categorized under factors 8 and 13)

More discussion is required to bring about improvement in the new program.

4. Quality and practicality of the program (materials, etc.)

The new physical education curriculum is theoretically good but does not work well in the practical

school situation.

The new physical education curriculum provides the much needed variety in physical activities not previously available.

The aims and objectives of physical education in Newfoundland cannot be met by the present program.

The success of the new courses is impaired by overcrowding in the classes.

The new physical education courses put too much emphasis on skills and cognitive ability and not enough emphasis on fun and enjoyment.

Adequate funding has been provided for the new physical education program.

There is not quite enough time available to complete the requirements of the course.

A number of sports in the new physical education program cannot be carried out effectively with existing equipment and facilities.

The reorganized physical education program is too traditional in its offering of physical activities.

The new physical education program has the potential of meeting the needs of students but does not meet that potential as yet.

The physical education program being upgraded to credit status is successful as a form of motivation for students because they are now working for marks.

Students are bored with the cognitive aspect of

the new program.

Students are not given the opportunity to choose the activities that interest them.

Students should be given the opportunity to choose activities that interest them.

The new program provides flexibility for creativity of the physical education teacher.

It is not feasible to allow students to choose activities that interest them.

The new physical education program meets many of the needs of students but not all.

The extra time allotment for physical education per week is one of the most positive benefits of the new program.

The aims and objectives of physical education in Newfoundland cannot be achieved by the present program but with a few improvements much can be accomplished.

The new physical education courses provide for a practical application of physical education in the school setting.

With more time, the new physical education program could be successful.

The new physical education program is undergoing growing pains.

The new physical educaton curriculum is at present a good foundation on which to build a successful program.

The fact that students are now receiving a cognitive understanding of physical education is one of the chief advantages of the new program.

B. Characteristics at the School District Level

5. The district's history of innovative attempts

The change from the old noncredit system to the new credit system in physical education is a waste of time and money.

Changes in the school curriculum have not been successful in the past and neither is the present change in the physical education program.

Changes in the physical education curriculum have not worked well in the past.

Changes in the education system never work because they are always poorly organized.

6. The adoption process

The process of introducing the new physical education courses is confusing to the physical education teachers.

Students do not really know what to expect from the new physical education courses until they are actually taking part.

The new program has been introduced to the school and little follow-up has taken place since.

Those who introduced the new physical education

program do not appear to be interested in how it is doing.

The content of the new courses is not explained to the students before they register.

Most teachers do not take the expectations of the new program seriously because there does not appear to be anyone interested in exactly what the teachers are doing.

Students are not given the opportunity to choose the activities that interest them.

Teachers can completely ignore the objectives of the new program because nobody is there to check up on them.

7. Central administrative support and involvement

Teachers are essentially alone in their efforts to administer the new program effectively.

Physical education teachers require more guidance from the Department of Education to effectively teach the new courses. (Note: May also be categorized under factor 14).

Most teachers do not feel confident in the quality of support available from their school board.

The school does not appear to be as interested in the new physical education program as it is with other programs.

8. Staff development (in-service) and participation

Little thought has been given to the ideas of physical education teachers when developing the new programs.

There are adequate feedback channels for teachers to express problems and concerns about the new programs.

Physical education teachers are adequately prepared for the new courses through in-service training.

Physical education teachers need continuous access to qualified help as they learn to use the program.

9. Time-line and information system (evaluation)

The new physical education program is very good but it was introduced too fast.

Very little time or thought has gone into the planning of the new physical education courses.

The time frame for complete implementation of the new courses is too short.

More discussion is required to bring about improvements in the new program.

Most physical education teachers did not have enough time to prepare for the new physical education courses.

10. Board and community characteristics

The school board is not supportive of the new physical education program.

The school board does not have a complete understanding of the goals and objectives of physical education in Newfoundland.

The community thinks of physical education as

sports and competition and very little to do with education and learning.

The community is negative towards the new sports activities introduced by the new program.

The school board does not value physical education as an academic subject.

The community is not knowledgeable enough about the new physical education program.

C. Characteristics at the School Level

11. The principal

The principal plays a positive role in the development of physical education curriculum.

The principal plays an important role in the introduction of the new physical education courses to the school.

Principals are of little help to physical education teachers concerning physical education curriculum.

The principal has the responsibility of learning about and understanding the physical education curriculum.

The principal of the school has the responsibility of promoting physical education.

The principal is often too tied down by administrative duties to become involved in physical education curriculum concerns.

The principal is responsible for aiding in the provision of equipment, time and facilities for the physical

education program.

Principals have good intentions but do not know enough to help physical education teachers with the new program.

Teachers require guidance from principals to do a successful job of teaching the new physical education courses.

12. Teacher-teacher relations

There is not enough communication among physical education specialists regarding the new program.

Little opportunity is provided for physical education teachers to discuss concerns about the new program.

Physical education teachers learn more from each other about the new physical education program than from workshops.

Most physical education teachers choose to keep their ideas concerning the new program to themselves.

Physical education teachers feel free to contact each other for advice concerning the new physical education program.

13. Teacher characteristics and orientations

Most physical education teachers teaching the new courses do not carry out all the recommendations of the program guides.

The new program provides flexibility for

creativity of the physical education teacher.

Most physical education teachers have a complete understanding of the new physical education program.

Physical education teachers are well prepared in university for the new physical education program.

Physical education teachers are playing an important role in the promotion of physical education to students, teachers, administrators, and the general public.

D. Characteristics External to the Local System

14. Role of government

No statements deemed appropriate to this factor.

15. External assistance

There is a large amount of human and material resources available to physical education teachers to help them in the new program from sources outside the regular education circles (i.e. YM/YWCA, Recreation Associations, etc.).

Teachers have easy access to resources to aid them in the new program from the various sport governing bodies in the province.

Teachers often use outside resources (i.e. speakers, equipment, films, etc.) in teaching the new physical education program.

Money donated by outside sources (i.e. Parent-Teacher Associations, Lions Club, etc.) is essential for the success of the new program.

APPENDIX E

JUDGEMENT SCALE AND SUMMARY OF RESPONSES

JUDGEMENT SCALE

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
1. The new physical education curriculum does not meet the needs of the students.	5	4	3	2	1			
2. The new physical education program is improving the status of physical education in Newfoundland.	5	4	3	2	1			
3. The present physical education curriculum is not as beneficial to the student as the previous noncredit program.	5	4	3	2	1			
4. The new physical education curriculum, as developed and implemented, increases student motivation towards physical activity and its benefits.	5	4	3	2	1			
5. If given the opportunity to go back to the old noncredit program, most teachers would choose to go back.	5	4	3	2	1			
6. If students had the choice of doing noncredit or credit physical education, most would choose the credit program.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
7. The new physical education program is a step in the right direction.	5	4	3	2	1			
8. The goals and objectives of the new physical education curriculum are clearly understood by the physical educators.	5	4	3	2	1			
9. The evaluation scheme produces a representative grade of student psychomotor and cognitive performance.	5	4	3	2	1			
10. The process of introducing the new physical education courses is confusing.	5	4	3	2	1			
11. The new program is the result of good intentions and poor planning.	5	4	3	2	1			
12. The evaluation scheme for the courses is too burdensome for teachers, impairing teaching.	5	4	3	2	1			
13. Evaluation procedures of the new courses are too time consuming.	5	4	3	2	1			
14. The reorganized physical education program has too many different physical activities and not enough tradition.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
15. The goals and objectives of the new physical education program are confusing and not well understood by many physical education teachers.	5	4	3	2	1			
16. More discussion is required to bring about improvement in the new program.	5	4	3	2	1			
17. The new physical education curriculum is theoretically good but does not work well in the practical school situation.	5	4	3	2	1			
18. The new physical education curriculum provides the much needed variety in physical activities not previously available.	5	4	3	2	1			
19. The aims and objectives of physical education in Newfoundland cannot be met by the present program.	5	4	3	2	1			
20. The success of the new courses is impaired by overcrowding in the classes.	5	4	3	2	1			
21. The new physical education courses put too much emphasis on skills and cognitive ability and not enough emphasis on fun and enjoyment.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
22. There is not quite enough time available to complete the requirements of the courses.	5	4	3	2	1			
23. A number of sports in the new physical education program cannot be carried out effectively with existing equipment and facilities.	5	4	3	2	1			
24. The reorganized physical education program is too traditional in its offering of physical activities.	5	4	3	2	1			
25. The new physical education program has the potential of meeting the needs of students but does not meet that potential as yet.	5	4	3	2	1			
26. The physical education program being upgraded to credit status is successful as a form of motivation for students because they are now working for marks.	5	4	3	2	1			
27. Students are bored with the cognitive aspect of the new program.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
28. Students are not given the opportunity to choose the activities that interest them.	5	4	3	2	1			
29. It is not feasible to allow students to choose activities that interest them.	5	4	3	2	1			
30. The new physical education program meets many of the needs of students but not all.	5	4	3	2	1			
31. The extra time allotment for physical education per week is one of the most positive benefits of the new program.	5	4	3	2	1			
32. The aims and objectives of physical education in Newfoundland cannot be achieved by the present program but, with a few improvements, much can be accomplished.	5	4	3	2	1			
33. The new physical education courses provide for a practical application of physical education in the school setting.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/Principal Survey	Both
34. With more time, the new physical education program could be successful.	5	4	3	2	1			
35. The new physical education program is undergoing growing pains.	5	4	3	2	1			
36. The new physical education curriculum is at present a good foundation on which to build a successful program.	5	4	3	2	1			
37. The fact that students are now receiving a cognitive understanding of physical education is one of the chief advantages of the new program.	5	4	3	2	1			
38. The change from the old noncredit system to the new credit system in physical education is a waste of time and money.	5	4	3	2	1			
39. Changes in the school curriculum have not been successful in the past and neither is the present change in the physical education curriculum.	5	4	3	2	1			
40. Changes in the physical education curriculum have not worked well in the past.	5	4	3	2	1			

	Appro-priate	Moderately Appro-priate	Neutral	Moderately Inappro-priate	Inappro-priate	Student Survey	Teacher/ Principal Survey	Both
41. Changes in the education system never work because they are always poorly organized.	5	4	3	2	1			
42. The process of introducing the new physical education courses is confusing to the physical education teacher.	5	4	3	2	1			
43. Students do not really know what to expect from the new physical education courses until they are actually taking part.	5	4	3	2	1			
44. The new program has been introduced to the school and little follow-up has taken place since.	5	4	3	2	1			
45. Those who introduced the new physical education program do not appear to be interested in how it is doing.	5	4	3	2	1			
46. Most teachers do not take the expectations of the new program seriously because there does not appear to be anyone interested in exactly what the teachers are doing.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
47. Teachers can completely ignore the objectives of the new program because nobody is there to check up on them.	5	4	3	2	1			
48. Teachers are essentially alone in their efforts to administer the new program effectively.	5	4	3	2	1			
49. Physical education teachers require more guidance from the Department of Education to effectively teach the new courses.	5	4	3	2	1			
50. Most teachers do not feel confident in the quality of support available from their school board.	5	4	3	2	1			
51. The school does not appear to be as interested in the new physical education program as it is with other programs.	5	4	3	2	1			
52. Little thought has been given to the ideas of physical education teachers when developing the new programs.	5	4	3	2	1			
53. There are adequate feedback channels for teachers to express problems and concerns about the new program.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
54. Physical education teachers are adequately prepared for the new courses through in-service training.	5	4	3	2	1			
55. Physical education teachers need continuous access to qualified help as they learn to use the program.	5	4	3	2	1			
56. The new physical education program is very good but it was introduced too fast.	5	4	3	2	1			
57. Very little time or thought has gone into the planning of the new physical education courses.	5	4	3	2	1			
58. The time frame for complete implementation of the new courses is too short.	5	4	3	2	1			
59. Most physical education teachers did not have enough time to prepare for the new physical education courses.	5	4	3	2	1			
60. The school board is not supportive of the new physical education program.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
61. The school board does not have a complete understanding of the goals and objectives of physical education in Newfoundland.	5	4	3	2	1			
62. The community thinks of physical education as sports and competition and very little to do with education and learning.	5	4	3	2	1			
63. The community is negative towards the new sports activities introduced by the new program.	5	4	3	2	1			
64. The school board does not value physical education as an academic subject.	5	4	3	2	1			
65. The community is not knowledgeable enough about the new physical education program.	5	4	3	2	1			
66. The principal plays a positive role in the development of physical education curriculum.	5	4	3	2	1			
67. The principal plays an important role in the introduction of the new physical education courses to the school.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
68. Principals are of little help to physical education teachers concerning physical education curriculum.	5	4	3	2	1			
69. The principal has the responsibility of learning about and understanding the physical education curriculum.	5	4	3	2	1			
70. The principal of the school has the responsiblity of promoting physical education.	5	4	3	2	1			
71. The principal is often too tied down by administrative duties to become involved in physical education curriculum concerns.	5	4	3	2	1			
72. The principal is responsible for aiding in the provision of equipment, time and facilities for the physical education program.	5	4	3	2	1			
73. Principals have good intentions but do not know enough to help physical education teachers with the new program.	5	4	3	2	1			

	Appro-priate	Moderately Appro-priate	Neutral	Moderately Inappro-priate	Inappro-priate	Student Survey	Teacher/ Principal Survey	Both
74. Teachers require guidance from principals to do a successful job of teaching the new physical education courses.	5	4	3	2	1			
75. There is not enough communication among physical education specialists regarding the new program.	5	4	3	2	1			
76. Little opportunity is provided for physical education teachers to discuss concerns about the new program.	5	4	3	2	1			
77. Physical education teachers learn more from each other about the new physical education program than from workshops.	5	4	3	2	1			
78. Most physical education teachers choose to keep their ideas concerning the new program to themselves.	5	4	3	2	1			
79. Physical education teachers feel free to contact each other for advice concerning the new physical education program.	5	4	3	2	1			
80. Most physical education teachers teaching the new course do not carry out all the recommendations of the program guides.	5	4	3	2	1			

	Appropriate	Moderately Appropriate	Neutral	Moderately Inappropriate	Inappropriate	Student Survey	Teacher/ Principal Survey	Both
81. The new program provides flexibility for creativity of the physical education teacher.	5	4	3	2	1			
82. Most physical education teachers have a complete understanding of the new physical education program.	5	4	3	2	1			
83. Physical education teachers are well-prepared in university for the new physical education program.	5	4	3	2	1			
84. Physical education teachers are playing an important role in the promotion of physical education to students, teachers, administrators, and the general public.	5	4	3	2	1			
85. Adequate funding has been provided for the new physical education program.	5	4	3	2	1			
86. There is a large amount of human and material resources available to physical education teachers to help them in the new program from sources outside the regular education circles (i.e. YM/YWCA Recreation Associations, etc.).	5	4	3	2	1			

	Appro-priate	Moderately Appro-priate	Neutral	Moderately Inappro-priate	Inappro-priate	Student Survey	Teacher/ Principal Survey	Both
87. Teachers have easy access to resources to aid them in the new program from the various sport governing bodies in the province.	5	4	3	2	1			
88. Teachers often use outside resources (i.e. speakers, equipment, films, etc.) in teaching the new physical education program.	5	4	3	2	1			
89. Money donated by outside sources (i.e. Parent-Teacher Associations, Lions Club, etc.) is essential for the success of the new program.	5	4	3	2	1			
90. Students should be given the opportunity to choose the activities that interest them.	5	4	3	2	1			
91. The content of the new courses are explained to the students before they register for them.	5	4	3	2	1			

JUDGEMENT SCALE RESPONSE DATA

Attitude Statement	Response of Judges 1-14 on the Five-Point Continuum															Judges assignment of statements to surveys.		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	No. Selecting Student Survey	No. Selecting Teacher/ Princip. Survey	No. Selecting Both
1	5	4	4	5	4	5	5	4	5	4	5	4	4	5	63	2	3	8
2	4	4	4	1	4	2	5	5	5	4	1	2	4	5	50	1	3	7
3	2	4	1	5	1	1	4	1	1	4	5	2	3	5	39	1	4	3
4	4	4	5	5	5	5	5	5	4	2	5	2	5	5	61	3	4	6
5	1	3	4	4	2	5	5	5	3	4	5	1	3	5	50	0	8	2
6	4	3	5	3	4	5	5	5	5	2	5	5	5	5	61	5	1	4
7	4	4	4	4	4	5	3	4	5	3	4	2	4	1	51	0	5	5
8	1	3	3	5	4	4	5	5	5	3	4	2	5	5	54	0	11	0
9	3	3	5	2	4	4	5	5	4	4	1	1	5	5	51	0	9	2
10	2	3	1	1	3	2	1	4	2	2	1	5	5	1	33	0	4	2
11	3	4	1	2	1	5	5	5	5	3	1	5	5	5	50	0	8	0
12	4	3	5	4	4	2	5	5	5	4	1	5	5	5	58	0	11	
13	4	4	5	5	4	2	5	5	5	4	4	5	5	5	62	0	9	
14	4	4	4	5	5	4	1	5	5	2	4	2	5	5	55	0	2	9
15	3	4	4	2	4	2	5	5	4	3	5	4	5	5	55	0	11	0
16	2	4	3	5	5	5	5	4	4	4	5	4	4	4	59	0	9	1
17	2	4	5	5	3	4	1	5	4	5	5	5	5	5	58	0	7	3
18	2	4	4	4	5	5	4	5	5	5	4	5	5	5	62	0	4	7
19	3	4	1	3	5	2	5	4	5	3	3	5	5	5	53	0	9	0
20	4	4	5	5	5	4	5	5	5	4	2	1	5	5	59	0	3	10
21	3	4	5	4	4	5	5	4	5	4	5	5	5	5	63	2	1	10
22	4	4	5	5	5	5	5	4	5	4	5	4	5	5	65	0	8	4
23	4	4	5	5	5	4	5	5	5	5	5	5	5	5	67	0	9	3
24	1	4	5	1	4	2	5	1	1	3	4	2	5	5	43	0	2	6
25	4	4	1	3	4	5	5	1	3	4	1	5	5	5	50	0	4	4
26	1	3	2	5	4	5	4	5	5	3	1	3	5	5	51	2	1	6
27	4	3	4	2	5	4	1	4	4	4	5	5	5	5	55	3	1	5
28	2	3	5	4	5	4	4	3	5	4	5	4	5	5	58	6	1	4
29	2	3	4	2	4	5	5	3	5	2	1	4	5	5	45	0	6	3
30	3	3	5	2	4	4	1	1	4	3	1	3	5	5	44	0	1	6
31	3	4	1	4	4	5	1	4	5	4	4	3	4	5	51	0	3	6
32	4	3	1	2	4	5	5	1	4	4	4	4	5	5	51	0	5	3
33	4	3	4	4	4	4	4	4	3	4	4	5	5	1	50	0	5	5

34	2	3	1	4	1	3	1	4	5	3	5	4	5	1	42	0	5	1
35	2	3	3	2	1	2	1	4	5	4	4	4	5	5	45	0	5	1
36	4	4	4	5	3	5	5	4	5	4	4	5	5	5	62	0	8	2
37	4	3	5	4	5	2	4	5	5	4	2	2	5	5	55	0	3	8
38	1	2	3	1	1	1	1	4	3	3	1	4	1	4	29	0	2	2
39	1	2	5	3	1	1	1	1	3	4	1	4	2	1	30	0	1	2
40	1	2	1	3	1	1	4	1	3	3	1	3	1	4	29	0	3	1
41	1	2	2	2	1	1	1	1	3	4	1	3	3	1	26	1	2	1
42	1	3	4	3	2	1	4	4	1	3	2	4	5	1	38	1	6	0
43	3	3	4	4	3	2	5	5	1	5	5	4	5	5	54	4	3	3
44	1	4	5	4	4	4	4	4	1	4	5	3	5	5	53	1	8	0
45	1	2	5	2	4	2	4	5	1	3	1	5	5	5	45	0	8	1
46	1	2	3	1	1	2	3	5	1	3	4	2	5	1	34	0	6	1
47	4	3	1	2	1	2	3	4	4	1	4	1	5	5	40	0	7	1
48	2	4	4	4	4	4	4	5	4	4	4	4	5	5	57	0	9	0
49	2	4	5	2	5	4	4	5	3	2	5	3	5	5	54	0	10	0
50	3	2	5	5	4	1	4	5	1	4	5	4	5	5	53	0	9	1
51	1	2	5	3	1	5	4	5	1	4	5	4	5	5	50	0	7	2
52	3	5	5	2	3	2	4	5	3	4	4	4	5	5	54	0	9	0
53	4	4	5	5	5	4	5	5	3	1	5	4	5	5	60	0	9	0
54	4	4	5	4	5	5	5	5	4	3	5	4	5	5	63	0	12	0
55	4	4	4	5	5	5	5	5	5	4	4	5	5	5	65	0	10	0
56	1	5	4	5	5	4	4	5	4	4	5	3	5	5	59	0	9	1
57	1	5	1	2	1	4	1	4	3	5	1	3	5	5	41	0	5	0
58	1	5	4	3	5	2	5	4	4	4	5	5	5	5	57	0	8	0
59	4	4	5	4	3	4	4	4	3	3	5	4	5	5	57	0	10	0
60	1	2	5	2	5	1	5	5	1	3	5	4	4	5	48	0	9	1
61	2	2	2	1	4	2	4	4	3	3	5	3	5	4	44	0	8	1
62	4	3	4	4	4	5	4	5	4	4	5	4	5	5	60	1	4	5
63	4	3	3	2	1	5	5	4	1	3	1	2	4	5	43	0	3	4
64	3	3	5	3	5	5	1	5	1	3	5	4	1	1	45	0	4	1
65	4	4	4	4	5	5	5	4	3	5	5	4	3	5	61	0	5	4
66	4	4	5	5	5	5	5	5	5	4	5	3	5	5	65	0	10	0
67	4	4	5	4	5	5	5	4	3	5	5	2	5	5	61	0	9	1
68	4	2	5	2	5	5	1	4	1	3	5	2	5	5	49	0	7	1
69	3	3	4	4	5	5	4	4	4	3	5	4	5	5	58	0	9	1
70	3	2	4	5	5	4	4	5	5	4	5	4	4	5	59	0	8	2
71	3	3	4	5	5	4	4	4	4	4	5	5	2	5	57	0	7	2
72	4	2	2	4	5	1	4	5	3	4	5	5	5	5	54	0	8	2
73	3	2	3	1	1	4	3	4	3	3	4	4	2	1	38	0	4	2
74	1	2	1	1	5	1	1	5	5	2	2	4	3	5	38	0	7	0
75	4	4	5	4	2	4	5	5	3	3	5	4	5	5	58	0	10	0
76	3	4	5	3	5	5	5	5	3	3	5	2	5	5	58	0	8	0
77	4	3	1	5	5	5	1	5	4	4	5	4	1	5	52	0	8	0
78	4	3	1	4	1	5	4	5	3	3	2	3	1	5	44	0	6	0
79	4	3	3	4	5	5	3	5	5	4	5	5	3	5	59	0	7	0
80	4	4	2	5	5	5	4	5	4	2	4	3	5	5	57	0	8	0
81	4	3	5	4	5	5	5	5	4	1	4	4	5	5	59	0	8	1
82	4	3	3	2	5	5	5	5	4	4	5	4	4	5	58	0	8	1
83	4	3	5	4	5	5	5	5	5	2	5	3	5	5	61	0	8	1
84	4	5	1	4	5	5	5	5	5	2	5	4	5	5	60	0	3	6
85	4	5	4	5	5	5	5	5	5	1	5	3	3	5	60	0	9	1
86	4	5	4	5	5	5	5	5	5	2	3	3	5	5	61	0	10	1
87	4	5	5	5	5	5	5	5	5	2	3	4	5	5	58	0	11	0

88	4	4	4	5	5	4	5	1	1	2	5	4	5	5	54	0	7	2
89	4	4	5	5	5	1	3	5	1	2	4	4	5	5	53	0	10	0
90	4	3	4	5	5	1	5	4	3	4	5	4	5	5	57	2	2	8
91	4	4	4	5	5	5	5	5	2	5	5	5	5	5	64	3	3	5

*NOTE: ALL JUDGES DID NOT ASSIGN ALL THE STATEMENTS TO A SURVEY.

APPENDIX F

TEACHER/PRINCIPAL SURVEY

Are you a teacher or principal? Teacher _____ Principal _____
Do you have a degree in physical education? Yes _____ No _____
Please circle the number of the physical education courses you teach. 1100 2100 3100

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The new physical education curriculum does not meet the needs of the students.	5	4	3	1	1
2. The new physical education curriculum, as developed and implemented, increases student motivation towards physical activity and its benefits.	5	4	3	2	1
3. If students had the choice of doing noncredit or credit physical education, most would choose the credit program.	5	4	3	2	1
4. The goals and objectives of the new physical education curriculum are clearly understood by the physical educators.	5	4	3	2	1
5. Evaluation procedures of the new courses are too time consuming.	5	4	3	2	1
6. The new physical education curriculum provides the much needed variety in physical activities not previously available.	5	4	3	2	1
7. The new physical education courses put too much emphasis on skills and cognitive ability and not enough emphasis on fun and enjoyment.	5	4	3	2	1
8. There is not quite enough time available to complete the requirements of the courses.	5	4	3	2	1

	Strongly Agree	Agree	Neutral	Disatree	Strongly Disagree
9. A number of activities in the new physical education program cannot be carried out effectively with existing equipment and facilities.	5	4	3	2	1
10. The new physical education curriculum is at present a good foundation on which to build a successful program.	5	4	3	2	1
11. There are adequate feedback channels for teachers to express problems and concerns about the new programs.	5	4	3	2	1
12. Physical education teachers are adequately prepared for the new courses through in-service training.	5	4	3	2	1
13. Physical education teachers need continuous access to qualified help as they learn to use the program.	5	4	3	2	1
14. The community thinks of physical education as sports and competition and very little to do with education and learning.	5	4	3	2	1
15. The community is not knowledgeable enough about the new physical education program.	5	4	3	2	1
16. The principal plays a positive role in the development of physical education curriculum	5	4	3	2	1
17. The principal plays an important role in the introduction of the new physical education courses to the school.	5	4	3	2	1
18. Physical education teachers are well prepared in university for the new physical education program.	5	4	3	2	1

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
19. Physical education teachers are playing an important role in the promotion of physical education to students, teachers, administrators, and the general public.	5	4	3	2	1
20. Adequate funding has been provided for the new physical education program.	5	4	3	2	1
21. There is a large amount of human and material resources available to physical education teachers to help them in the new program, from sources outside the regular education circles (i.e. YM/YWCA, Recreation Association, etc.).	5	4	3	2	1
22. Teachers have easy access to resources to aid them in the new program, from the various sport governing bodies in the province.	5	4	3	2	1
23. The content of the new courses is not explained to the students before they register.	5	4	3	2	1
24. More discussion is required to bring about improvement in the new program.	5	4	3	2	1
25. The new physical education curriculum is theoretically good but does not work well in the practical school situation.	5	4	3	2	1
26. The success of the course is impaired by overcrowding in the classes.	5	4	3	2	1
27. Students are not given the opportunity to choose the activities that interest them.	5	4	3	2	1

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
28. The new physical education program is very good but it was introduced too fast.	5	4	3	2	1
29. The principal has the responsibility of learning about and understanding the physical education curriculum.	5	4	3	2	1
30. The principal of the school has the responsibility of promoting physical education.	5	4	3	2	1
31. There is not enough communication among physical education specialists regarding the new program.	5	4	3	2	1
32. Little opportunity is provided for physical education teachers to discuss concerns about the new program.	5	4	3	2	1
33. Physical education teachers feel free to contact each other for advice concerning the new physical education program.	5	4	3	2	1
34. The new program provides flexibility for creativity of the physical education teacher.	5	4	3	2	1
35. Most physical education teachers have a complete understanding of the new physical education program.	5	4	3	2	1
36. Teachers are essentially alone in their efforts to administer the new program effectively.	5	4	3	2	1
37. The time frame for complete implementation of the new courses is too short.	5	4	3	2	1

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
38. The principal is often too tied down by administrative duties to become involved in physical education curriculum concerns.	5	4	3	2	1
39. Most physical education teachers teaching the new courses do not carry out all the recommendations of the program guides.	5	4	3	2	1
40. Students should be given the opportunity to choose the activities that interest them.	5	4	3	2	1
41. The reorganized physical education program has too many different physical activities and not enough traditional.	5	4	3	2	1
42. The goals and objectives of the new physical education program are confusing and not well understood by many physical education teachers.	5	4	3	2	1
43. Students are bored with the cognitive aspect of the new program.	5	4	3	2	1
44. The fact that students are now receiving a cognitive understanding of physical education is one of the chief advantages of the new program.	5	4	3	2	1
45. The physical education program being upgraded to credit status is successful as a form of motivation for students.	5	4	3	2	1

APPENDIX G

STUDENT SURVEY

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The new physical education curriculum does not meet the needs of the students.	5	4	3	2	1
2. The new physical education curriculum as developed and implemented, increases student motivation towards physical activity and its benefits.	5	4	3	2	1
3. If students had the choice of doing noncredit of credit physical education, most would choose the credit program.	5	4	3	2	1
4. The new physical education curriculum provides the much needed variety in physical activities not previously available.	5	4	3	2	1
5. The new physical education courses put too much emphasis on skills and cognitive ability and not enough emphasis on fun and enjoyment.	5	4	3	2	1
6. There is not quite enough time available to complete the requirements of the courses.	5	4	3	2	1
7. The community thinks of physical education as sports and competition and very little to do with education and learning.	5	4	3	2	1
8. The community is not knowledgeable enough about the new physical education program.	5	4	3	2	1

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9. Physical education teachers are playing an important role in the promotion of physical education to students, teachers, administrators, and the general public.	5	4	3	2	1
10. The content of the new courses is not explained to the students before they register for them.	5	4	3	2	1
11. The success of the new courses is impaired by overcrowding in the classes.	5	4	3	2	1
12. Students are not given the opportunity to choose the activities that interest them.	5	4	3	2	1
13. Students should be given the opportunity to choose the activities that interest them.	5	4	3	2	1
14. The reorganized physical education program has too many different physical activities and not enough traditional.	5	4	3	2	1
15. Students are bored with the cognitive aspect of the new program.	5	4	3	2	1
16. The fact that students are now receiving a cognitive understanding of physical education is one of the chief advantages of the new program.	5	4	3	2	1
17. The physical education program being upgraded to credit status is successful as a form of motivation for students.	5	4	3	2	1
18. Please circle the number of the physical education course you are presently taking.	1100		2100		3100