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The University of Alberta

Measuring the Levels of Use of a Cognitive Education Program

by

Cary Del Litke (C)

A THESIS

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Abstract

MEASURING THE LEVELS OF USE OF A COGNITIVE EDUCATION PROGRAM

Cary Del Litke

Over two years before the study, one jurisdiction in Alberta embarked on the system wide implementation of the cognitive education program: Strategies Program for Effective Learning and Teaching (SPELT). Using a taxonomy of factors affecting implementation as designed by Fullan (1982) and the concept of Levels of Use (LoU) as developed by researchers at the University of Texas at Austin, this study attempted to both measure the implementation level of SPELT in the school jurisdiction and identify factors which affected the implementation process.

This study used both quantitative and qualitative research procedures. An interview instrument was designed using the general guidelines as developed by Loucks et al. (1975) with the researcher making modifications to fit the local environment of the study. The interview was pilot tested, modified, and issued to a stratified sample. Questionnaires were developed using input from the SPELT designers at the University of Alberta and descriptions as supplied by Loucks et al. The questionnaires were pilot tested, modified, and distributed to the core population of SPELT users in the jurisdiction.

It was determined that the Levels of Use of SPELT varied from school to school. Of the three schools studied, two displayed split Levels of Use profiles, and the remaining school portrayed a somewhat curvilinear Levels of Use profile. A majority of the factors affecting implementation as identified by Fullan's taxonomy were identified as affecting the implementation process by the jurisdiction's teachers.

This study had a number of implications pertaining to the topic of educational change. First of all, it indicated that principals and other school based administrators have a vital role to play in program implementation especially in the areas of modelling and support. Secondly, it was determined that staffs which exhibited the greatest amount of sharing during the process of planning displayed the most sophisticated uses of the program innovation. Furthermore, it was evident that "top-down" planned change is made more difficult if the district history regarding change is negative. School climate was also an important influence in program implementation in the context of this study. In addition, the study determined that change is a process which involves individual decisions rather than an application of technology. Finally, it was found that program implementations affect existing programs because resources often must be reallocated.

Based on the literature and the data, a number of recommendations were issued to the jurisdiction.

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Most of all to Denise, Christopher, and Jacqueline...for their many sacrifices during the past year...and their love...

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction

Arrendondo and Marzano (1986) state "that the implementation of a comprehensive thinking skills program is a complex, multiphase task" (p.28). In recent years, few jurisdictions have been willing to commit the time, energy, expertise, and money necessary to translate "teaching-for-thinking" ideas into the realm of the classroom. Perhaps this is partly due to the fact that teacher re-training is a challenging and complex task (Wasserman, 1987b).

The Program Implementation: SPELT

In the Fall of 1986, one jurisdiction embarked on such a major program implementation: the Strategies Program for Effective Learning and Teaching (SPELT). SPELT was designed at the University of Alberta. "Generally, the purpose of SPELT is to encourage children to become active and purposeful learners, thinkers, and problem solvers" (Mulcahy, Marfo, Peat, and Andrews, 1986, p. 51).

The SPELT instruction program consists of three phases. In phase 1 of SPELT, the goals are to raise the students' awareness that strategies exist, to illustrate that the systematic use of strategies improves learning, and to increase active involvement and interaction in the learning process. (Mulcahy et al., 1986, p. 63) In phase 2, the purpose is to modify and extend the strategies, that students have already learned, to different learning situations. This is accomplished by facilitating the use of strategies previously taught, in different subject areas and /or in different applications. (Mulcahy et al., 1986, p. 187) The final phase of SPELT, phase 3, seeks to have the students monitor, evaluate,

and generate effective and efficient strategies to improve learning. This is generally done through the presentation of content based assignments where the students must generate their own strategies to complete the task. (Mulcahy et al., 1986, p. 75)

Because of the developmental nature of SPELT, administrators in the school system attempting to implement SPELT, felt that extensive inservice for all of the teaching staff was necessary to facilitate the implementation of the program. It was reasoned that if all the teaching staff were present in the inservice of the program, there would be more coordination across both grade levels and subject areas.

Three days were set aside in October of 1986, one for each of the three staffs to receive training from the program designers from the University of Alberta. (All classes were cancelled, and groups were designed consisting of the individual staffs.) Two half day follow-up inservices were also scheduled (at a time determined by each staff) in order to address any concerns that the teachers may have had in implementing the program.

Following the initial inservices, each staff was given the opportunity to decide what measures, if any, they were going to take collectively in implementing SPELT. In subsequent years, teachers who were either new to the system or new to teaching were given additional professional development days to attend workshops on SPELT conducted by teachers within the system. In addition, the evaluation instrument in this jurisdiction includes the implementation of SPELT as part of the overall evaluation of its teachers.

Rationale for the Study

Implementation of programs essentially is about educational change. There has been much literature developed on the topic of educational change including the work of Fullan (1982) who developed a taxonomy of factors that affect implementation or change. Fullan identified the characteristics of the change itself, the characteristics at the school district level, the characteristics at the school level, and characteristics external to the local system as being the chief factors affecting implementation. (1982, p.56)

Researchers at the University of Texas at Austin's Research and Development Center for Teacher Education have developed an instrument which they feel can measure the extent to which a program has been implemented. Basically the instrument, called Levels of Use or LoU, assumes that individuals confront change or innovation in similar ways. They begin at a level where they do not use the program and make choices at various levels as they begin to use the program more extensively. The type of choice that the person is faced with in using the innovation indicates the present Level of Use.

Over two years have passed since the initial SPELT inservices were conducted in this jurisdiction by the program designers from the University of Alberta. This study measured the Levels of Use of the SPELT program in one particular school system, and using Fullan's taxonomy of factors that affect implementation, identified the factors which influenced the current Levels of Use of the program. Furthermore, this study contains a number of recommendations for facilitating further implementation of the program.

Research Questions

The purpose of this study was to provide answers to the following questions:

1. **What were the general Levels of Use of the SPELT implementation in the school system?**

2. **What SPELT strategies and phases were being used in the school system, and to what degree were they perceived as effective?**

3. **What factors affecting the implementation of SPELT were identified by the teaching staff?**

4. **What can be done to assist further implementation of SPELT according to the teaching staff?**

Significance of the Study

This study has both practical and theoretical significance. Educational change is an issue for all the participants in the educational system from program designers though to students. This study is a portrayal of program implementation which includes both the positive and negative aspects of change. The results should also be of interest to both the district implementing SPELT and to the Cognitive Education: Learning and Thinking Strategies Research Project at the University of Alberta under the directorship of Dr. R. Mulcahy.

In terms of the practical considerations for the jurisdiction, the results of the study yielded insights into the reasons for the present Levels of Use of the SPELT and should provide information for planning future directions for SPELT. It is also hoped that it will

allow for thoughtful reflection about program innovation and the process of educational change for the stakeholders involved.

For the Cognitive Education: Learning and Thinking Strategies Research Project at the University of Alberta, this study gives feedback as to how they can improve facilitation of the implementation of the SPELT and insight into the strategies in SPELT that are most frequently utilized.

The theoretical significance of the study is somewhat limited; however, it may serve as a framework for future studies conducted by the Cognitive Education: Learning and Thinking Strategies Research Project. It may also serve as a guide for other individuals seeking information in the field of program implementation and educational change.

Assumptions

The major assumption in this study is that program innovations such as the SPELT can be measured in terms of the Levels of Use model. A secondary assumption is that SPELT is a desirable program and that it is worthwhile to assist the implementation process.

Delimitations and Limitations

This study is delimited to the teachers within this specific district in the school year 1988-89 in terms of their use of the SPELT. Generalizations are confined to the implementation of SPELT in this particular school jurisdiction.

One limitation of the study is that implementation is a process and the study cannot take into consideration the increased or decreased use of the program during the term of the study. The study also only measures the relative Levels of Use of SPELT during the period of time that the respondents are engaged in supplying data. In addition, the reports received from the respondents may have been affected by immediate experiences or incomplete recall of past experiences. Ideally, such a study should be conducted longitudinally in order to follow the progress of the implementation process.

An additional limitation is that the questionnaire imposes choices which limits the opinions of teachers which may possibly cause the results to be an inaccurate reflection of their attitudes and experiences. Furthermore, the rate of return, 70%, may not be representative of the total population.

Summary and Outline of the Thesis

This chapter introduced the context of the research describing the program that was examined and the rationale for examination. The problem was then introduced and research questions were specified. In addition, the significance of the study was outlined, and basic assumptions, delimitations and limitations were discussed.

Chapter two contains a review of the literature and the conceptual framework of the study. The methodology used for both the data collection and their subsequent analysis is the basis for Chapter three. The findings of the study are reported in Chapter four. Chapter five contains a brief summary of the study, a review of the findings in response to the major research questions, conclusions from the study, the implications of the study, and a series of recommendations for the future direction of the program.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

Program innovation means many things to many people. A superintendent may view innovation as a necessary adjustment that the system needs in order to better serve the needs of its educational clients. A principal may view program innovation as a tool for promotion: that successful implementation of a program is an accurate measurement of his or her administrative competence. A teacher may view program innovation as another time consuming burden in a schedule where little extra time exists. Students may view program innovation as a new textbook or course: something that is inevitable in education but not particularly interesting. Parents and the community may view this process as another "fad" that intimidates them and further distances them from the educational setting with which they were familiar. Researchers may view the innovation as the lasting mark that they will leave on their field of study. Program innovation conjures up different images to each of the characters and groups in educational settings.

The diversity of these perceptions of the program innovation has a significant impact on the implementation of programs. Making generalizations about educational change when attitudes are so varied is a difficult task. "Educational change is technically simple and socially complex..." (Fullan, 1982, p.54). The remainder of this literature review will attempt to provide the following framework: a) to identify the factors that affect the implementation of programs, b) to describe a model, Levels of Use, in which the degree of implementation of a program innovation can be measured, and c) to present some recent views on the process of program implementation and educational change.

Terminology

Berman and McLaughlin (1976) "view the innovation process as consisting of three stages: initiation, implementation, and incorporation" (p.349).

Initiation is the first phase of the program innovation process. Initiation involves conceiving and formulating plans, seeking resources, and making decisions about the program.

According to Berman and McLaughlin, the crucial stage of the innovation process is the implementation stage. Implementation "occurs when the project confronts the reality of its institutional setting and project plans must be translated into practice" (1976, p.349).

The term incorporation denotes the final phase of the process. This stage begins after the project loses its "special project" label and becomes part of the routine of the institution. (Berman and McLaughlin, 1976, p. 351) Fullan (1982) refers to this process as "continuation" which will be the term used to describe this phase for the remainder of the study.

Factors Affecting Implementation

As was mentioned earlier by Berman and McLaughlin (1976), implementation is the critical stage of the innovative process. If the program implementation is not conducted in an appropriate manner, the innovative process is doomed to failure. Good innovative programs do not always reach the continuation stage. Conversely, educational history has many examples of poor programs which reached a stage of long-term continuation. Quality of implementation is the major issue in discussing program innovation.

Through his research on educational change, Fullan (1982) identifies fifteen factors that affect implementation. He classifies these fifteen factors under four major headings:

(A) Characteristics of change, (B) Characteristics at the school district level, (C) Characteristics at the school level, and (D) Characteristics external to the local level. The section that follows will explain in greater detail the taxonomy that Fullan has outlined. (Figure 2.1)

FACTORS AFFECTING IMPLEMENTATION

A. Characteristics of the Change

1. Need and relevance of the change.
2. Clarity.
3. Complexity.
4. Quality and practicality of the program.

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. Teachers' characteristics and orientations.

D. Characteristics External to the Local System

14. Role of government.
15. External assistance.

Figure 2.1

Factors Affecting Implementation

(Fullan, 1982, p.56)

Characteristics of Change

"Four major aspects pertaining to the nature of change itself have been found to relate to subsequent implementation: need, clarity, complexity, and practicality of materials (product quality)" (Fullan, 1982, p.57).

For successful program implementation, the individuals involved must perceive that there is a need to change and must have the desire to change. The program goals and means of implementation must be clear to the participants involved. The program must also have well developed materials that are of good quality, and they must not be of such complexity that they discourage the implementation process.

Characteristics at the District Level

There are six characteristics that are identified in making the district level a major factor that affects change. The history of success or lack of success is one such characteristic. If previous attempts at change have been unsuccessful, skepticism can arise and be a barrier to implementation of future change. The effects of the adoption process, district administrative support, staff development and participation, time-line and information systems, and board and community characteristics often depend on the quality of planning involved at the district level in guiding the innovation from initiation to continuation. District office personnel and the way that they deal with change and the past records of change in the district appear to have the largest impact on the implementation process.

School-level Factors

"Three major factors summarize the influence of the school on implementation: the role of the principal, peer relationships, and teacher orientations" (Fullan, 1982, p.70-71). These factors combine to give each school its own unique character and climate which have major impact on the implementation process.

The role of the principal has been much discussed in the literature with the consensus being (Fullan, 1982; Hall, 1984; Berman and McLaughlin, 1976; etc.) that the principal is a key figure in successful program implementation. McLaughlin and Marsh (1978) state that the principal not only gives "legitimacy" to the project, but also that "support from the principal is also important to the longevity of special project strategies because of staff turnover" (p.82).

Peer relationships or teacher-teacher relationships strongly affect school climate, and, therefore, have a large impact on the success of implementation. In terms of project success, "collegiality, open communication, trust, support and help, interaction, and morale are all closely related" (Fullan, 1982, p.72).

In most program innovations the teacher is the person who is on the "front-line" of implementation. They are the ones who are presenting the information to the students for whom the change is intended. "There is one teacher trait related to successful implementation and student learning which comes through strongly: teacher sense of efficacy" (Fullan, 1982, p.72). If teachers do not feel that the program implementation will give them the power to produce positive results, then the possibility of successful change through the implementation of a program is minimal.

The External Environment

In terms of the external environment, Fullan cites government agencies and external sources of assistance such as technical expertise as chief factors that affect implementation. Berman and McLaughlin (1976) indicate that external agencies generally " affected the initiation phase, but that these initial influences were not reflected on implementation or incorporation" (p.362).

Continuation

There is not a great deal of literature dealing with continuation, and it is not clear in many types of projects when implementation would end and continuation would begin.

According to Berman and McLaughlin (1978):

> a project is considered to be "continued" if a decision is made by a district to carry on the original "package or program" of goals and treatment. But our research suggests that continuation is not always such a straight forward question (p.354).

In a school setting, it can be argued that because of the inevitable staff turnover that exists in all school districts, implementation of program innovations is a continuing process. The arrival of new staff to the district forces the implementation process to be reintroduced continuously. Fullan (1982) indicates that there are a number of factors that affect continuation such as the degree of implementation; the benefits for students, teachers, and the organization; and attitudes toward school improvement. (p.77)

Berman and McLaughlin (1978) characterize successful continuation as being the process of "mutual adaptation." In mutual adaptation, the individual school adapts to the project and the project adapts to the individual school. Berman and McLaughlin identify

"continuous and on-line planning, regular and frequent staff meetings, inservice training linked to staff meetings and local material development as being the elements that are most essential to mutual adaptation" (1978, p.366).

Levels of Use

Understanding the factors and characteristics that affect implementation and continuation is technically easy. Theoretically, if you can turn all of the factors and characteristics of implementation into positive elements of the change, you should be able to successfully implement an innovative program. However in the complex world of education, this is next to impossible.

Because of all of the factors involved, it is difficult to distinguish the extent to which the program has been implemented. If you have no indication of the relative success of your implementation, it would be extremely difficult to make quality decisions about the future of the program. What is necessary, then, is an instrument to measure the degree of implementation of the program. Until recently, such an instrument did not exist.

Researchers at the Research and Development Center for Teacher Education at the University of Texas at Austin claim that they have developed an instrument "for measuring level of use of the innovation" called "Levels of Use" (LoU). LoU seeks to describe "the behavior of individuals as they become more familiar with and more skilled in using the innovation" (Hall, Loucks, Rutherford, and Newlove, 1975, p.2).

An underlying assumption of the LoU model is that individuals are confronted with innovation in similar ways. The LoU "dimension describes the various behaviors of the innovation user though the various stages - from spending most efforts on orienting, to managing, and finally to integrating the use of the innovation" (Loucks et al., 1975, p.5).

The LoU chart (Figure 2.2) indicates that there is a typical progression in a person's movement though the Levels of Use. "The progression is not locked in step by step, however, people generally begin at Level of Use O, Nonuse," and continue progressively (Hall, 1984, p. 83).

The LoU Chart

Levels of Use	Explanation of Behavior
6 . Renewal	* State in which the user reevaluates the quality of the innovation and seeks modifications for increased effectiveness.
5. Integration	* State which the users combine their efforts to achieve a collective impact on the client.
4b. Refinement	* User varies the innovation to increase impact on immediate clients.
4a. Routine	* Innovation is stabilized in use with few, if any, changes.
3. Mechanical Use	* Focus is on short term use with reflection.
2. Preparation	* Preparing first use.
1. Orientation	* User has acquired or is acquiring information about the innovation.
0. Nonuse	* State in which user has little or no knowledge of the innovation and is doing nothing to become involved.

Figure 2.2

Adapted from "Levels of Use of an Innovation"

(Hall, 1984, p.84)

The Texas group claim that the model is generic and universal in its application; however, this view has some opposition. Leithwood at O.I.S.E. believes that the concept of LoU is basically a good addition to the current thought about innovations. However, Leithwood suggests that further "refinements of the model are both warranted and possible...on the grounds that a universal set of stages will inevitably be insensitive to important differences among innovations" (Leithwood, 1981, p.25).

Implications for LoU Relevant to this Study

1. Individual LoU can be measured, and therefore tailored support can be given to facilitate full implementation of the program innovation.

2. "The concept of LoU also applies to groups and entire institutions" (Hall et al., 1975, p.7).

3. LoU use describes behaviors of the innovation users and does not focus on the areas such as attitudes, motives and affective aspects of behavior.

4. LoU only measures the behavior of the innovation users and not the effectiveness of the user in meeting the needs of the educational clients.

5. LoU methods may need modification to suit the local situation where the educational climate and culture of the district and affect the program innovation.

Recent Views on Program Implementation

Most of the ideas that Fullan postulated in 1982 are still valued as current and meaningful insights to educational change. In fact in the literature on change, Fullan is one of the most widely quoted authors on the subject. There are, however, some recent

observations which make excellent supplementary contributions to the ideas brought forth by Fullan.

One excellent addition to the literature on change and program implementation comes from Corbett, Firestone, and Rossman (1987). In the article, "Resistance to Planned Change and the Sacred in School Cultures", Corbett et al. emphasize the role of school culture in resistance to the change process. They issue a warning to those individuals involved in implementing planned change into schools that the school culture should be carefully examined before implementation efforts take place.

> It seems likely that change of any magnitude at all will touch norms deeply rooted in the school's culture. Managing change requires more than artfully adjusting the process to minimize barriers and maximize incentives. The normative content of the changes must also be considered. Change redefines what is and what ought to be in a school. Attacks on existing definitions, especially those that concern professional purpose, engender resistance and opposition...it requires knowing what changes are inherently compatible with the local culture, which ones are not, and which ones can be repackaged to fit existing norms (Corbett et al., 1987, p. 57).

In addition, Corbett et al. examine the problems inherent in many "top-down" change efforts that originate at the higher levels of the educational system. Essentially, their research indicates the following:

> If changes are to be successful, then initiators must understand how the culture will accept the proposed innovation and where the culture itself needs modification...such knowledge comes from understanding individual schools and is not easily gained at the higher levels of the educational system where policies are generated (Corbett et al., 1987, p. 57).

Hord (1987) emphasizes the personal nature of change. She disputes the established view of a number of program designers and high level administrators who view change as "package or a programme affecting many people, but distinct from all of them" (Hord, 1987, p. 93). Instead, Hord proposes that "change is a process, not an event", and that change efforts must focus on the individual because "active, appropriate, and sustained

participation of (individuals) is what separates a programme on paper from a meaningful and realized one in practice" (Hord, 1987, p.94).

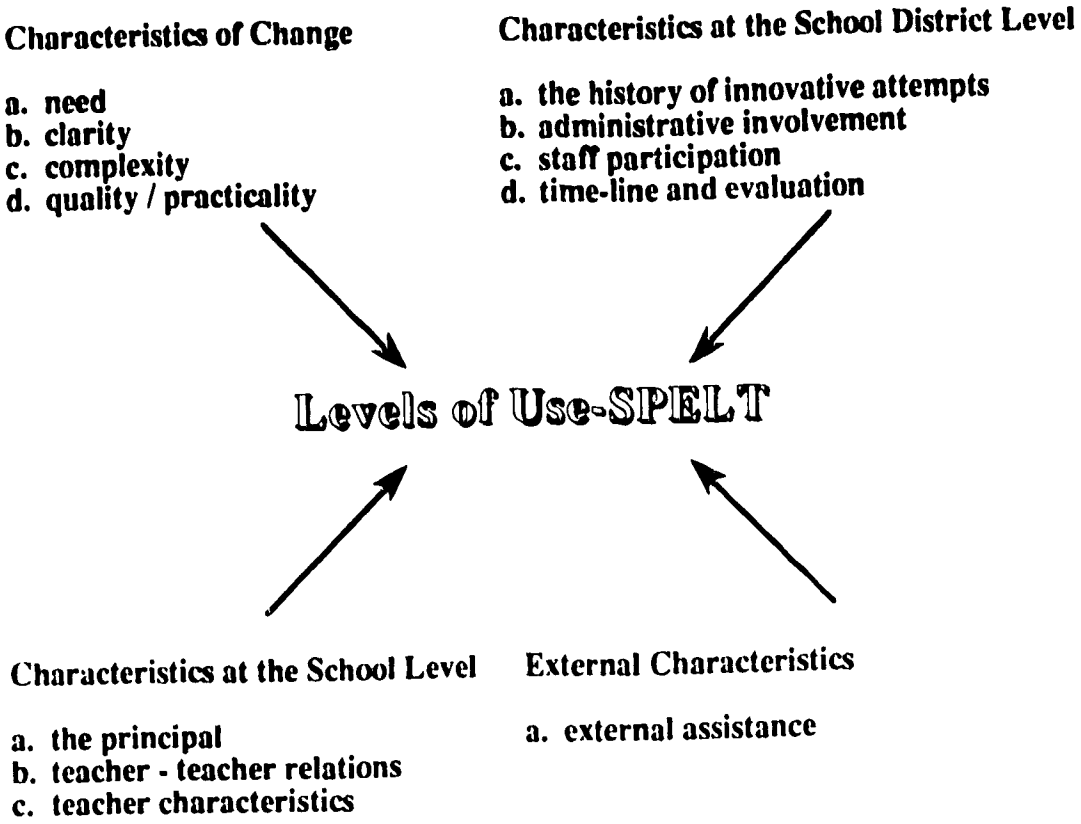
As a consequence to her view that change is a process for the individual and not an event, Hord advocates that "making the appropriate interventions and timely support are the most vital contributions that change facilitators can make to encourage an innovation's successful integration" (1987, p. 166). To Hord the source of the change, top-down or teacher initiated, is irrelevant. "Regardless of the source or strategy chosen for its implementation, SUPPORT IS NECESSARY" (1987, p. 168). She emphasizes that a cooperative relationship between the school leaders (principals) and the individuals involved in the change is an important ingredient for successful program implementation because of the great deal of time and energy involved and invested in successful implementation.

A third addition to recent literature on change in the increased emphasis on the role of the principal in facilitating change. Although earlier studies recognize the principal as being an important figure in change, recent studies (Wayson et al., 1988, Aquila & Galovic, 1988, Hord, 1987) characterize the principal's role as vital in providing both vision and support in the change process.

In summary, in addition to the ideas postulated by Fullan, recent studies have also focused on the effect of the educational climate on change, change as being personal, change as a process and not an event, and the increased emphasis on the role of the principal during the overall process in educational change.

Conceptual Framework

This study was influenced primarily through two sources that were explained in detail in the Review of the Literature: Fullan's taxonomy of factors affecting implementation and the University of Texas at Austin's concept of Levels of Use of the program innovation. The conceptual framework for this study might be represented diagrammatically as follows:



The diagram depicts that the Levels of Use of the implementation of a program innovation (SPELT) was affected by the characteristics of change, the characteristics at the school district level, the characteristics at the school level, and external characteristics in

this study. These characteristics can affect the implementation of a program in either a positive or negative manner.

Summary

In the context of this review, it has been proposed that program innovation is a complex area of study. Fullan (1982) proposes that there are four major factors that affect program implementation: characteristics of the change, characteristics at the school district level, characteristics at the school level, and characteristics external to the local system. Each of these four factors have number of characteristics which also can influence program implementation.

Continuation was also discussed in the review; however, it was a difficult process to define. It was argued that because of staff turnover, continuation is not likely to be achieved in education and what usually happens is a process of continuous implementation.

The University of Texas has also proposed that it is possible to determine the extent to which a program innovation is being implemented with an instrument called the Levels of Use. The LoU measures the behavior of the innovation users only and does not measure such characteristics such as attitude or effectiveness of the innovation user.

It has also been concluded that the LoU model needs refinements to more effectively measure the program innovation as the culture and climate of each educational organization is unique.

Recent studies acknowledge the work of Fullan to be both comprehensive and current. In addition to Fullan's work, recent studies also acknowledge the role of climate

in educational change, the personal nature of the change process, and and an increased emphasis on the role of the principal in facilitating the process of change.

CHAPTER THREE

RESEARCH METHODOLOGY

The design of this study included both the collection of quantitative and qualitative data. The objective of the research was to measure the extent to which a program innovation, SPELT, has been implemented; the purpose was to provide reasons for the extent of implementation and to provide direction in terms of future direction for the program. The methodology involved both surveys and interviews with teachers in the school system. This chapter discusses the methodology, the data collection procedures, the response rate, methods for data analysis, validity and reliability, and ethical considerations.

Data Collection

Two methods were used to collect data for this study: interviews and questionnaires. Each served not only as a method of data collection, but also as a method for validating data.

The Interview

The interview (see appendix B) was semi-structured in format. It was designed to provide data to answer, in part, all four of the major research questions. Furthermore, it was used as a basis of input so that the respondents could describe what they felt were the key issues regarding the implementation of SPELT. Finally, the interview served as a contributing factor to the construction of the questionnaire.

Instrument Development

"The LoU interview has one principal purpose: to gather enough information from an individual about his/her use of an innovation to assign a Level of Use" (Loucks et al., 1975, p.21). According to the Texas group, this is accomplished by using two independent methods. The first method is to gather information about the "Decision Points." Secondly, one must probe in order to gather data about each of the "Curriculum Categories."

Therefore, the interview guide developed by Loucks et al. (1975) was closely studied and adapted to the interview instrument so that there would be at least one question involving a decision regarding the use of SPELT which would involve each of the seven curriculum areas as described by Loucks et al. (1975): knowledge, acquiring information, sharing information, assessment, planning, personal stance, and performance. For a complete explanation regarding the "Decision Points" and the "Curriculum Categories", see appendix D.

In addition, specific questions were designed to collect data in response to the other major research questions as outlined in chapter one. A copy of the resulting interview guide is found in appendix B.

Pilot Study

Gay (1987) states that "in a pilot study the entire study is conducted, each and every procedure is followed, and the resulting data are analyzed - all according to the research plan...based on a small number of subjects" (p. 90). Because the interview guide had never been used previously, it was necessary to conduct a pilot study to test the instrument. Four respondents were chosen for the pilot study based on their experiences with the program, their experiences with the system being studied, and their proximity to the

researcher. After each interview had been conducted, the respondent was rated according to the rater's guide designed by Loucks et al. (1975) (Appendix C). After the "scoring" took place, the results were discussed with the respondent as a check of the validity of the data. Additional feedback about the interview was also sought at this time. Modifications were made to the interview guide after each pilot interview, and indeed throughout the study; however, in each case, the perceptions of the scorer and the respondent were very similar in terms of the actual rating of the Levels of Use using the rating sheet.

Sampling

Stratified sampling, "the process of selecting a sample in such a way that the identified subgroups are represented in the sample in the same proportion that they exist in the population" (Gay, 1987, p. 107), was the method used for choosing the sample. A composite list of the teachers in the schools was obtained by the researcher. Each of the three schools involved in the study, had roughly the same number of teachers involved in the program. Three teachers from each school were then targeted, and subsequently asked, to be participants in the interviews. Each of the teachers chosen taught in a different subject area and each represented a wide range of teaching experience. In addition, two first year teachers were selected in order to give representation to that subgroup as they were not part of the initial inservicing process.

Interview Procedure

Each of the respondents was contacted either via the telephone or in person to ask for their participation in the interview section of the study. The interviews were scheduled in the respondent's classroom to allow the respondent to feel more comfortable in a familiar environment and for the convenience of the respondent. The interviews varied in length with most of the interviews lasting between thirty and forty-five minutes. The respondents

were assured anonynuity, informed that the discussion was being taped, and reminded that their participation in the study was voluntary.

Questionnaire

The questionnaire served two purposes. The first purpose was to provide a source of data. Secondly, the questionnaire provided a basis to verify the reliability of the data collected during the interviewing process.

Questionnaire Construction

The questionnaire was divided into three sections. Each section attempted to measure distinctly different aspects of the implementation of SPELT.

The first section, Part 1 - "Personal Use of SPELT," contained statements representing the decision points for each of the seven curriculum areas identified by Loucks et al. for a Levels of Use study. The statements were derived from "Appendix D - Guidelines for Rating Level of Use Categories" in the manual Measuring Levels of Use of the Innovation: A Manual for Trainers, Interviewers, and Raters by Loucks et al. (1975). Each statement was a "typical response" representing a decision point which would correspond to an appropriate Level of Use. This section was used to represent the individual Levels of Use for each teacher who participated in the study.

Part 2 - "General Information" attempted to solicit supporting information for the research questions dealing with the SPELT strategies that are used, the barriers to program implementation, and the future direction that SPELT should take.

Part 3 - "Demographic Information" solicited information from the respondents that was used to form various classifications for statistical analysis.

Pilot Study

A pilot study on the questionnaire was carried out with the teachers who were involved with the interview section of the study. In a follow-up session with each of the interviewees, participants were asked to fill in the questionnaire. After the questionnaire was completed, the researcher compared his rating of the individual's Level of Use based on the interview data (transcripts etc.) with the Level of Use chosen by the participant in the questionnaire. In ten out of eleven cases there was agreement in at least five of the seven curriculum areas. In none of these cases was there any disagreement in the overall Level of Use. Based on the comments of the respondents, a few minor changes were made to the instrument, and it was subsequently circulated to the target teacher population.

Data Sources

Gay defines a population as the "group to which the researcher would like the study to be generalizable" (1987, p. 548). The target population of this study included all teachers from grades 4 - 12 who are presently teaching in this particular school system during the 1988-89 school year. SPELT is only required for teachers at these grade levels in this system. In addition, those teachers who would have limited use of SPELT due to their programs were eliminated from the population. Therefore, of the seventy-eight teachers who taught grades four through twelve in the district, sixty of these were chosen as the population for the study because they were expected to be core users of SPELT. As a result, the study can only be generalizable to this remaining population. Because a population was used in the study in terms of the questionnaire, sampling methods for the questionnaire were not appropriate.

Response Rate

Of the sixty questionnaires that were circulated to the teaching population, forty-two were returned for a return rate of seventy per cent. However, in a few cases, certain questions were incomplete; therefore, for statistical analysis in some of the research questions, a lesser population size resulted.

Data Analysis

Before data analysis could take place, a certain amount of training was necessary in order for the researcher to familiarize himself with the data analysis methods as described by Loucks et al. (1975). First of all, five "coding" exercises derived from "Appendix A" of Measuring Levels of Use of the Innovation: A Manual for Trainers, Interviewers, and Raters were completed to enable the researcher to practice interpreting sample statements and coding them into the proper Level of Use in the appropriate curriculum category. Secondly, Appendix B of the same manual (Loucks et al., 1975), contained a number of sample transcripts of LoU interviews which outlined the procedures used to analyze and rate interviewees. The rating procedure basically involved interpreting the responses of the interviewee and categorizing them in the appropriate curriculum area and at the corresponding decision point. The definitions of the categories and decision points are found in appendix D. In addition, a sample of the rating guide used to record the ratings is found in appendix C.

Descriptive statistics were used to analyze the questionnaire data. Questionnaire data were coded and transferred to computer tape. All interviews were transcribed and were subjected to a content analysis roughly following the procedures outlined by Loucks et al. (1975) identifying the decision point in the appropriate curriculum area. Interview

tapes were then analyzed in terms of the remaining research questions. Data from the interviews were reported with the questionnaire data under these same headings.

Validity and Reliability of the Data

Pilot tests for both the questionnaire and interviews were designed to ensure both validity and reliability. Gay (1987) indicates that validity is "the degree to which a test measures what it is intended to measure" and reliability is "the the degree to which a test consistently measures whatever it measures" (p.553, 549).

Two areas, content validity and construct validity, were especially taken into consideration in the methodology of collecting data. Content validity, "the degree to which a test measures an intended content area; it is determined by expert judgment and requires both item validity and sampling validity" (Gay, 1987, p.542), was achieved in two ways. First of all, the program designers of SPELT were involved in the initial construction of the questionnaire and interview instruments to lend "expert judgment" especially in the area of item validity. Secondly, the pilot tests conducted with both the questionnaire and interview guide served to validate both instruments in terms of their content.

Construct validity, "the degree to which a test measures an intended hypothetical construct, or nonobservable trait, which explains behavior" (Gay, 1987, p.542), was ensured by using the questionnaire to validate the contents of the interview. The researcher scored each interview according to the guide designed by Loucks et al. (1975), and then issued a questionnaire to each participant. The accuracy of predicting each participant's responses to the questionnaire gives a sense of credibility to the construct validity of both the questionnaire and the interview guide.(For 10 of 11 cases, in 5 of 7 curriculum areas the participants responses were identical to the responses predicted by the researcher based

on the interview data.) As the questionnaire validates the researcher's perceptions of the interviews, so too does the interview data validate the content of the questionnaire.

Member checks, "whereby data and interpretations are continually checked with members of various groups from which data are solicited" (Guba and Lincoln, 1982, p.247), were done by providing each interview respondent with a copy of the transcript to verify the meanings. Triangulation, "whereby a variety of data sources, different perspectives or theories, and different methods are pitted against one another to cross-check data and interpretation" (Guba and Lincoln, 1982, p. 247), was used consistently with the program designers of SPELT, fellow graduate students, and former teachers in this particular school system serving as resource people.

Ethical Considerations

A number of steps were taken to preserve the ethical integrity of this research undertaking. First of all, at the system level, written permission was requested of the jurisdiction where the research was conducted. Furthermore, copies of the research proposal and the questionnaire were submitted to the central office administration of the jurisdiction being studied to ensure that their consent was of an informed nature.

In terms of the interviews, all participants were volunteers. Participants were notified that the interviews were being taped, and all participants were given the option of reviewing their transcripts and deleting any information that they considered of potential harm to them. The tapes were transcribed by the researcher and no other individual was allowed access to them. No individual characteristics were reported in the context of the study, and all data were reported anonymously. Although quotations from the interviews were used in the report, sources were not identified.

In terms of the questionnaire, the covering letter (Appendix A) indicated that participation in the study is voluntary. In addition, anonymity was guaranteed as no signatures were required, no tracing codes were used, and all data on the final report were reported anonymously. Further safeguards were taken by having the questionnaires collected in a "neutral" location which in this case was the print room of one of the local schools rather than in the administrative offices of the district.

Summary

The major topics discussed in this chapter related to a description of the design of the study, a review of the instrumentation, a brief discussion of the response rate, an outline of the method of data analysis, an explanation of the procedures used to enhance validity and reliability, and the steps taken to ensure the ethical integrity of this study.

CHAPTER FOUR

FINDINGS

This chapter presents the findings of the study in response to the major research questions. It discusses information about the Levels of Use of SPELT in the major curriculum areas, identifies the SPELT strategies that were used, and rates the effectiveness of the strategies as perceived by the teachers. Furthermore, this chapter identifies some of the factors that affected the implementation of SPELT and reports some of the suggestions which the respondents have identified as possible directions for the program in order to further implementation of SPELT.

The chapter is divided into four sections, each dealing with one of the following research questions:

1. What are the Levels of Use of the SPELT implementation in the school system?

2. What SPELT strategies and phases were being used in the school system, and to what degree were they perceived as effective?

3. What factors affecting the implementation of SPELT were identified by the teaching staff?

4. What can be done to assist further implementation of SPELT according to the teaching staff?

Research Question #1 - What are the Levels of Use of the SPELT implementation in the school system?

The researchers at the University of Texas at Austin divided program innovations into seven curriculum categories and designed eight different Levels of Use (0 to VI) for the individuals implementing the program. In the following discussion, each of the curriculum categories will be examined in terms of an overall population response and the specific responses for each following grade level groupings: grades four to six, grades seven through nine, and grades ten through twelve. The reasons for the groupings are due to the effects of being independent schools and having separate school organizations, climates, and administrative staffs.

For the purposes of constructing a simpler questionnaire and making statistical analysis easier for both author and reader, the LoU table was converted from having levels 0 to VI to levels 1 to 8. The conversions for this study are as follows:

LoU level "**0 - Nonuse**" is level 1.

LoU level "**I - Orientation**" is level 2.

LoU level "**II - Preparation**" is level 3

LoU level "**III - Mechanical Use**" is level 4.

LoU level "**IVA - Routine**" is level 5.

LoU level "**IVB - Refinement**" is level 6.

LoU level "**V - Integration**" is level 7.

LoU level "**VI - Renewal**" is level 8.

For a complete explanation of both the curriculum categories and Levels of Use, see Appendix D.

The following tables indicate the means and the ranges of responses regarding the Levels of Use. Means and levels represent the scores on the questionnaires using the converted numbering system as has just been outlined.

Curriculum Category #1: "Knowledge"

According to Loucks et al. (1975), the curriculum area of "knowledge" determines "that which the user knows about the characteristics of the innovation, how to use it , and the consequences of its use" (p.8).

Table 1 indicates that the 39 teachers have an overall mean of 4.9 which equals a LoU at "Mechanical Use." Loucks et al.(1975) state that at this level, the user "knows on a day to day basis the requirements for using the innovation (and) is more knowledgeable on the short-term activities..." (p.8). This, however, may only be applicable to the grade 4 to 6 group. Of the 14 respondents teaching grades 4 to 6, one half (7) of the teachers rated themselves at this level. In grades 7 to 9, more than half of the teachers, 7 out of 12, rated themselves a full level higher at the "routine" level. Consequently, the mean for this group also falls within the "routine" level at 5.1. At the "routine" level, the user "knows both short- and long-term requirements for use and how to use the innovation with minimum effort of stress" (Loucks et al., 1975, p.8). The grade 10 to 12 teachers, however, do not follow a curvilinear pattern. It would be difficult to state an overall LoU score for this population. Although the mean was at 5.0 indicating a "routine" Level of Use, three of the teachers rated themselves at the highest level skewing the mean upwards in a substantial manner. Without these individuals, the mean would be almost a level lower at 4.1. In

addition, almost half, 6 of 13, of the respondents rated themselves below the 5.0 mean of the school.

Table 1

Number of Teachers Indicating LoU for "Knowledge" as Grouped by Grade Levels

		Levels of Use								
Grade	n	1	2	3	4	5	6	7	8	Mean
4 - 6	14	0	0	3	7	2	1	0	1	4.4
7 - 9	12	0	0	0	3	7	1	0	1	5.1
10-12	13	0	1	3	2	2	2	0	3	5.0
Totals	39	0	1	6	12	11	4	0	5	4.9

Curriculum Category #2: "Acquiring Information"

The Texas group defines "acquiring information" as the category where the user "solicits information about the innovation in a variety of ways, including questioning resource persons, corresponding with resource agencies, reviewing printed materials, and making visits" (Loucks et al., 1975, p.8).

Table 2 indicates teacher's perceptions about the way they acquired information with regard to SPELT and other cognitive education programs. Each of the groups indicated that there are splits in the staff in how information is acquired. At the 4 to 6 grade levels, 6 of the 14 (43%) respondents rated themselves below level three, no one rated themselves at level three, and the remaining eight rated themselves at levels four and above.

At the grade 7 to 9 level, there was a similar spread. Three of twelve teachers (25%) rated themselves below level three. As was the case with the elementary teachers, no one rated themselves at level three, and the remaining 9 teachers rated themselves at level four or greater. The high school teachers also had a split, but at a lower level. Four of the 13 teachers rated themselves at level one, there were no respondents at level two, and the remaining 9 teachers rated themselves at level three or greater.

The total figures also reflected the splits in the staff regarding "acquiring information." Ten teachers rated themselves at the lowest level and twelve teachers rated themselves at the "routine" level. These levels, four levels apart, represented the levels with the most responses from the teachers in the district.

Table 2

Number of Teachers Indicating LoU for "Acquiring Information" as Grouped by Grade Levels

		Level of Use								
Grade	n	1	2	3	4	5	6	7	8	Mean
4 - 6	14	5	1	0	2	4	1	0	1	3.5
7 - 9	12	1	2	0	2	4	1	0	2	4.2
10-12	13	4	0	1	2	4	1	0	1	3.8
Totals	39	10	3	1	6	12	3	0	4	3.9

Curriculum Category #3: "Sharing"

"Sharing" is defined process where the user "discusses the innovation with others, shares plans, resources, outcomes, and problems related to the use of the innovation" (Loucks et al., 1975, p.8).

Table 3 displays the teachers' rankings of "sharing." Of all of the curriculum categories, "sharing" ranked as the category with the lowest Levels of Use overall with a mean of 2.9. Of the 39 respondents, 19 (49%) ranked themselves at the lowest level, "nonuse" with regard to "sharing."

Each group tended to be unique in its position in regard to "sharing." At the grade 4 to 6 level, 10 of 14 teachers (71%) rated themselves at the lowest level indicating they do not share information about SPELT. However, a number of them see little value in sharing information about SPELT as some teachers teach all of the subjects to their children and can coordinate the SPELT program across subject areas without sharing. As one interviewee stated, "In the elementary, some people teach everything; therefore, there isn't as much need for sharing."

At the grades 7 to 9 level, there was a much different reaction to the concept of "sharing" as indicated by the mean score of 3.9. Although this was the lowest mean score for this group for any of the curriculum categories, they rated significantly higher than the other groups in the category of "sharing." In fact, a Scheffe test conducted on these data indicated that there was a statistical difference at the 0.100 level between the grade 7 to 9 group and the other groups in the study. Only 3 of 12 teachers (25%) reported that they were not involved in any sharing. One of the factors for the higher rating may be a school focus on "sharing." As one respondent explained,

> The emphasis on P.D. at the beginning of the year really helped. We did cooperative planning of units at the beginning of the year, and one of our guidelines was to look at how we were incorporating the use of learning strategies. You focus on them...something that you normally would forget. You do need that focus; it doesn't just happen because you sit down and plan together.

At the high school level, the mean is 2.9; however, if you subtract from the score the individual who was rated at level 8, you get a mean of 2.5. Of the remainder of the group, 6 of 12 individuals (50%) indicated that they do not share information about SPELT, and all members of the group rated themselves at level five or lower. When asked if discussion or sharing had ever taken place with regard to SPELT, one respondent retorted, "for two seconds actually."

Table 3

Number of Teachers Indicating LoU for "Sharing" as Grouped by Grade Levels

		Levels of Use								
Grade	n	1	2	3	4	5	6	7	8	Mean
4 - 6	14	10	0	0	2	1	1	0	0	2.2
7 - 9	12	3	1	0	2	3	2	1	0	3.9
10-12	13	6	1	0	3	2	0	0	1	2.9
Totals	39	19	2	0	7	6	3	1	1	2.9

Curriculum Category #4: "Assessing"

In the category of "assessing", the user "examines the potential or actual use of the innovation or some aspect of it" (Loucks et al., 1975, p.9). Table 4 provides data as to the Levels of Use for the curriculum category of "assessing." Of the 39 respondents, 29 (74%) rated themselves at levels four, five, or six in response to the "assessing" category contributing in a major way to the 4.1 mean. In all of the groups, level five, was the number one response. None of the users surveyed rated themselves higher than level 6.

At the grade 4 through 6 level, the mean is somewhat typical for this group at 4.3; however, a split is evident. Three teachers rated themselves at the lowest level, no teachers rated themselves at either level 2 or 3, and the remaining eleven teachers rated themselves at levels 4, 5, and 6.

The teachers at grades 7 to 9 had a more evenly distributed grouping in attaining a mean of 4.5. Only one individual was rated below level 3, while the remaining 11 were distributed as 4, 6, and 1 at levels 4, 5, and 6 respectively.

The high school grouping achieved the lowest mean at nearly a level lower than the others at 3.5. This is in large part due to a split in the distribution. Level one and level five both contained four respondents or 31% of the group each. The other five teachers were distributed fairly evenly with one each in levels 2, 3, and 4, and two teachers in level 6.

Table 4

Number of Teachers Indicating LoU for Assessing" as Grouped by Grade Levels

		Level of Use								
Grade	n	1	2	3	4	5	6	7	8	Mean
4 - 6	14	3	0	0	1	7	3	0	0	4.3
7 - 9	12	0	1	0	4	6	[illegible]	0	0	4.5
10-12	13	4	1	1	1	4	2	0	0	3.5
Totals	39	7	2	1	6	17	6	0	0	4.1

Curriculum Category #5: "Planning"

"Planning" is described by the Texas group as the process where the user "designs and outlines short- and long-range steps to be taken during the process of innovation adoption, i.e., aligns resources, schedules activities, meets with others to organize and/or coordinate use of the innovation" (Loucks et al., 1975, p.9). In the "planning" category (Table 5) some familiar trends were again evident. First of all, the grade 7 to 9 teachers, as usual, had the highest mean score at 5.1, over one level above the scores of the grade 4 to 6 level teachers (mean = 3.8) and the high school level teachers (mean=3.9). One-half of the 12 respondents at grades 7 to 9 rated themselves at level 6 which is the "refinement" level. According to Loucks et al., the "refinement" level for planning is a point in which the user "develops intermediate and long-range plans that anticipate possible and needed steps, resources, and events designed to enhance client outcomes" (1975, p.9). Certainly the

cooperative planning effort in this school that was outlined in the "sharing" section is a contributing factor to the higher scores for this group.

A second familiar trend was the splits that were evident in the grade 4 to 6 group and the grade 10 through 12 group. In both groups, the split occured at level 3. For the elementary group, 4 teachers (29%) rated themselves lower than level 3 with the remainder of the group ranking themselves above level 3. All of the participants at the grade 4 to 6 level rated themselves at level 6 or lower.

On the other hand, there appears to be two splits at the high school level. Five of the teachers (38%) rated themselves below level 3, and none of the users ranked themselves in the level 3 range. At levels 4 and 5, (one and five teachers respectively) 46% of the teachers placed themselves. None of the respondents rated themselves at level 6 while the remainder of the group, 15%, placed themselves at levels 7 and 8.

Table 5

Number of Teachers Indicating LoU for "Planning"

as Grouped by Grade Level

		Levels of Use								
Grade	n	1	2	3	4	5	6	7	8	Mean
4 - 6	14	3	1	0	4	4	2	0	0	3.8
7 - 9	12	0	1	1	2	1	6	1	0	5.1
10-12	13	3	2	0	1	5	0	1	1	3.9
Totals	39	6	4	1	7	10	8	2	1	4.2

Curriculum Category #6: "Status Reporting"

"Status reporting describes the personal stand at the present time in relation to use of the innovation" (Loucks et al., 1975, p.9). Table 6 describes the Levels of Use profiles for the category of "status reporting."

"Status reporting" indicated again the two trends that have been consistent throughout the categories: the higher ratings of the middle grade level and the split Levels of Use for the elementary and high school groups.

In terms of the grade 7 to 9 grouping, once again their mean of 4.6 was the highest of the three groups. More significantly, perhaps, was the fact that none of the teachers reported themselves to be below level 4. This indicated that in the curriculum category of "status reporting" that all of the respondents saw themselves to be at least at the "mechanical use" level which according to Loucks et al. indicated that at least the first usage of the innovation has taken place (1975, p.8).

The split at the grade 4 to 6 level this time covered two levels with none of the respondents ranking themselves at the level 2 or 3 range. At the elementary level, 3 of 14 teachers rated themselves at the lowest level indicating "nonuse." The remaining teachers rated themselves at level four or greater with seven at level 4, one at level 5, one at level 6, and two at level 8.

The split at the high school level is just as wide as at the elementary level and even more pronounced. Six teachers (46%) placed themselves at levels 1 and 2, none of the teachers rated themselves at levels 3 or 4, and the remainder of the staff rated themselves at level 5 or greater with four at level 5, two at level 6, and one at level 8.

Table 6

Number of Teachers Indicating LoU for Status Reporting as Grouped by Grade Level

		Levels of Use								
Grade	n	1	2	3	4	5	6	7	8	Mean
4 - 6	14	3	0	0	7	1	1	0	2	4.1
7 - 9	12	0	0	0	8	1	3	0	0	4.6
10-12	13	4	2	0	0	4	2	0	1	3.7
Totals	39	7	2	0	15	6	6	0	3	4.1

Curriculum Category #7: "Performing"

It can be argued that the "performing" category is the most important category because it is a measure of the innovation's actual use in this classroom. The user can be knowledgeable about the program, engage in the planning and sharing processes, seek additional information about the innovation, and assess and evaluate the program extensively; however, if the innovation is not used in the classroom, it can be of no advantage to the client for whom the program implementation was intended to benefit. "Performing", then, is that element of the curriculum where the user "carries out the actions and activities entailed in operationalizing the innovation" (Loucks et al., 1975, p.9). In terms of SPELT, "performing" quite simply is a measurement of how extensively the strategies or program is being used in the classroom.

Table 7 is a profile of the Levels of Use for the curriculum category of "performing." Levels 1, 2, and 3 clearly indicate that the user has not used any of the SPELT strategies. Level 1 indicates that the person simply does not use SPELT; level 2 implies that the teachers do not yet use the program, and that they haven't decided whether or not they are going to use it; level 3 indicates that the teachers haven't as yet used the program, but they plan to use it.

The data for "performing" (Table 7) were very consistent with the previous curriculum categories: the grade 7 to 9 level shows the greatest amount of use (mean=4.8) and the other levels indicated splits in the staffs regarding the use of the program. At the junior high level, because none of the respondents indicted a level 3 use or less, it can be assumed that all of the participant teachers have used SPELT strategies. Of the 12 teachers responding to the questionnaire at the grade 7 to 9 level, 4 rated themselves at level 4 which is the "mechanical use" level. This indicated basically that their use of the program was generally inconsistent and of a short-term nature. Seven of the 12 teachers (58%) fell into the level 5 or "routine" level indicating that SPELT use was stabilized as a routine part of their curriculum. One individual ranked at the level 6 or "refinement" level where the user began to "explore or experiment with alternative combinations of the innovation to maximize client involvement" (Loucks et al., 1975, p.9).

At the elementary level, a split was evident, but it was not as radical as in the previous curriculum categories. Only two of the 14 teachers surveyed (14%), the smallest group, stated that they did not use the program. The other 12 respondents indicated program use at various levels. Five teachers (36%) indicated use at the "mechanical use" level, 7 respondents (50%) showed use at the "routine" level, and 3 participants (21%) ranked at the "refinement" level.

The split at the high school level was even wider than was evident at the elementary school. Six of the thirteen teachers (46%) rated themselves at levels one, two, or three indicating that they do not use SPELT. In addition, only one of those individuals indicated that he or she will use the program in the future. None of the individuals surveyed at the high school ranked at the level 4 -"mechanical use" level. Five of the teachers (38%) used SPELT at the "routine" level (level 5), and levels 6 and 8 had one respondent each.

Overall, the table indicated that 8 of 39 respondents (21%) were not using SPELT. The other 79% of the teachers were using SPELT at various levels. The greatest proportion, 22 of 39 teachers or 56%, had established SPELT strategies as a routine part of their teaching program.

Table 7

Number of Teachers Indicating LoU for "Performing"

as Grouped by Grade Level

		Levels of Use								
Grade	n	1	2	3	4	5	6	7	8	Mean
4 - 6	14	2	0	0	5	4	3	0	0	4.3
7 - 9	12	0	0	0	4	7	1	0	0	4.8
10-12	13	5	0	1	0	5	1	0	1	3.6
Totals	39	7	0	1	9	16	5	0	1	4.2

Overall Calculations

Figures 4.1, 4.2, and 4.3 illustrate information representing the cumulative totals of all of the curriculum areas. The two trends that have been noted throughout the curriculum categories, the higher mean scores of the grade 7 to 9 group and the split nature of the elementary and high school staffs with regard to SPELT, appear to be substantiated in these figures. In addition, it can be generalized that each of the staffs are unique in their Levels of Use profiles as the split in the grade 4 to 6 group was different from the split found with the grade 10 to 12 teachers.

Figure 4.1 represented the overall frequencies and percentages for responses to questions in all of the curriculum categories. In general, the elementary school was characterized by a large frequency of responses (27%) at the lowest level, "non-use". In addition, 29% of the responses indicated "mechanical use" which implied at least first usage of the program, and 23% of the scores indicated "routine" use of the SPELT in their teaching programs. The large percentage of responses at the lowest level, "nonuse" obviously had a large bearing on the mean of 3.8. The mean of 3.8 is misleading if one takes it to mean that the average teacher was a little below mechanical or first time usage because 64% of the responses indicated that there had been at the very least first time use of SPELT strategies that had taken place. The most significant aspect of the chart, however, was the large gap between usage at the level one and level four.

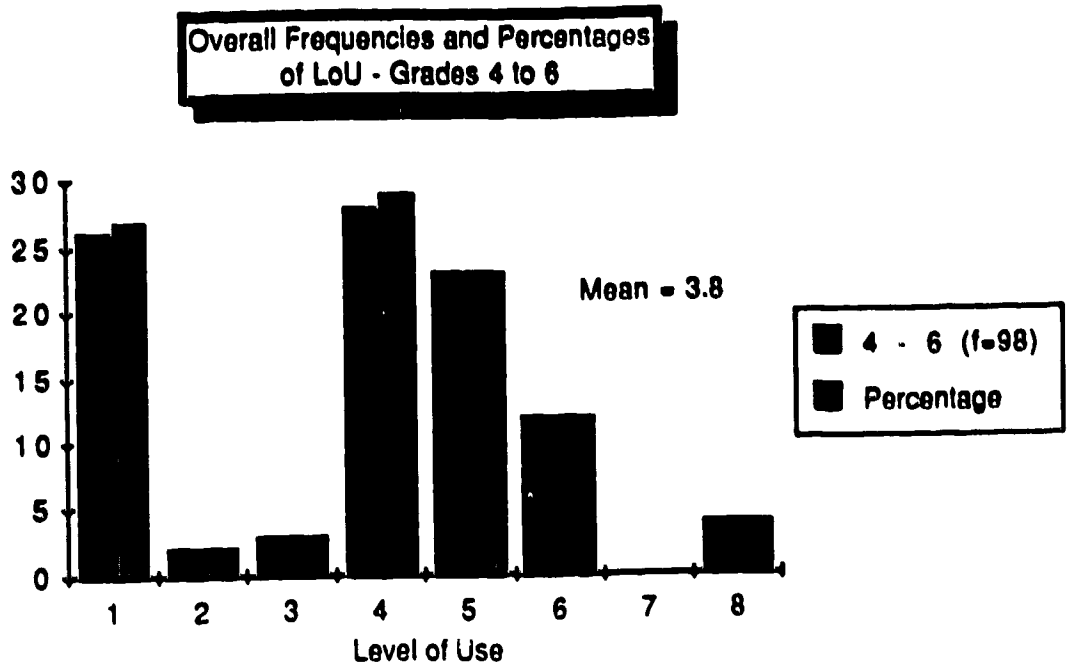


Figure 4.1

Figure 4.2 displays the overall Levels of Use profile for the grade 7 to 9 teachers in this jurisdiction. The Levels of Use at grades 7 to 9 represented a somewhat curvilinear profile. The majority of the responses, 90% indicated that the staff was at least at a stage of "mechanical use." In fact, 39% of the responses indicated that SPELT use was at a "routine" level. It was not surprising, therefore, that the mean of the junior high group was almost a full level (0.8) higher than the means of the other schools. Generally, in comparison to the profiles at the other schools, it appeared that the SPELT implementation was at a comparatively advanced stage.

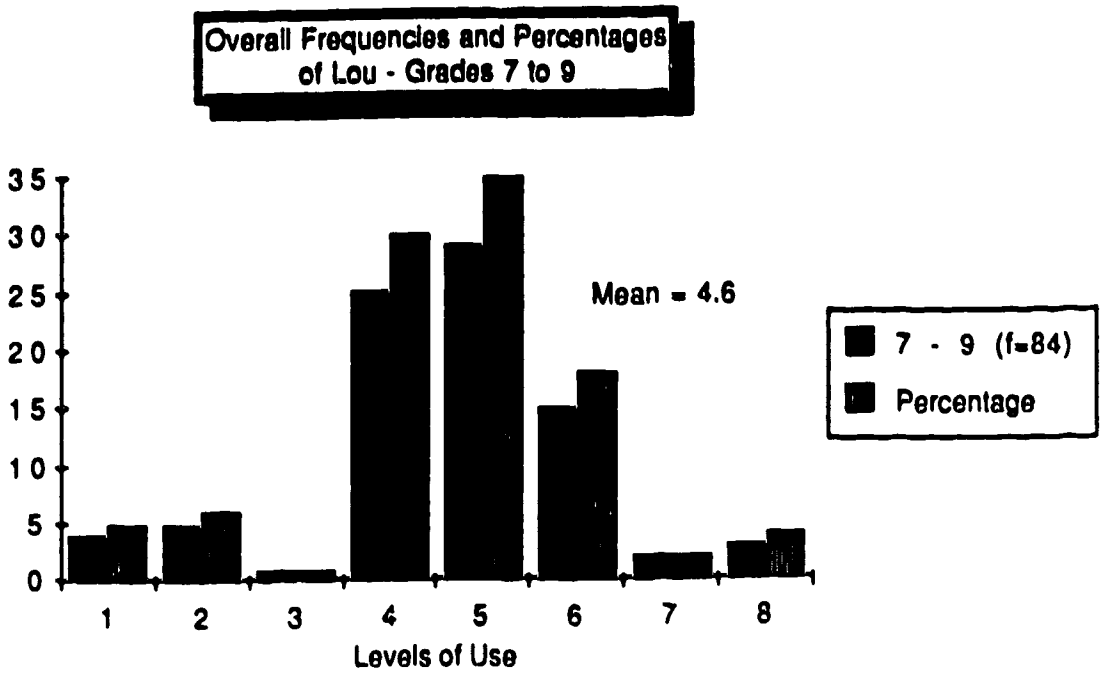


Figure 4.2

Figure 4.3 shows the overall Levels of Use profile for the teachers of grades 10 through 12. Although the grade 10 to 12 teachers also had a split profile (as did the grade 4 to 6 teachers) and also an identical mean to their elementary counterparts, it would be misleading to say that the profiles were identical. At the high school, 44% of the responses indicated usage below the mechanical or first time level which implied a much higher incidence of the program not being used as compared to the elementary (32%). Furthermore, the grade 10 through 12 teachers had only 10% of the responses at the "mechanical use" level approximately three times less than both the junior high (30%) and the elementary (29%) staffs. However, 48% of the responses indicated that the teachers at the high school are at least at the "routine" level having incorporated the program into long range planning as compared to 39% at the elementary school level. The split on the grade 10 to 12 profile covered three levels of use (levels 2, 3, and 4) in comparison to the two level split at the elementary level. By the polarized nature of the results, and the advanced

Levels of Use of those using the program, it seems that high school teachers have decided either to adopt or ignore the program.

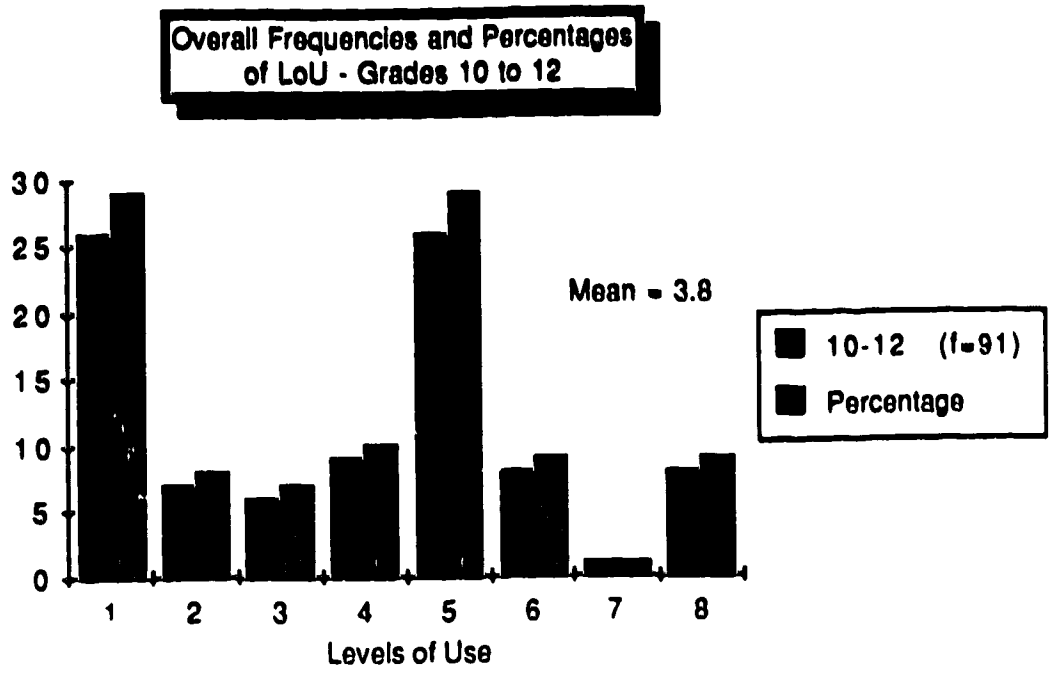


Figure 4.3

Because of the uniqueness of each of the Levels of Use profiles, a total profile may not be significant and, therefore, one is not displayed. It may be interesting to note, however, that 70% of the responses overall indicated at least first time usage, and the mean was 4.0 which would be expected in such a case. However, the large number of responses at the level of "nonuse" at two of the three schools made this mean somewhat less significant. In general, it can be argued that the overall totals do not reflect the unique profiles of the individual schools.

Discussion - Question #1

The data in each of the curriculum categories yielded a number of different observations worthy of discussion. The following section interprets the data for each of the curriculum areas.

In the category "knowledge", 32 of the 39 teachers (82%) rated themselves at the level 4 or above indicating that as far as the "knowledge" category of curriculum, teachers generally felt comfortable with the short-term requirements of the program that were entailed in the level of "mechanical use." In addition, the overall mean of the "knowledge" category of 4.9 was the highest of any of the curriculum areas. Especially notable in the "knowledge" category was the comparatively high mean of 5.0 for the high school teachers. This is, in part, due to the absence of their typical split in the Levels of Use profile. In every other curriculum area, the grade 10 to 12 teachers had at least 3 respondents (23%) at the level of "nonuse." However, in the "knowledge" category, there were no high school teachers who rated themselves at this level. In fact, the high mean score of 5.0 indicated that generally the high school staff felt that they had a good background in SPELT; however, it is interesting to note that the other curriculum areas indicated that they do not actually use the program.

The category of "acquiring information" lent an interesting insight about the attitude of the teaching staff toward SPELT. Overall, 22 of 39 teachers (56%) rated themselves at either levels one or five in the category of "acquiring information." This is very significant when you look at the wording of the questionnaire. Statement #1 stated, "I am not looking for anything about SPELT..." and statement #5 read, " I'm not looking for anymore information about SPELT. I've got enough materials and ideas to use SPELT satisfactorily." (Appendix A - "Acquiring Information") It appeared that in terms of

acquiring more information about SPELT, the teaching staff in this jurisdiction was not very positive!

Overall, the curriculum category of "sharing" indicated differences among the grade levels. The data provided a few reasons for these differences. First of all, it was noted that there were different staff approaches toward SPELT. The junior high staff indicated that there was an attempt at cooperative planning which may have contributed to their mean score being at least a level higher than the other staffs. At the elementary level, the extremely low mean, 2.9, can be partially explained by the different nature of teaching at this particular school. Some teachers at the elementary level indicated that they teach all of the subjects to their students and, therefore, sharing is less important.

As was the case with most of the previous curriculum categories, there was a split in the Levels of Use for the category of "assessing." Seven teachers (18%) rated at the "non-use" level which can be described as those "who take no action to analyze the innovation, its characteristics, possible use, or consequences of use" (Loucks et al., 1975, p.9). However, 23 of 39 teachers (59%) rated at the level "routine" or above indicating that a consistent pattern of assessment of SPELT had been established.

The mean of 4.2 for "planning" was really not very significant due to the splits in the Levels of Use profiles. Eleven teachers (28%) ranked themselves below the mean, only 7 teachers (18%) ranked themselves at the mean, and 21 teachers (54%) ranked themselves above the mean for the total group. The absence of individuals at the mean indicated a polarized overall approach of the teaching staffs to "planning" in the district.

"Status Reporting" illustrated the unique nature of the high school staff in its approach to SPELT. The data regarding level 4 highlighted the differences in the high school staff compared to the rest of the population. At both the elementary and junior high level, level 4 contained the most respondents with 7 and 8 respectively; however, at the

high school, none of the teachers in the study felt that they were at level 4. Indeed, of the 26 teachers below the grade 10 level, 15 or 58% rated themselves at level 4. It was very surprising then that none of the high school staff perceived themselves to be at that level!

The area of "performing" measured the classroom use of SPELT by the teachers. At the elementary and junior high levels only two of 26 teachers indicated that they were not using SPELT. The high school staff displayed a very unique profile with 6 of the 13 teachers indicating that they do not use SPELT. The remaining 7 respondents, however, indicated that they are using SPELT at a level of "routine" or higher. It seemed clear that at the grade 10 to 12 level, teachers were either sold on SPELT and were using it, or they were not using SPELT at all. The absence of individuals at level 4 seemed to indicate that there was no one that was simply "trying it out."

Research Question #2 - What SPELT strategies and phases were being used in the school system, and to what degree were they perceived as effective?

Two questions were basically being asked in this research question. The first question involved the use of strategies and their effectiveness, and the second question addressed the different phases. Consequently, the discussion of this research question was divided into two sections. Section A discussed the strategies and their effectiveness, and section B dealt with the phases.

Section A: Strategy Use

In the following tables, 8 through 11, the first column, indicates the SPELT strategies employed by the teachers; the second column shows the number of teachers who teach the strategy; the third column provides the number of teachers who found the strategy to be effective; the last column, efficiency, was a percentage calculation derived by

dividing the number of teachers who found the strategy effective by the number of teachers who used the strategy.

Table 8 indicates that the 39 respondents surveyed did not use all of the strategies in SPELT. Of the 34 strategies that were employed, over half were used by five or fewer teachers. The most widely used strategies were RAP, SCORER, AND LEEP which were used by 18, 16, and 13 teachers respectively. Three further strategies, 1st Letter Mnemonics, SQ3R, and CORNELL were used by 10 teachers while 18 different strategies were used by three or fewer teachers.

Teachers were generally satisfied with the strategies that they tried. For all but 9 of the 34 strategies, over 60% of the teachers rated them effective. At least 10 teachers used six strategies. Of these six, the strategy with the fewest ratings of effectiveness was SCORER having only half of the users (8) finding it effective. The strategies rated least effective by the respondents were RIDER, SPOT, AND LIGHT. In general, most teachers confined their use to a few strategies which they rated effective in helping students learn.

Table 8

Strategies Used and Teachers' Rating of Effectiveness

Strategy	# of teachers indicated use	Rated effective	Efficiency %
RAP	18	12	63
SCORER	16	8	50
LEEP	13	10	77
COPS	10	7	70
1st LETTER MNEMONICS	10	6	60
SQ3R	10	6	60
CORNELL	8	8	100
IDEA DIAGRAM	8	7	88
FLOW CHARTING	8	5	63
RIDER	8	3	38
LOCI	7	4	57
CARING	6	5	83
KEYWORD: VISUAL...	6	3	50
P.M.I.	5	3	60
TELEGRAPHIC MESSAGES	5	3	60
STAR	4	2	50
STORY MAPPING	3	3	100
LAP	3	2	67
SPOT	3	1	33
MEMORY: HEADLINING	3	1	33
LIGHT	3	1	33
NOTE TAKING	2	2	100
PAIRED PROBLEM SOLV'G	2	2	100
SPICE	2	2	100
MATH WORD PROBLEMS	2	1	50
OUTLINING	1	1	100
REQUEST	1	1	100
MULTIPASS	1	1	100
MR. DOLL	1	1	100
PEGWORD	1	1	100
RELAXATION	1	1	100
POSITIVE SELF TALK	1	1	100
DISSECT	1	1	100
ODD	1	0	0
TOTALS (N=39)	174	115	66

Table 9 displays the strategies, use, and efficiency for the 14 teachers of grades four through six. These teachers used 26 different strategies a total of 76 times. On 46 of

these occasions, the strategy was found to be effective for a 62% efficiency rating. SCORER, COPS, and RAP were the most frequently used strategies with eight teachers reporting that they had used each of the strategies.

Table 9

Strategies Used and Teachers' Rating of Effectiveness for Grades 4 - 6

Strategy	#of teachers indicated use	Rated effective	Efficiency %
LEEP	8	6	75
COPS	8	5	63
RAP	8	5	63
CARING	5	4	80
LOCI	5	4	80
1ST LETTER MNEMONICS	4	3	75
STAR	4	2	50
RIDER	4	1	25
SCORER	4	0	0
FLOW CHARTING	3	2	67
SQ3R	3	1	33
LIGHT	3	1	33
SPICE	2	2	100
KEYWORD: VISUAL...	2	2	100
SPOT	2	0	0
MR. DOLL	1	1	100
TELEGRAPHIC MESSAGES	1	1	100
RELAXATION	1	1	100
POSITIVE SELF TALK	1	1	100
PAIRED PROBLEM SOLV'G	1	1	100
DISSECT	1	1	100
STORY MAPPING	1	1	100
IDEA DIAGRAM	1	1	100
PEGWORD	1	1	100
ODD	1	0	0
P.M.I.	1	0	0
TOTALS (N=14)	76	47	62

Also with regard to table 9, of the 26 strategies that were taught to the students, only 9 strategies were used by 4 or more teachers, and 11 strategies had been tried by only one teacher. Of these 11 cases, 9 teachers found these strategies effective. This effectiveness trend remained fairly consistent as in only 7 of the strategies did the respondents find the strategies not effective 50% of the time. RIDER, LIGHT, and SQ3R were the strategies with the lowest effectiveness rating for strategies that had been used more than once. In general, teachers at the elementary level used a wide variety of strategies with a moderate rate of success.

Table 10 shows that the 12 different respondents teaching at the grade 7-9 level indicated that they used 19 different strategies a total of 57 different times. In 36 of these cases, the strategy was determined to be effective depicting an efficiency of 63%. The most widely used strategy was SCORER with 8 respondents, followed by RAP with 7 respondents, and LEEP with 5 respondents. Of these strategies, only RAP (43%) was judged to be effective in less than half of the cases. As for the strategies that were used by four or more teachers, only CORNELL received an efficiency rating of 100%. Over half (12) of the strategies were used by three or fewer teachers with six of these strategies being used only once. In addition, for 8 of the 19 strategies, less than 60% of the users rated the strategies effective. Overall, there was a wide range as to the number of strategies employed, the frequency of strategy use, and the effectiveness of the strategies.

Table 10

Strategies Used and Teachers' Rating of Effectiveness Grades 7 - 9

Strategy	# of Teachers indicated use	Rated effective	Efficiency %
SCORER	8	5	63
RAP	7	3	43
LEEP	5	4	80
CORNELL	4	4	100
IDEA DIAGRAM	4	3	75
1ST LETTER MNEMONICS	4	2	50
RIDER	4	2	50
LAP	3	2	67
SQ3R	3	2	67
TELEGRAPHIC MESSAGES	3	1	33
STORY MAPPING	2	2	100
MATH WORD PROBLEMS	2	1	50
P.M.I.	2	1	50
CARING	1	1	100
REQUEST	1	1	100
COPS	1	1	100
MULTIPASS	1	1	100
FLOW CHARTING	1	0	0
KEYWORD: VISUAL...	1	0	0
TOTALS (N=12)	57	36	63

Table 11 indicates that the 13 respondents, who teach high school (grades ten to twelve), used 17 different strategies a total of 41 times. On 32 occasions, these strategies were judged to be effective for an efficiency rating of 78%. Five strategies were used by four different respondents: CORNELL, RAP, Flow Charting, SQ3R, and SCORER. CORNELL, and RAP were judged to be effective by all four respondents for an efficiency rating of 100%. SQ3R, Flow Charting, and SCORER were judged to be effective by three of the participants or 75%. Of the 17 strategies used by the high school teachers, 10 of these were used by either only one or two teachers. Ten of the 17 strategies were rated to be effective by 100% of the users. In general, there are fewer strategies and a fewer

number occasions where the strategies are used, but a high level (78%) of efficiency is also noted for these strategies at the high school level.

One reason for the high rating of efficiency might relate back to the Levels of Use profiles. The high school level indicated a split in the teaching population with regard to SPELT use. A large percentage rated at the lowest level, "nonuse", and a large percentage ranked themselves as routine users. Consequently, one could hypothesize that there was much less experimental use of the program. Only individuals who were sold on the program would actually attempt to use it. Because they have "bought in" to the premise of SPELT, the attempts at making the strategies work may have been of a more concentrated nature. As a consequence, the efficiency ratings went up accordingly.

Table 11

Strategies Used and Teachers' Rating of Effectiveness

Grades 10 - 12

Strategy	# of teachers indicated use	rated effective	efficiency %
CORNELL	4	4	100
RAP	4	4	100
FLOW CHARTING	4	3	75
SQ3R	4	3	75
SCORER	4	3	75
IDEA DIAGRAM	3	3	100
MEMORY: HEADLINING	3	1	33
P.M.I.	2	2	100
NOTE TAKING	2	2	100
1ST LETTER MNEMONICS	2	1	50
KEYWORD: VISUAL	2	1	50
LOCI	2	0	0
COPS	1	1	100
SPOT	1	1	100
OUTLINING	1	1	100
PAIRED PROBLEM SOLV'G	1	1	100
TELEGRAPHIC MESSAGES	1	1	100
TOTALS (N=13)	41	32	78

Discussion : Question #2 - Section A

In comparing tables 9, 10, and 11, a number of observations can be made. The grade four to six teachers used the most strategies, 76, but had the lowest reported efficiency at 62%. The grade ten through twelve teachers used the fewest amount of strategies, 41; however, they reported the highest efficiency rating at 78%

Also, it can be observed that the lower the grade level, the greater variety of strategies that were employed. The grade four through six teachers taught 34 different strategies, the grade seven through nine teachers tried 26 strategies, and the grade ten through twelve teachers used seventeen different strategies.

There are some additional observations that can be made about strategy use. First of all, 10 of the 36 strategies were used all the way from grades four through twelve. Nine strategies were taught exclusively at the grade four to six level; four were exclusive to the seven to nine teachers; two strategies were exclusive to the high school level. This tends to indicate different levels of complexity for the different strategies, or, perhaps, that some strategies were simply inappropriate for certain levels of students.

Because there were a similar number of respondents in each grade grouping, the following tentative generalizations can be made from the data:

1. The lower the grade level, the greater the number of strategies that will be employed.
2. There was a perceived sense by the teachers that some strategies were better suited to particular grade levels.
3. The lower the grade level, the greater the variety of strategies that will be employed. (This may be due to the perception that there are more strategies available for

the teachers at the lower grade levels. This is substantiated, in part, by the greater number of strategies that were used exclusively at the grade four to six level.)

4. The lower the grade level, the less likely that the strategy will be judged as efficient by the teacher. (However, this must be considered carefully due to the split profiles of the staffs found in the Levels of Use curriculum categories. It may be more as a result of the commitment of the teachers to the program than the grade level.)

Section B: Phases

Section B discusses the use of the different phases of SPELT. Phase 1 of SPELT is the direct teaching of SPELT strategies, Phase 2 is the modification and extension of the Phase 1 strategies, and Phase 3 is the generation of new strategies by the student.

Table 12 shows the overall use of the initial SPELT phase by the teachers in the jurisdiction. Phase 1, the direct teaching of strategies, was reportedly used by 31 teachers or 73.8 percent of the teaching population. Seven individuals or 16.7 percent of the respondents used SPELT strategies, but were not familiar with the concept of phases. Four teachers or 9.5 percent of the population reported that they did not use SPELT.

Table 12

Use of Initial Phase of SPELT as per the Teacher Population

Phase	Number of Teachers	Percentage
Phase 1	31	73.8
Don't know	7	16.7
None	4	9.5
Totals	42	100

Table 13 indicated the overall use of all three phases of SPELT for the teachers within this jurisdiction. It is important to note that the phases are basically hierarchical in SPELT; Phase 2 cannot be taught unless Phase 1 has been covered. Phase 3 will also involve Phase 2 preparation. Of the 42 teachers who responded, 31 (73.8%) reported that they use Phase 1 of SPELT, 25 (59.5%) noted Phase 2 usage, and 11 (26.1%) observed Phase 3 of SPELT in their classrooms.

Table 13

Use of Phases of SPELT as per the Teacher Population

Phase	Number of Teachers	Percentage
Phase 1	31	73.8
Phase 2	25	59.5
Phase 3	11	26.1
N=42		

Table 14 gives a breakdown as to the percentages of respondents using the various phases of SPELT according to the grade levels within the jurisdiction. At the grade four to six level, 71% of the respondents indicated that they use phase 1, 50% used Phase 2, and nobody reported Phase 3 usage. At the grade seven through nine level, 83% responded that they used Phase 1, 67% used Phase 2, and 42% indicated that they observed Phase 3 usage. Finally, at the grade ten through twelve level, 54% of the teachers taught Phase 1 strategies, 46% indicated Phase 2 use, and 31% observed Phase 3 SPELT usage by their students.

Table 14

Percentage of Use of SPELT Phases as Reported by Grade Levels

Grade Level	Phase 1	Phase 2	Phase 3
4 - 6	71	50	0
7 - 9	83	67	42
10 - 12	54	46	31

N=42

Discussion: Question #2 - Section B

There are a few interesting points of discussion for section B. First of all, table 12 indicated that only 9.5% of the teachers involved in the study had never tried phase one of SPELT. In the previous section, it was revealed that 21% of the teachers were not using SPELT at the time of the survey. This can be explained in two ways. First of all, there were three more individuals responding to this section of the questionnaire and all of them responded positively in terms of SPELT use making the percentage of SPELT users slightly higher. Secondly, it is apparent that there were a number of individuals who had

tried SPELT in the past, but indicated that they did not use SPELT at the time of the survey.

At the grade four through six level, the absence of Phase 3 (generation of new strategies ...e students) may be in large part due to the immaturity of the students. T... teachers may not feel that the students are ready to enter Phase 3 of the program.

The lower usage rate of Phase 1 at the grade ten through twelve level was not surprising. As was apparent in the discussion of the Levels of Use in research question number one, the teachers at this level were most likely not to use the program as indicated by the wide ranges on their Levels of Use. However, for the teachers who used the program, the distribution of the use of the various phases was very similar to the distribution of the grade seven through nine teachers.

Research Question #3 - What factors affecting the implementation of SPELT were identified by he teaching staff?

The data for this question were obtained essentially through the interviews. This question is answered in four parts using the taxonomy developed by Fullan (1982) as a framework for discussion. The sections are as follows:

Part A - The Characteristics of the Change: SPELT.

Part B - Characteristics at the School District Level.

Part C - Characteristics at the School Level.

Part D - External Characteristics.

Part A - The Change: SPELT

Fullan (1982) outlined four characteristics affecting implementation: "need and relevance for change, clarity, complexity, and quality and practicality of the program." (p.56).

The implementation of SPELT got its early mandate from the 1985-86 language arts program review in this specific jurisdiction. A sub-committee of the language arts review was established to deal specifically with the area of thinking skills. Within the committee, a number of cognitive education programs were studied with the purpose of choosing a program which could be implemented throughout jurisdiction. However, although all agreed that a program was desirable, the committee could not decide which of the programs was most appropriate, and the committee recommended that further study of cognitive education programs be conducted. That task was basically left to the deputy superintendents.

In attending a summer conference on thinking skills, the deputy superintendents representing the jurisdiction encountered SPELT. Impressed with the program and encouraged by the support that they would receive in its implementation from the program designers at The University of Alberta, the deputy superintendents choose SPELT as the thinking skills program to be implemented in the jurisdiction's schools. Unfortunately, SPELT was not one of the programs studied by the thinking skills committee in the language arts review; therefore, the only individuals in the jurisdiction who had any concept of what SPELT was all about were the two deputy superintendents and one teacher who also attended the conference.

This fact was coupled with a controversy surrounding the use of professional development days in the jurisdiction. Basically, the superintendent felt dissatisfied with the format of the professional development day activities in the system. Previously P.D. days

had been run as "mini conventions" where individuals were free to choose their activities from a number of workshops that were made available from and organized by the local professional development committee. The superintendent felt that this was an ineffective method of professional development due to its lack of central focus, and he felt that the days could be utilized more effectively if all of the teachers were inserviced on a central program. In that way, he reasoned, programs and priorities could receive the attention of the collective group, and there would be a central purpose to the professional development day that would have a better collective impact on the student. As a consequence, the initial attempt at this collective impact of professional development was SPELT: a program chosen by the deputy superintendents in a format designed by the superintendent.

A number of teachers, predictably, were unhappy with this "top down" approach to change. They argued that even though the language arts review had recommended the implementation of a cognitive education program, it certainly wasn't this particular program which no one knew anything about. When the program designers gave the workshops to inservice the entire teacher population, there were a large variety of attitudes in the audience because of the background controversy surrounding the professional development issue.

These attitudes reflect somewhat on the area that Fullan (1982) refers to as the need and relevance of change. According to Fullan, if the population feels that the change is unnecessary and irrelevant, the chances of effective implementation is diminished. The Levels of Use profiles from research question #1 often indicated a split in the actual implementation levels of the program. The following comments may shed some light on the reasons for those splits in terms of the perceived need for the program.

Some teachers focused on the program and the possibilities for themselves and their students.

> Well, I thought it was a good idea at the time because I really believed in thinking skills, and I had been going to conferences for about ten years...I was in on the language arts review that decided that we should get into thinking skills so I was very positive.
>
> I remember being really excited about it...I kept thinking I could use this...that this is where we should be going.

For other teachers, the changes in professional development and the mandated topic effectively became their focus. Any program success would have been difficult under such circumstances.

> The proces by which we were told what we needed was inappropriate. The problems that we had that particular year in regards to P.D. left a sour taste in everyone's mouth.
>
> I think they had gone overboard in bringing SPELT in, and it had to do with the fact that the (district) wanted P.D. sessions and went out looking for something to do...and they found SPELT and said, "This is interesting. Let's force all of our teachers to learn about this."

During the three day inservice, the teachers were grouped according to their respective schools. The program for the first day essentially dealt with the background and methodology of the program. During the next day and a half, the strategies in the program were introduced, and on the final half day, the staffs discussed SPELT in terms of how it would best be implemented.

Two of Fullan's characteristics of change may be relevant to the discussion of the inservice: clarity and complexity. Fullan basically felt that if the program was too complex and it was unclear as to what the program was all about, then implementation was affected in a negative manner. The following comments indicate the differing perceptions about the complexity of the program, and they also cast some doubt as to whether the teachers were really clear about the program based on the differences in the responses.

A number of teachers were annoyed that the greatly heralded program did not seem to be any different from their past practices. For them, all that had changed were the names.

> Blah, a couple things that came to mind were that these strategies were not new...there were a number of things that I had been doing before without putting a name on them.
>
> All that someone had really done is simply given these ideas names...we've been using these strategies for fifty years.

For others, the program seemed enormous and complex, and they found the entire process confusing.

> It was overwhelming. There was so much material there that was to be assimilated.
>
> What is phase 1, phase 2, phase 3? You keep talking about these phases; they must be important?

The final factor regarding the characteristics of the change that Fullan identified was the quality and practicality of the program. The following comments were made in regard to the quality and practicality of the program. Some individuals felt that the program had tremendous potential.

> At first, I thought it was God's gift.
>
> It allows the children to realize the ability to control their own learning. Once I've given them the strategy and they know how to use it, then they enjoy it. It's like a power trip.

Other teachers recognized that the program had some positive aspects; however, they were not entirely sold on the program as a comprehensive thinking skills program.

> Basically what they talked about were pure memory types of things. Some of those were give a neat label and kids could do something with them.
>
> For some kids and teachers, it has been effective. Some of the choices we have in SPELT can work for individuals. I don't think that they can work effectively for everyone.

A few individuals were reluctant to give the program any type of credit. Their antagonism toward the initial inservice weighed heavily on all aspects of their evaluation of the program.

> I'm not saying throw the whole thing out. The way SPELT was initiated was that it was going to be the answer to all the problems of education here in _____. That's not true.....

Discussion: Question #3 - Part A

Overall, in terms of the characteristics of change, the attitudes of the teachers were somewhat negative. However, this is not at all surprising in view of the splits found in the Levels of Use in the different schools regarding the implementation of the program. A number of reasons might help to explain the resistance to SPELT. First of all, the selection of SPELT may have turned off some of the staff who were at first committed to the idea of a comprehensive cognitive education program for the district. The most committed individuals to the idea of a comprehensive cognitive education program, the teachers on the thinking skills committee of the language arts review, had little or no say on the decision of the program. SPELT was not one of the programs discussed by the committee, and these teachers may have felt alienated. Secondly, the new format for professional development certainly undermined the project in the view of many individuals. Because the teachers felt that they were losing control of something that was important to them, a number of teachers were hopeful that the program would fail. This would justify their view that the control of professional development should have remained with the teachers.

Part B - Characteristics at the School District Level

Fullan (1982) identified the following six characteristics at the school district level as those that will affect implementation: the history of innovative attempts, the adoption process, central administrative support and involvement, staff development and

participation, time-line and information system (evaluation), board and community characteristics. Of these six, four were mentioned by various participants in the interviewing process (except the adoption process and board and community characteristics) as factors that affected the implementation process. Predictably, however, there was a large amount of disagreement as to whether these characteristics affected the implementation process in a positive or negative manner.

Because of the controversial background surrounding the SPELT inservice, the history of innovative attempts in this jurisdiction was very much an issue for many of the respondents. Fullan (1982) suggests that the "more that teachers or others have had negative experiences with previous implementation attempts in the district or elsewhere, the more cynical or apathetic they will be about the next program or change regardless of the merit of the new idea or program" (p.63). Some of the comments of the teachers seem to bear this suggestion out. They suggest that past experience with educational change in the district had a bearing on their attitude in regard to the implementation of SPELT. Some of the comments reflected very negatively on the history of educational change in the jurisdiction.

> SPELT was a part of a continual historical situation in _____. We are always told what is good for us. It was a political issue rather than an educational issue.
>
> I've been (around) almost too long because I've seen changes go almost completely around. You get to be cynical after a while...You're not as excited about it. You question why we are doing it. The last few years the changes have been pretty "top down" d: en, and its not been very successful. There's no buy in.

One individual felt that the jurisdiction's record of successful change depended on what your role was according to the district. In other words, success was a matter of one's perspective.

> It depends on your definition of success. They (upper administration) feel that they have been very successful and so have other administrators who evaluate them and give them top marks. But as far as the teacher's perspective, I feel we get dumped on; I feel we are forced to change.

Although the majority of comments regarding the jurisdiction's history of innovative attempts were critical, there was one positive comment by a regular user of SPELT:

> You have to give credit to the people within _____ - the administration and staff, at the energy they show getting into these things because they are very receptive to the new ideas and implementing programs that don't catch on as quickly in other jurisdictions.

This comment, however, illustrated one of the chief complaints of the teachers regarding educational change within the jurisdiction. Many of the respondents were frustrated with the large number of changes that they are faced with and sudden manner in which major changes are implemented. The following statements are samples of a number of comments that were made in this regard.

> They lead us to believe that this was *extremely* important, and then before the end of the year, we had another inservice with something else, I think it was self-esteem, and that was *extremely* important.

> We tend to get into things fairly quickly; we don't always wait back to see what everyone else is doing. I think that sometimes we have to come back and reevaluate what's been done because we got into it so quickly.

A second characteristic affecting program innovation at the school district level according to Fullan, is the central administrative support and involvement. Fullan indicates that a number of studies including Emrick and Peterson (1978) show that "the support of central administrators is critical for change in district practice...teachers and others know ...not to take change seriously unless central administrators *demonstrate through actions* that they should" (1982, p.65). A few teachers picked up on this theme during our

interview sessions. One particular individual was especially critical of the lack of administrative modeling at the senior administrative level.

> (We) asked the upper echelon to model SPELT so that if we see them using it, we might think "Okay, it has some relevance to what we are doing; it might have some relevance to everyday life." They have not done it...any little simple memo, any little agenda for a meeting using a SPELT strategy. So if they don't take the time to model it themselves, they are giving us a message right there.

However, in this jurisdiction, support from the central administrative staff, the superintendent and his deputies, may have served as a detriment to implementing SPELT based on their roles in the professional development day controversy. Active endorsement in terms of being overtly positive about the program might have further alienated some of the more embittered teachers. As one frustrated staff member confided,

> What did they do wrong? They approached it in the wrong way. They told us it was the end all and be all and that it was new and all that stuff. They told us we were stupid and didn't have any thinking skills of our own, and we weren't teaching thinking skills on our own!

or as another staff member confessed,

> had they approached it in a different manner, I suppose that I would be a little less biased.

Another factor affecting implementation at the school district level according to Fullan is staff development and participation. Fullan makes a couple of observations that were very much issues in the minds of the teachers in the district. First of all, Fullan talks about the importance of "pre-implementation training" as being beneficial to the implementation process in combination with inservice training. In this specific jurisdiction, except for the deputy superintendents and one teacher, virtually no one had any idea what SPELT was before the initial inservice. A number of teachers indicated a response similar to the following:

> I had never heard of SPELT so I didn't have a clue what it would be like.

Another individual indicated that this lack of "pre-implementation training" continues to affect other thinking skills initiatives like Project REACH, a thinking skills program developed by Joyce Juntune which was recently introduced as a supplement to SPELT in the district.

> We just had an inservice on REACH. And again, just out of the blue - BOOM. This lady is coming to town so we have to have one day. No information was given about either REACH or Juntune.

Fullan also makes a strong statement about support and follow-up after the inservice activities "It is thus extremely important that people obtain some support at the early stages of attempted implementation" (Fullan, 1982, p. 67). Although there were two half days which were to be devoted to the follow-up for support, this area may have received the harshest criticisms from the teachers. A few specific criticisms of the follow-up were as follows:

> The follow-up was very poor, and it really wasn't followed up after the first session even though we were supposed to have another one. It was cut short and the next year it wasn't followed up even though it was supposed to be...and it hasn't been followed up this year or last year.

> We sat down in groups, supposedly to decide what strategies we were going to use or try to employ, and those were supposed to be written up. Not much happened after that.

A number of teachers commented that the lack of direction following the inservices had a detrimental affect on teaching the strategies to the students. They indicated very strongly that the approaches that they had used after the inservices were ineffectual, and that further implementation was affected.

> After implementing some of the strategies the first couple of months, we were trying to do everything at once. We were trying to make sure that each class had a couple of different strategies, and the kids were getting turned off. I wasn't seeing them applying them, and I was starting to think, "I don't know if this is going to work."

> We decided that we would all faithfully teach three strategies to every single class no matter what area. Then we realized that that bombed and that was crazy...then it died from there.

Some of the individuals had a little different focus for their criticisms. They felt that not only were the approaches to implementation not working, but the students were developing negative attitudes toward strategies and thinking skills. Two such comments were as follows:

> We were directed to use these and to emphasize certain ones and, consequently, they (the students) were being bombarded not just by one teacher , but by numerous others. It was overkill.
>
> I got the feeling that some of my students were SPELT to death.

The final characteristic at the school board level, according to Fullan's taxonomy, which the teachers in this jurisdiction felt was a factor affecting implementation was time-line and evaluation. In fact, however, most teachers felt time-line and evaluation to be two separate issues instead of simply one characteristic. Nevertheless, in this jurisdiction they are very much related. The administration in this district had invested a great deal of time and money into educating the jurisdiction's teachers in SPELT. In order to emphasize that it was a priority, incorporation of SPELT was placed in the evaluation instrument that the district uses for teacher evaluation. Thus a time-line was established, the teachers must be using SPELT by the time of their evaluation. As a consequence, after the first year, all teachers in the district must show evidence of using the program in their classrooms or risk a poor evaluation. For the teaching staff, however, time was an issue first of all; evaluation became an issue later on.

For teachers who were serious about implementing SPELT into their programs, time was of a major concern. Some teachers felt that the program was huge, and that it took a lot of time just to understand it, let alone teach it.

> First of all, it takes a long time to understand a strategy if it's new to you. Then it takes a lot of time to try and adapt it to your use. Then it takes even more time before you are using it comfortably. Not enough time is given by the administration for teachers to become familiar with the stages of SPELT. You know, it's easier to fall back upon what you have used for several years.

Another teacher echoed very similar sentiments and applied it specifically to personal experiences with the program.

> What was needed was some time to back off and work my own solutions so I could feel confident that the way that I was presenting the material would be of a convincing nature to the students. But before I could convince them, I had to convince me. The thing is that I couldn't run out and implement SPELT the next day. I had to take the material home, work with it a couple of months, and try to plan it so it was fun. Kids learn better if they are convinced that it's fun and not a heavy duty strategy.

Some teachers were very specific about the amount of time that it takes to start teaching the strategies. One SPELT user explained:

> We had the inservice in October, and I was teaching SPELT fairly comfortably by January. I had to have time to walk back from it, go through the material and devise my presentation, and get some handouts so I could work with it. I wouldn't rush into it until I felt could do a good job with it.

In terms of fully understanding the philosophy and objectives of the program and not just teaching some of the strategies, one teacher indicated that it took a great deal of time.

> about two years and that's with actively pursuing it and employing the strategies the whole time.

Another teacher indicated that teachers are still learning about the program and the ways that it can be used.

> I still think that people should be more patient...We will continue to use it and it has not come as far as it will. I have used it this year in ways that I never have before.

Although the majority of teachers felt that time was indeed an issue, at least one individual felt otherwise.

> The three days for the inservice was ludicrous. It could have easily been done in one...The strategies that they gave us could have been easily employed by any teacher, if they wanted to. It's just a matter of going back and employing them.

Although there was some disagreement by the respondents about the time it took to implement the program, there was a great deal of consistency in the attitudes regarding the district policy of embedding the use of SPELT into the evaluation instrument. All of the feedback was negative. One person believed that the evaluation instrument actually hampered implementation.

> I have a distaste for evaluation coming back and saying "Thou shalt use SPELT because we gave it to you and you better be using it." I think that's put a negative aspect on the whole program.

A number of teachers believed that the evaluation is not very meaningful, and they indicated that there may be teachers who show SPELT use in their long range plans, but actually do not use it.

> I don't mind using SPELT, and I had included some of the strategies in my long range plans anyway. However, I don't like being told or being forced. I think that some people will put them down whether they are really using them or not. In that way, evaluation isn't really meaningful; you can write them down, and it doesn't mean that much as to whether you are using them or not.

> I sort of feel resentful about that (evaluation). What it's going to do is to get people to stick it in to look good, paying "lip service" to it.

A few teachers indicated that the use of SPELT has in some cases become a showcase for the evaluation.

> I get the feeling that because we are evaluated on SPELT that teachers have a "handy dandy" lesson, and that they teach that very early on in the term, level one SPELT, and then they forget about it.

> I think that if you were being evaluated and you happened to be using a SPELT strategy, I think that would enhance your evaluation.

Discussion: Question #3 - Part B

Overall, the characteristics at the school district level were not positively associated with facilitating the implementation process with regard to SPELT. First of all, the general perception of the respondents was that the history of innovative attempts by this school jurisdiction is somewhat negative due to the "top down" approach, the large number of changes, and the hasty manner in which changes were initiated. This undoubtedly had an effect on the implementation of SPELT, especially the process of educating the teaching population.

Secondly, a few respondents indicated that there was a lack of administrative modelling of SPELT, especially at the central office level, which gave teachers a message that the program was not important. However, once the battle lines had been drawn, it is difficult to speculate whether an active role from upper administration would have had a positive or negative effect on the implementation of SPELT. Although the research seems to indicate that modelling would have a positive effect, the intensity of the emotions against the process in which SPELT was initiated may have made an active involvement from central office detrimental to the implementation process.

Finally, teachers were very critical of the lack of support and direction that they received after the initial inservices and the process of embedding SPELT usage in the jurisdiction's teacher evaluation instrument. Both of these factors caused resentment in the teaching staff as they left teachers with the sense that they "were forced to change."

Part C - Characteristics at the School Level

Fullan (1982) identifies three characteristics at the school level as factors that affect implementation. the principal, teacher-teacher relations, and teacher characteristics and

orientation. "Together they constitute the character and climate of the school as an organization" (p. 70-71).

"All major research on innovation and school effectiveness shows that the principal strongly influences the likelihood of change" (Fullan, 1982, p.71). Strangely enough, in this jurisdiction, there were very few comments either positive or negative regarding the principal's role in the implementation of SPELT. It appears that the influence of the central office administrators overshadowed any chance of the principals playing a major roles. Most respondents failed to note any type of involvement of the principals with regard to SPELT. One of the few comments regarding the principal's role was of an indifferent nature.

> I haven't had much feedback or seen any modelling of strategies by the principals. Some of them that teach might do some (SPELT) in the classroom, but I don't know.

Another of the comments regarding the role of the principals came regarding, predictably, evaluation.

> When _____ came in and _____ came in, I pulled out some of the strategies that I used and they said, "Well, you're doing a super job with SPELT."

One of the more interesting comments which may attest to the power role that the principal can have in influencing program implementation came from the elementary school where the grade one to three classes use a different program called Project REACH, and SPELT is used from grades four through six.

> There's been more (feedback) at the REACH strategies. It's been an emphasis at the lower grade levels with more planning and workshops. I don't think it's completely the administrator's fault. We've had people in the upper elementary level looking at REACH strategies and deciding that they are more applicable than SPELT.

The second characteristic at the school level that was discussed by Fullan as a factor affecting implementation is the role of teacher-teacher relationships. According to a number

of studies (Berman and McLaughlin, 1978; Rosenblum & Louis, 1979; Miles et al., 1978) "collegiality, open communication, trust, support and help, interaction, and morale are closely related" to implementing effective change (Fullan, 1982, p.72).

In the curriculum category of sharing earlier in this report, it was noted that in all of the schools, sharing accounted for the lowest mean scores of all of the curriculum categories. That, in itself, may give some indication on the effects that teacher-teacher relationships have had on the implementation of SPELT, especially in the areas cited previously such as open communication, support and help, and interaction. Some individuals indicated that the negative attitude toward SPELT stemmed from the initial inservice and the surrounding controversy.

> It bothered me that there was such a negative reaction from the staff just because of the way it was presented because I thought they weren't giving it a chance. I got the feeling that it wasn't going to go just because of the way that it was presented.

Another individual from a different school concurred with this perception. This individual also traced the problems with the program to the initial inservice.

> The problems stemmed from the negative attitudes of the people taking the inservice. We sat down in groups, supposedly to decide which strategies we were going to employ. Those were supposed to be written up. Not much happened after that.

One respondent reluctantly admitted that SPELT had been kind of a joke on the staff, and that those who were users of the program were sometimes ridiculed.

> Well, if you want, maybe you can use this in your report. I don't know. One of the teachers on staff, um, came with just the guts of the binder and asked me if I wanted them because (he/she) could use the binder but (he/she) had no use for that (SPELT).

Individuals who talked about sharing information with others always seemed to have an underlying sense that they were not doing enough talking about the program. One frequent SPELT user admitted to very little discussion about the program.

> I don't discuss SPELT in terms of the coordination that was envisioned when SPELT was originated. We certainly haven't used it in a variety of subject areas and related it to the classroom settings perhaps like we should have. I do know that there are other colleagues that use specific strategies within subject areas, so if I'm using one like LEEP or Caring, those certainly overlap into other areas. But we haven't coordinated it as significantly or successfully as we might have since the beginning of the program.

Generally the information about sharing and the coordination of SPELT was negative; however, at the junior high where the levels of use were the highest, one individual talked about a departmental thrust to sharing information about SPELT.

> We don't share extensively, no. Actually it tends to be at P.D. times. At the beginning of the year, this year, was the first time we actually got together and looked at our units because we were asked to look at how SPELT was actually being integrated. At that time, I got some ideas on how to actually use the strategies. Actually, I think that's a real weakness; we don't do enough of that.

Some individuals, however, see no reason to share information about the program. Two such responses are as follows:

> The first year we did a lot of sharing, but maybe we are adapting it to our classes, and we don't need to talk about it as much anymore.

> I haven't asked for any information about SPELT either. I'm using SPELT. I have chosen four strategies that seem to work for the students.

The final characteristic that Fullan identifies as affecting implementation at the school level is teacher characteristics. One particular aspect of teacher characteristics that Fullan and others (Edmonds, 1979; Cohen, 1980) identified was "teacher sense of efficacy" (1982, p.72). It stands to reason that if teachers do not perceive the program as being effective or do not perceive themselves as effective teachers of the program, then implementation will be severely hampered. Earlier in the chapter, the splits in the Levels of Use profiles of the schools were heavily discussed. This theme is again evident when the teachers discuss the effectiveness of the program. There are a large variety of views on the subject, and consequently, and great deal of latitude on how the program is used.

Some individuals did not feel that the program was any different from what teachers had been doing for years. Included in the questionnaire was one such comment.

> The organizers/evaluators of SPELT consider themselves to have invented these strategies. Many of us have used these and others systematically for years. Often minor variations seem to allow "ownership" of these ideas. Not so - perhaps we now know better why our own strategies have worked so well.

There were a number of individuals who felt that the program did not achieve the goals which it presented itself as far as developing cognitive skills. Some people criticized SPELT for simply being a program to help students remember and not to enhance thinking. A few such criticisms were as follows:

> I see SPELT now as learning strategies, not thinking strategies.

> (We) jumped on this bandwagon and said, "Here's a way that we can help students remember material and information for a longer period of time." That's not bad, but it doesn't help students to become more self perceptive, self analytical, and able to problem solve. It's like a large team of "Reach for the Top" members, they know a tremendous amount of information and would do great in "Trivial Pursuit", but that's not education. SPELT helps them to remember trivialities.

> A lot of strategies in the SPELT program are memory strategies. They do not, per say, develop thinking skills.

Some teachers were indifferent to the program. They gave the impression that they are not sold on SPELT as a cognitive education program. They didn't feel that SPELT had made a significant impact on thinking.

> Q: Do you find that the strategies enhance their performance?
>
> A: Not anymore than other strategies.

One individual was skeptical of the effects of any such "cognitive education" program. It was felt that students, not programs, make the difference in education.

> I think that good students will develop their own strategies which are suited to th :m personally. Let's face it, not all strategies are appropriate to all students. It depends on how they learn best. Some are visual; some are auditory, so the strategies are going to differ for them. Each student will come to the strategy that best suits himself. The person that doesn't give a shit to begin with won't give a shit later.

A further factor that affected implementation at the level of the teacher was the effect of the program Project REACH. Project REACH was initially targeted for the student at the lower elementary (grades 1 to 3), and SPELT was to be the program for the rest of the grades in the system. However, upon exposure to the material in Project REACH, some teachers felt that it had more to offer the students than SPELT did and, consequently, have implemented REACH strategies rather than SPELT strategies. In comparing the two programs, two respondents made these observations:

> I think that REACH is more along the lines of thinking skills and SPELT is memory games. I don't feel that memorizing is thinking really.

> It's (SPELT) just a formula that you use. Some of the teachers pointed out that that's a problem with SPELT. It doesn't inspire cognitive development as much as it should, where as REACH is more of cognitive development right from day one. It's not difficult to understand for the teacher or the student, and it's (REACH) fun.

Another individual wrote in a questionnaire this comparison between SPELT and Project REACH.

> I have found Project REACH strategies much more effective in developing students cognitive skills. It provides a basis of learning and a platform to launch original strategies from.

Discussion: Question #3 - Part C

All three characteristics at the school level that were identified by Fullan (the principal, teacher-teacher relations, and teacher characteristics) were identified as factors that affected implementation. Although the principals did not assume an active role in facilitating the implementation of SPELT, it can be argued that they had an effect on the

implementation process. Perhaps the controversial nature of the initial inservice caused them to try to assume a neutral position between the central administration and staff. Had they taken stronger positions, they may have risked alienating one of the sides which principals can ill afford to do. Regardless, the perceived effectiveness of Project REACH indicates that the principals can assume a positive role in the implementation of SPELT.

In the area of teacher-teacher relations, it appeared that although the majority of staff members used the program, they were reluctant to share information with others perhaps because of a stigma attached to frequent usage. The researcher got the sense, in some cases, that identifying with the SPELT program was almost like siding with the central administration in the professional development dispute. When informing one teacher that I was conducting a study attempting to measure the amount of SPELT use, the teacher responded sarcastically,

> Oh, that sounds interesting. Why are you doing that? Haven't you heard? REACH is their (central office) new thing now. SPELT is out; REACH is in. Ha, ha, ha, ha.....

Teacher characteristics, specifically teacher efficacy, has also affected the implementation of SPELT. A number of individuals have not aspired to the high levels of implementation of SPELT because they do not find the program effective. Some of the factors affecting the sense of teacher efficacy are the impression that SPELT is merely a memory program, the needs of all students cannot be met through general strategy programs, and there are other programs available (Project REACH) that better meet the needs of the students.

In terms of teacher characteristics and behavior during the implementation process, Berman and McLaughlin (1976) stated the following, "Implementation does not involve merely the direct application of technology. Implementation was an organizational process that implied interactions between the project and its setting...We have observed three types

of interactions that characterized the implementation processes: mutual adaptation, nonimplementation, and cooptation" (p.352). In this study, the researcher has also found evidence of the same teacher characteristics regarding the implementation of SPELT.

According to Berman and McLaughlin, mutual adaptation is the "adaptation of both project design and the institutional setting" (1976, p.352). Berman and McLaughlin indicate that this is the most favorable type of implementation. In terms of SPELT, mutual adaptation would indicate that both the teachers and the strategies would change and adapt to facilitate more effective use of strategies for the students. In the interview process, those respondents who generally scored the highest Levels of Use, not surprisingly, displayed such characteristics in their implementation of SPELT. One such teacher designed her SPELT strategies as games.

> I don't teach it as a strategy; I teach it as a game. I call them brain games. As implementing as a game type of thing, it was fun. In fact, one little boy ran out of here and spelled penitentiary forwards and backwards for his teacher who couldn't spell it forwards. He didn't realize it was a "heavy duty" spelling strategy. He thought it was a game.

Another teacher has taken the much of the prescriptive nature from the program and has taught the strategies in a less structured manner.

> Now I use it a lot more selectively, and I give the kids a lot more freedom. Many times I just introduce the strategy and the students modify and change it immediately (Phase 2). You can make it more flexible than they (the program designers) indicated, and it causes it to be more useful.

A few teachers indicated that they have had considerable success using the program on an individual basis. One teacher has changed the approach to almost be a totally individualized program.

> I think it's great if an individual student is having a problem. You have it right here on your fingertips. You can sit down and take the student one on one through the strategy. I think it should be used on an individual basis; I think it dies when you try to teach the whole class at this level.

The second type of program implementation according to Berman and McLaughlin is nonimplementation. Nonimplementation is characterized by a lack of change. Nonimplementation takes place "in instances where the district played an indifferent host or projects were overcome by implementation problems" (Berman and McLaughlin, 1976, p.352.) In terms of SPELT, nonimplementation is characterized by responses to the lowest level, "nonuse", in the curriculum categories. Figure 4.4 displays the Levels of Use profile for the curriculum category of "performing." "Performing" is the category which measures the actual actions in implementing the innovation or in terms of SPELT the teaching of the strategies. According to the Texas group, behavior at a level less than "Mechanical Use" (level 4 on the graph) indicates that the program has not been implemented.

The graph (Figure 4.4) indicates that overall in the "performing" category, 18% of the respondents did not use SPELT strategies in their classroom. This is noted by the ranking of these individuals at the Level 1 area on the graph. None of the respondent ranked themselves at Level 2 which means that none of the participants are unsure as to whether or not they will use the program. About 2.5 % of the respondents were ranked at Level 3 which basically means that they plan to use the program, but they have not yet used it. A ranking at Levels 1, 2, or 3 means nonimplementation of the program as defined by Berman and McLaughlin.

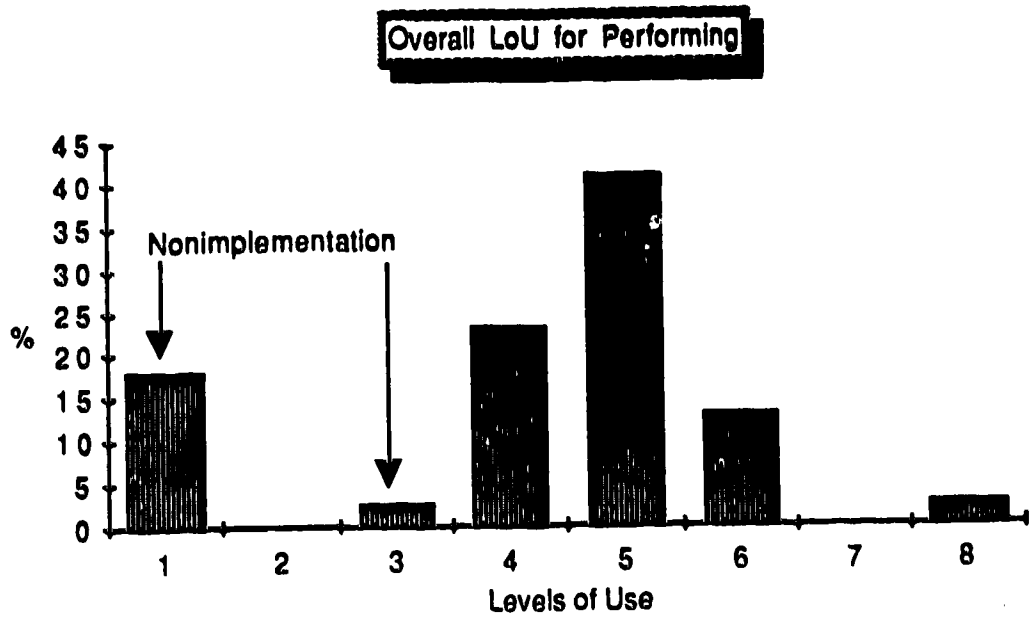


Figure 4.4

The final type of teacher interaction as defined by Berman and McLaughlin was cooptation. "Project adaptation to the indifference and resistance to change on the part of the project participants but no change by the participants themselves; this one way process could be called *cooptation* of the project by its host" (Berman and McLaughlin, 1976, p.352).

A number of SPELT "users" shows signs of cooptation in their implementation of SPELT. Some respondents changed the SPELT strategies to fit his or her own personal program.

> I don't teach it necessarily like the manual says to. I don't go through all of those steps necessarily when I'm teaching a new strategy. I incorporate them as they fit.

Another form of resistance to SPELT leading to a coopted version of teaching the strategies was found in the resistance to labelling. The SPELT strategies are labelled,

according to the program designers, so that students can remember the strategies more easily and to facilitate the discussion of the strategies. (In other words, it's easier to talk about CORNELL as a method of note taking rather than saying "You know that way that we took notes where we had the key words on the side of the page...") In introducing the strategies, a number of teachers indicated that they do not choose to have the strategy labelled for the student. One teacher indicated the following:

> Instead of calling something RAP or LAP or SQ3R, I've just gone through the ideas of the strategies and the mnemonics and so on...asked them what they do and suggested that the try this without putting a label on it.

When taking about the labels, another teacher indicated that the labels actually made it more difficult to teach the strategies; therefore SPELT use was coopted for a particular reason.

> I use the strategies. I've gone away from using names. It's interesting that the people doing the inservice, and again listening to Joyce Juntune, think it's important to put names on them and have the kids recognize the names. That's completely different from what the kids say. They (the kids) get sick and tired of names.

Some respondents were even more direct in indicating that their form of SPELT was significantly different from the form recommended by the program designers. One such response was as follows:

> I am not a SPELT user in the way that _____ would like us to be SPELT users. But I'm not saying that I don't use learning strategies. Of course I use learning strategies. We use all kinds of things to remember things. We use mnemonics, we have visual aids.....

A final form of cooptation was found in the emphasis that the program received in the teachers' overall attempt to develop thinking skills. A few teachers regard SPELT as an option rather than a core device in the development of thinking skills.

> I don't believe in going through it and hammering it like we were instructed to do at the very beginning. Consequently, I think it's more of an additional tool to use for individuals rather than a massive overstroke of genius approach to solving every kids problems.

In summary, all three characteristics at the school level that were identified by Fullan, the principal, teacher-teacher relations, and teacher characteristics affected the implementation of SPELT. In terms of the principals, their role appeared to be quite neutral; however, the success with the Project REACH implementation where the administration was positively identified with the program indicates that, perhaps, a lack of action affected the implementation in a negative manner. Teacher-teacher relations showed generally that there was a lack of sharing among staff with regard to SPELT. It is interesting to note that on the staff which showed the highest level of sharing, there were the highest Levels of Use. Teacher characteristics indicated that a lack of teacher efficacy affected implementation in a negative manner. If teachers did not see the program to be effective, they were less likely use implement the strategies. In addition, teachers were characterized as implementing SPELT in three different manners in terms of their perception of efficacy. If there was a high level of efficacy, teacher implementation was termed as a process of mutual adaptation. If there was little or no sense of teacher efficacy, then there was situation of nonimplementation. If there was a minimal sense of efficacy or indifference to the program, a process of cooptation was evident.

Part D - External Characteristics

The final factor that affects implementation according to Fullan's taxonomy is "external characteristics." The external characteristics involved in SPELT were the program designers at the University of Alberta. In the SPELT implementation, they were to assume the role of instructing the teaching staff on how to use the program, and they

were to facilitate discussion on how the program could best be implemented in the respective schools.

In the SPELT implementation, the role of external characteristics was minimized chiefly due to the climate of controversy which swirled around the format in which SPELT was to be introduced. Because the program was largely unknown by the vast majority of the teaching staff, it could be argued that the role that the program designers were to play should have been of a paramount nature. Curiously, there were very few comments regarding the quality of instruction. A number of the respondents chose instead to focus on the issue of professional development rather than the quality of the program or speakers. One respondent admitted that it may not have mattered about the quality of the program or inservice, the climate caused by the professional development controversy was the major issue.

> The process by which we were told what we need was inappropriate. The problems that we had in that particular year in regards to P.D. left a sour taste in everyone's mouth, regardless of the quality of the inservice.

Another participant echoed similar sentiments with a more embittered tone to the criticisms that were leveled.

> .....so the _____ spent a great deal of time and money to get these **hotshots** out from The University of Alberta to teach us about SPELT which good or not wasn't the issue!

None of the respondents commented favorably about the role of the program designers in the SPELT implementation. Actually, very few of the respondents commented at all about the external assistance received. Of the comments that were received, the reaction was, predictably, mixed. One teacher felt that there wasn't enough material to warrant a three day presentation.

> The three days was ludicrous. It could have easily been done in one. The amount of stuff that we got that was appropriate for use could have been covered in one. Some of the ideas were great, there just wasn't three days worth. We didn't have to listen to _____ mumble for a whole morning.

On the other hand, another teacher felt that the format was less than adequate. It was felt that there was too much material in too short of a time period.

> I think it was too much too quick. It was like a lot of inservices; they throw a lot of things at you. There were a couple of points that made some sense, but going through the manual and bang, bang, bang, wasn't really valid.

One person who was committed to the concept of cognitive education programs expressed disappointment about the quality of the inservice. However, it did not affect commitment to the program.

> Oh, I was still committed (to the idea of thinking skills). I just wasn't very happy with some of the speakers.

Discussion: Question #3 - Part D

Generally, there were very few comments regarding the quality of external assistance in the implementation of SPELT. As far as affecting the implementation process, the program designers probably have very little effect in terms of their program or quality of instruction. However, the fact that they were external and were not particularly welcome by some segments of the teaching staff because of the local controversy probably had a somewhat negative effect on implementation.

Research Question #4 - What can be done to assist further im, lementation of SPELT according to the teaching staff?

In the course of the study, if there has been any consistency at all, it has been found in the inconsistency of attitudes, Levels of Use, perceptions about the program, and ways

in which SPELT has been implemented. When asked about the future directions that the program should take, again there was a consistency found-in the wide variety of different routes that the participants suggested.

Some teachers were negative about the future of the program. One particular SPELT user felt that it too late to attempt to further implement the program

> I think it's too late. I think that they should just let the teachers that use it now, use it. I think that they have handled it in such a terrible way that there is no way if they do anymore, in evaluation or inservice, that it will ever go.

Another teacher basically agreed with this point of view and offered no thoughts on how to further implementation.

> Q: What direction do you think SPELT should be taken?
>
> A: I haven't thought about it, nor do I have any thoughts...I see no value in anymore inservice unless it's really different from what we had.

There were, however, a number of respondents who had some suggestions on how to increase implementation. A couple were of an abstract, philosophical nature, not of a prescriptive nature. One specifically involved a change in attitude in the teacher's reaction to educational change; the second suggests a change in the direction of the change.

> The teaching profession has to learn to accept change in the light that it is presented.....
>
> Instead of coming from A to B, I would try and get the materials to come from B to A. Trying to get the teachers involved in creating and being the creators of the change.

A couple of the respondents indicated that the incorporation of SPELT into the evaluation instrument shed a negative light on the process of furthering implementation. One of the respondents offered a departmental approach at the school level.

> If it's going to be part of evaluation, so often if you put things in evaluation, they become really superficial. I would rather see a school decide these kinds of things, put them into departments, and have the departments decide in a very informal basis what they should do. I think at that point, I would get the teachers to do cooperative planning which is something I don't think we are doing enough of. Sell the teachers on it first; otherwise, it becomes useless.

In contrast, another participant felt that an individual approach would be the best way to further the implementation of SPELT.

> Awareness for the teachers is great and allowing them to develop their own plan for it (SPELT)...to use the strategies in lessons where they think that the strategies can be effective rather than using them as a program that has to be implemented. In evaluation, it almost becomes a "cover your butt" routine.

A few individuals felt that it would be wise to concentrate on inservicing first year teachers and teachers that are new to the system. Two such suggestions were as follows:

> I don't think that they should push it more than they have. There is nothing wrong with inservicing new teachers on it as a program to use. It may be helpful to them. They should be inserviced on the REACH strategies and anything else that we can get our hands on. If they are familiar with them, it is just another resource base that they can use in their repertoire to teach children, and you need lots of ideas and lots of these kinds of things. I wouldn't spend a lot of time inservicing the others, but inservice the new teachers on SPELT with a REACH follow-up.

> They definitely need to continue inservicing the new teachers. I think it's a bit rushed, but in addition to inservicing them the way that we do for the whole (jurisdiction), I think that those new teachers should meet with subject areas and with some of us "old vets." Really it's so theoretical the first day, the only reason I got sold on it was because I saw people working with it. It has to be more practical; they have to see it in action.

A final piece of advice for inservicing new teachers came from a new teacher who was concerned about a lack of background with the program.

> I would have liked to have had my binder back when I signed my contract. I think that for first year teachers, it's get the binders to them so that they can prepare for using the program.

The most concrete and certainly the most detailed suggestion came from a teacher with 15 years of experience in one of the questionnaires. It included many of the concepts found in this chapter and serves as a summary for this research question as it touches on a number of the suggestions that many of the teachers mentioned.

> I do not believe the implementation of SPELT, REACH, or any other thinking skills program will ever be successful as long as teachers are left on their own to do whatever they want with it.
>
> As is true with any new program, there must be follow-up; there must be support. Teachers must be given time to confer, compare notes, talk about the strategies they're using, and why they think they are important.
>
> Things like this just aren't going to happen on their own!

Discussion: Question #4

It is certainly not surprising given the split Levels of Use profiles and the wide variety of teacher behaviors in employing SPELT, that teachers would have very different ideas about the future directions for the program. Responses ranged from ignoring the program to providing support for beginning teachers. Given the range of responses, it appears likely that any future actions to facilitate further implementation of SPELT will undoubtedly displease some segments of the teaching population.

Summary

This chapter presented the findings of the study in response to the four major research questions. It provided data with regard to the Levels of Use of the individual schools within the district. Also, this chapter listed the SPELT strategies that were employed by the teaching staff and indicated the degree to which the teaching staff found these strategies effective in the context of the classroom. Furthermore, this chapter identified the factors that the teaching staff felt affected the implementation of SPELT, and

the chapter reported the suggestions proposed by the participants in the study with regard to future directions for SPELT.

CHAPTER FIVE

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, and RECOMMENDATIONS

Summary

This study provided insight into the implementation of SPELT, a cognitive education program developed at The University of Alberta, into a specific school jurisdiction. The methodology involved both the gathering of quantitative data (questionnaires) and qualitative data (interviews) with volunteer participants within the specific school jurisdiction.

The rationale which served as a framework for analysis was supplied chiefly by two sources. The first source was a taxonomy of factors affecting program implementation or change as designed by Fullan (1982) of O.I.S.E. Fullan's framework served as a method of structuring the qualitative data derived from the participants in the study.

The second source was a concept called Levels of Use (LoU) which was developed by researchers at the University of Texas at Austin. LoU assumes that individuals confront change in similar manners. The choice that an individual is faced with forms the basis of that individual's Level of Use.

Given the framework as provided by these two sources, this study's purpose was to provide answers to the following questions about the implementation of SPELT:

1. What are the general Levels of Use of the SPELT implementation in the school system?

2. What SPELT strategies and phases were being used in the school system, and to what degree were they perceived as effective?

3. What factors affecting the implementation of SPELT were identified by the teaching staff?

4. What can be done to assist further implementation of SPELT according to the teaching staff?

Findings

In response to research question #1 which deals with the Levels of Use of the SPELT program, there were a number of generalizations which can be made.

1. The Levels of Use profiles were unique in each school.

2. The Levels of Use profile at the junior high school had a curvilinear shape with the majority of the staff rating at the level of "mechanical use" or "routine" use. Generally, the SPELT implementation was more advanced at this school with the overall mean being almost a level higher than at the other schools.

3. The grade 4 to 6 level teachers were split in their LoU of SPELT. Although there were a large number of responses at the "nonuse" level for many of the curriculum categories, in terms of actual performance, few teachers indicated that they are below the level of "mechanical use."

4. The teachers at the high school level had the most pronounced split in their LoU scores. The two levels with the greatest number of responses were the "nonuse" level and the "routine" level. This indicated that teachers who chose to use the program were using it as part of their routine, and that a large group of teachers at the grade 10 to 12 level were not using SPELT at all in their programs.

In response to research question #2 which addressed the issues of the strategies and phases that were being employed, the data indicated the following:

1. There were 34 different SPELT strategies being employed in this jurisdiction with the teachers rating them as effective 62% of the time.

2. Each school had a sense of uniqueness in terms of strategy use:

   a. There were greater number of strategies being attempted at a greater frequency at the grade 4 to 6 level. In terms of phases, none of the respondents observed any evidence of Phase 3 use by the students at the elementary level.

   b. Teachers at the high school reported that they used the least number of strategies on the least number of occasions in comparison to the other schools. However, they also reported the highest level of effectiveness for their strategies at 78%.

   c. Teachers at the junior high generally fell between the other two staffs in strategy use and reported effectiveness. They reported more strategy use than did the high school staff, but less effectiveness with the strategies.

They reported less strategy use than the elementary staff; however, they reported more effectiveness with the strategies.

3. There was some evidence that suggests that some strategies are more appropriate to particular grade levels, and that there were more strategies that were appropriate at the elementary level.

In response to research question #3 which addressed the issue of which factors affected the implementation of SPELT, the data indicated the following:

1. In terms of the program, SPELT, the controversy surrounding the use of the Professional Development Day for the implementation of the program affected SPELT implementation in a negative manner. There were mixed ideas on whether the program addressed a perceived need, whether it was clear to the teachers what were the program's goals and objectives, whether SPELT was too complex, or whether adequate materials were provided. For many of the teachers, the process not the program, was the issue.

2. The participants in the study overall felt that the characteristics at the school district level (its history, central office involvement, staff development and participation, and time-line and evaluation) were negative factors in the implementation of SPELT.

3. The characteristics at the school level showed a variety of effects. Respondents were generally neutral about the principal's role in implementing SPELT. The data showed that teacher sharing was the lowest rated of all of the curriculum categories, and that this lack of teacher sharing, had a negative effect on the

implementation of SPELT. Teacher sense of effectiveness tended to have a great effect at implementation at the school level. Teachers who felt a positive sense of efficacy with the program were characterized by behaviors of "mutual adaptation": both the program and teachers adapted to facilitate student learning. Teachers who felt a negative sense of efficacy were characterized by behavior of nonimplementation. Those teachers who felt a minimal sense of efficacy generally coopted the program for their own use.

4. The effect of external sources, the program designers of SPELT, had very little effect on the implementation in terms of their quality of instruction.

In addressing the final research question dealing with the recommendations that the teaching staff had for future direction of the program, again reaction was mixed. The advice ranged from doing nothing to cooperative planning efforts. Some individuals felt that it was necessary to continue to inservice first year teachers in some way.

Conclusions

The program implementation of SPELT was a mixture of success and failure. In terms of success, a large number of the teachers were involved in teaching SPELT strategies in some form in their classrooms. The SPELT implementation also has generally brought an increased awareness to the use of learning strategies to the teachers in this jurisdiction. On the negative side, most respondents admitted that SPELT has failed to provide the type of comprehensive cognitive education program that was envisioned

during the initial planning processes of the implementation process. Other relevant conclusions or themes within the parameters of the research were as follows:

1. There were two major change initiatives that were embarked upon at simultaneously which had a tremendous affect on the implementation of SPELT. First of all, there was the restructuring of the Professional Development Day program. Because the previous format of the P.D. Day had been under the direction of a teachers' committee, the attempt to restructure professional development and place it under the auspicious of the central office administration was bound to create controversy and resentment. Many teachers took this as interference and a direct threat to their autonomy. Corbett et al. (1987) indicate that the more sacred the norm that is involved in the change, the greater the staff resistance will be to the change. There is little doubt that for some teachers, control of their own professional development was a deeply embedded norm. Therefore, for some individuals, control of professional development was the issue, not the implementation of SPELT.

   The second major initiative, of course, was the implementation of SPELT. Although the perceptions of the respondents varied as to the significance of the program, it was evident that for most of the teachers, SPELT was a major change. It can be said that the major changes regarding the professional development format hampered the implementation of SPELT as the SPELT implementation was never allowed to receive the major focus of the teacher's attention. Instituting two major changes at one time, in this instance, was perceived to be a mistake by many of the staff.

2. The manner in which SPELT was implemented varies with the individual teacher. For those individuals "sold" on the program, LoU results were significantly higher usually at

the "routine" level or greater. The behavior of these individual teachers can be described as "mutual adaptation."

A number of individual users ranked at the level of "mechanical use." For individuals who seemed satisfied with this Level of Use, it can be argued that their behavior in regards to the implementation is that of "cooptation." There was found to be a sense that a number of teachers at this level were basically paying "lip service" to the program, perhaps as a response to the inclusion of SPELT in the teacher evaluation instrument for the district's teachers.

3. Most teachers in the jurisdiction were critical of the "top-down" approach to educational change within the system, especially in terms of SPELT. For example, SPELT was chosen by the deputy superintendents, the instructional format of the implementation was constructed by the superintendent, and to ensure that teachers were using the program, SPELT usage was imposed on the staff by the system's teacher evaluation instrument. Consequently, many teachers perceived change as being forced causing resentment toward the program.

4. There appeared to be misconceptions about SPELT and its relationship to Project REACH, the other cognitive education program in the district. Views about how SPELT and REACH were to be related were varied, and there was no consensus as to their respective roles by the teaching staff as a whole. Some teachers felt that they were compatible programs; both could be used interchangeably. Others felt that REACH was superior in terms of cognitive development, and that SPELT merely involved memory strategies. A few felt that REACH embedded neatly into the SPELT framework. A final

view was that REACH was the new fashionable approach to cognitive education in the district as a replacement to SPELT.

Implications/ Recommendations

This study provided insight into the nature of educational change, its dynamics, the personal aspects, and the decision-making involved. Although the study was limited to a view of one jurisdiction and its implementation of a cognitive education program, the researcher feels that there are a number of implications regarding the implementation and educational change process in general.

1. Principals, and other school based administrators, have a vital role to play in program implementation. In order to maximize the effect of the implementation, principals should be models of the change, give positive and cooperative support to the staff regarding implementation, and ensure that the staff have adequate time, materials, and resources to facilitate the change.

2. Staffs which exhibited the highest levels of sharing and were given the most direction in cooperative planning in regards to the change, displayed the highest Levels of Use and most sophisticated uses of the program innovation.

3. Top-down planned change is extremely difficult if the staff perception of district's history of change is negative. In addition, if staffs feel "dictated to" or forced to change, there will be a high incidence of "cooptation."

4. School climate is an extremely important influence in regards to program implementation. District level changes in which implementation processes are identically presented for each school will not yield identical results among the individual schools in terms of Levels of Use. The unique features in each school (administration, teachers, interpersonal relationships) will cause each school to be distinctive in its implementation profile.

5. As was indicated by numerous authors researching change, change is a process, not an event. Effective change takes time, energy, and resources.

6. Educational change is a result of changes in individual's behavior rather than the application of a technology or a program. Therefore, teachers must be given support to develop a sense of efficacy with program innovations.

7. Because change takes a great deal of time, energy, and support, proposed changes must be carefully weighed to consider not only the desired effect of the program, but the effect that the implementation will have on existing programs. Program innovation is not simply an addition; it changes the structure of the programs in existence which will have to sacrifice the time and energy that they previously received in order to implement the new program. Therefore, proposed changes must be priorities, not frills, or the quality of education offered to the student is sacrificed.

After a review of the literature, the findings, the conclusions, and implications of the study, the following recommendations are proposed to the specific jurisdiction:

1. In order to establish that SPELT is still a priority, central office administration should take steps to model SPELT strategies. Memos to staff, agendas to staff meetings, and

sample SPELT lessons in conjunction with the evaluation process are examples of how modelling can be facilitated.

2. Principals, and other school level administrators, should take active roles in reaffirming SPELT as a priority. Principals can arrange time for cooperative planning sessions for teachers to share information about their SPELT lessons. Principals can also provide leadership in modelling SPELT strategies in similar ways that were suggested to the central office administrators. In addition, principals can provide release time for teachers to view SPELT lessons from other teachers. Those administrators who teach, should encourage teachers to view them when they deliver SPELT lessons. In short, school based administrators should not restrict their involvement with SPELT to evaluation. They should provide proactive modelling and support.

3. The findings indicate that the cooperative planning initiative at the junior high level has been responsible, at least in part, to the higher Levels of Use of SPELT at that school. Cooperative planning efforts, in general, should be encouraged. Arrangement of release time for teachers can be an effective way of establishing this type of activity as a priority. Change takes time, energy, and support.

4. There should be an attempt now that individuals are familiar with the program to encourage "bottom-up" feedback about SPELT. Previous attempts may have failed because individuals were either unfamiliar with the program or swayed by the negative reaction to the changes in professional development. It has been almost three years since the initial inservices. Individuals should be comfortable with the program. Dialogue about SPELT, perhaps at the departmental level, in smaller groups about the aims, philosophy, future direction of the program, and answering questions and

concerns about the program could be a beneficial, nonthreatening reminder that SPELT is a priority.

5. Attempt to address the SPELT/ Project REACH confusion. Workshops, again at the departmental level, about the direction and compatibility of the programs are necessary.

6. Continue to inservice the teachers who are new to the system on both SPELT and Project REACH. One way to establish that cognitive programs are a priority is to provide the materials to new teachers well in advance to the start of the school year, perhaps when the new teachers are initially hired. This will allow them to learn some of the aspects of the programs and formulate questions about the programs prior to the initial inservices. It would be of benefit to provide time for the new teachers to see SPELT and Project REACH lessons taught in the context of the classrooms using the best staff available. In addition, follow-ups to these lessons would provide a time for both inquiries and thoughtful reflection for both parties.

7. All administration should carefully reflect and examine future program innovations and implementations. Educational change is a difficult, complex task. The amount of change that teachers are confronted with is increasing, especially with the number of curriculum changes that are proposed at the Departmental level. It has been suggested that change is a process and not an event. Successful change involves time, energy, support, commitment and resources. The time, energy, support, commitment, and resources are often allocated at the expense of existing programs. Future changes should be carefully examined in terms of the gains of the new program verses the inevitable sacrifices of the existing programs.

A Final Word

This study examined a program innovation over two years after the initial implementation. The program being implemented was SPELT. SPELT was intended to be a comprehensive cognitive education program which could be applied in all subject areas and across the majority of the grade levels within the jurisdiction. The implementation process was characterized by its top-down direction, lack of meaningful follow-up, and a high level of controversy surrounding the process of inservice and evaluation. Most of the literature is clear on these types of efforts; they should be disasters!

However, this is not the case. True, it is apparent that SPELT had not met the lofty expectations that were set out by central office. Certainly, there was a significant portion of the population who were not implementing the program and also a number of teachers who were using it in a coopted form. Despite these negative factors, SPELT did not meet the painful death predicted for it by its detractors. There were large numbers of teachers who were using SPELT strategies routinely in their programs. Teachers in the jurisdiction, overall, did have a better understanding of cognitive strategies and metacognition than they did previous to the SPELT implementation.

Success, then, is a matter of perspective. Those involved in the study of educational change may ask, "How can such a poorly approached implementation do so well?" Conversely, others, who are involved in cognitive education may ask, "How can such a good idea like SPELT do so poorly?" The answers to these questions are both lengthy and complex.

What does not appear complex, however, is that another change must take place in this jurisdiction. There must be attempts made to bridge the gap of resentment that appeared evident between the central office administration and a significant portion of the staff. It is here that I make my final recommendations:

To the teachers of this jurisdiction...recognize that change, however threatening, is both inevitable and often desirable. Focus on and evaluate the substance of the change, not the personalities and the issues involved.

To the central office of this jurisdiction...recognize that the results of this study indicate that there is a large number of dedicated teachers in your district committed to providing the best possible education for the students entrusted to your care. Recognize their ability and their potential to become meaningful partners, and not merely subordinates, in the change process.

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APPENDICES

APPENDIX A

(Covering Letter and Questionnaire)

Dear Teachers,

With the permission of the _____, I am conducting a study of SPELT (Strategies Program for Effective Learning and Teaching) since its implementation in the Fall of 1986. This study is part of the requirements needed for a Masters of Education degree.

The purpose of this study is to investigate the "Levels of Use" or implementation level of SPELT, and I need your input in order to make a series of recommendations to the county administration. Although participation in this study is voluntary, I am requesting that all teachers in the _____ complete this questionnaire. Your cooperation in the study is necessary to make it both accurate and effective.

Please enclose the completed questionnaire in an envelope by Friday, March 17, 1989, and send it addressed as follows:

Re: SPELT questionnaire

Every effort has been made to guarantee the anonymity of the participants as no signatures are required and no codes for tracing participation have been used on the questionnaire. Data will also be reported anonymously in the final report. All responses will be treated with complete confidentiality.

If you have any further questions, please do not hesitate to call. Thank you for your cooperation.

Sincerely,

Del Litke
Ph. 435-6551 (home)
492-4913 (office)

PART 1 - PERSONAL USE OF SPELT

This section contains statements on the seven curriculum areas essential to SPELT. Each curriculum area consists of eight statements. For each area, choose the one statement which best describes your use of SPELT. Place an "x" in the blank beside your preferred statement. Although many statements are similar and each series may appear somewhat repetitious, it is important for accuracy that you complete each of the seven curriculum areas.

A. Knowledge.

1._____ I've heard of SPELT, but I don't know much about it.

2._____ I know something about SPELT, but I need to know more before I decide to use it.

3._____ I know what I need to know to start using SPELT.

4._____ I know enough about SPELT to do a few lessons, but I'm not sure how I should be using it in terms of a total program.

5._____ I know how to use SPELT without much difficulty. I can anticipate how the students will react, and I see its long term benefits.

6._____ By using SPELT a lot, I've learned to use SPELT in a variety of ways to help students immediately and in the longer term.

7._____ I know how my colleagues use SPELT and how to coordinate with them to provide a collective impact on the students.

8._____ In addition to statement #7, I know of a number of other metacognitive programs that can be used to change and replace aspects of SPELT.

B. Acquiring Information.

1._____ I am not looking for anything about SPELT. I've so much to do.

2._____ I'm looking at the materials in SPELT and considering using some of them.

3._____ I'm looking at SPELT materials in order to use them immediately.

4._____ Information about making my SPELT lessons go smoother is what I'm looking for. The manual helps, but things are still a little rough.

5._____ I'm not looking for anymore information about SPELT. I've got enough materials and ideas to use SPELT satisfactorily.

6._____ I often go back to my manual to find other strategies and implement changes to give students variety and increased knowledge.

7._____ In addition to the statement #6, I also consult with my colleagues to find out what they are doing and planning.

8._____ I am going through the literature that is available in order to supplement or replace parts of my cognitive education program

C. Sharing Information.

1._____ The staff doesn't talk to me about SPELT...or they just mention it.

2._____ I am discussing general ideas about the program to decide whether or not I should use it.

3._____ I am talking to others about how to avoid the mistakes they may have made when they first started using the strategies.

4._____ I am talking to others about how I can improve teaching the few strategies that I've tried.

5._____ We visit occasionally about SPELT, but I'm past the phase where I need help in deciding what to do next.

6._____ I often talk with other staff members on how to change and modify our use of SPELT for better results.

7._____ We are constantly talking about SPELT. We are committed to the program and how to improve it.

8._____ In addition to the statement #7, a number of us seek to talk with other educators at conventions and inservices about cognitive education programs.

D. Assessment.

1._____ I can't evaluate the program; I've no basis for opinion. (I don't use it.)

2._____ I am looking SPELT over, thinking of the pros and cons, should I decide to use it.

3._____ As the day approaches when I'll first use SPELT, my evaluation is more in terms of having my overhead and handouts ready.

4._____ My evaluation generally consists of "How did it go?" and "What do I do now?"

5._____ I'm using SPELT in a satisfactory manner. I'm only using the strategies I like. It's not necessary to change.

6._____ I use many SPELT strategies; however, I am not completely satisfied with my entire SPELT program I am soliciting student feedback for improvements.

7._____ We get together on a regular basis to assess our use of SPELT in terms of the program's strengths and weaknesses.

8._____ We get together on a regular basis to assess SPELT and suggest changes. We examine both the positive and negative aspects of our present use and of the suggested changes.

E. Planning.

1._____ As far as SPELT goes, I have no plans to use it.

2._____ I'm going to sit down with the manual some day and decide if I should use it.

3._____ I've decided to use SPELT, which strategy I'm going to start with, and I think I know how I'm going to teach it.

4._____ I've started to use a few strategies, but I'm not sure where the program will fit into my curriculum in the long run.

5._____ The strategies that I use are working, and I'll follow the same procedure next year.

6._____ Before I start planning for next year, I'm going to sit down and assess each of my strategies in terms of their effectiveness and student feedback. Then I'll make changes.

7._____ I'm going to sit down with my colleagues and coordinate our use of SPELT in our plans.

8._____ In addition to statement #7, we are also going to examine other cognitive education programs and decide what fits best in our program.

F. Personal stance.

1._____ I am not interested or involved in SPELT.

2._____ I'm deciding whether I want to use SPELT or not.

3._____ I am getting ready to use SPELT for the first time.

4._____ I've used SPELT a few times, but I need to change it to be more effective.

5._____ I'm using it. I'm satisfied. No problem.

6._____ SPELT has been good. I've used it basically since it's inception, and I've changed my methods consistently.

7._____ I am a SPELT user. Since SPELT has been introduced, I've seen both a growth in its use by teachers and more collaboration about the program.

8._____ SPELT has been great, and I use it a great deal. I think we need more cognitive education programs like SPELT and REACH to be introduced in our system.

G. Performing.

1._____ I don't use it.

2._____ I've looked it over, and I haven't decided whether I'll use it or not.

3._____ I am going to use it...soon.

4._____ I've tried to teach a couple of strategies. Success has been mixed...I'm not quite sure where it will fit into my overall program.

5._____ There are a few strategies that I use every year. I've settled on the role SPELT will have in my program.

6._____ I like the program, and I use quite a few strategies. Each year I add and subtract a few strategies based on their effectiveness.

7._____ There is a group of us who use SPELT. We are in constant dialogue in terms of the effectiveness of the strategies, planning, and coordination to increase the overall effectiveness of the program.

8._____ In addition statement #7, we also bring to our dialogue feedback of our research with other cognitive education strategies.

Part 2 - GENERAL INFORMATION

A. List the SPELT strategies that you have used in the past year. CIRCLE THE STRATEGIES THAT YOU FOUND EFFECTIVE AND WILL USE AGAIN.

B. What phase(s) of SPELT have you used?

1._____ PHASE 1

2._____ PHASE 2

3._____ PHASE 3

4._____ NONE

5._____ I DON'T KNOW THE PHASES, BUT I USE THE PROGRAM.

C. If you have used only phase 1, why have you not continued to phases 2 and 3? Check more than one if applicable.

1._____ lack of training

2._____ lack of time in the curriculum

3._____ lack of preparation time

4._____ students are not ready

5._____ lack of confidence in teaching other phases

6._____ other phases are inappropriate

7._____ other reasons. Explain:

D. If students have used phase 2 in your program, explain briefly how you facilitated phase 2 use.

E. If students have used phase 3 in your program, briefly explain how you facilitated phase 3 use. (Use back if necessary.)

PART 3 - DEMOGRAPHIC INFORMATION

This section is designed to obtain basic demographic information about the respondent for statistical analysis.

A. Years of teacher experience: _____ years.

B. Years of employment in the _____: _____years

C. Indicate with an "x" the grade level area you presently teach.

1._____ 4 - 6

2._____ 7 - 9

3._____ 10 - 12

D. Check which subject area(s) makes up the major part of your teaching assignment? (no more than two)

1._____ English or Language Arts.

2._____ Math

3._____ Science (includes Biology, Chemistry, Physics)

4._____ Social Studies (includes Law, Sociology, etc.)

5._____ Music, Drama, French

6._____ Business (includes Typing, Acc't, Comp. Lit)

7._____ Mechanics, Bldg. Const, Beauty Culture, Health Services

8._____ Physical Education/ Health

9._____ Special Ed./ Special Needs

10._____ General - Majority of subjects for a specific class.

11._____ Other (Please specify.)

Please use the back of this form to provide any further suggestions or comments regarding SPELT.

APPENDIX B
(Interview Guide)

SPELT interview / question guide.

* Assure anonymity.
* Reminder of tape.
* Thank for participation.

1. Comment on the concept of SPELT. Did you think it was a good idea at the time? Now? (Q2,3)

2. Comment on the difficulty involved in the implementation in terms of
    a) clarity. (Q2,3)
    b) complexity of materials/concept.
    c) other problems
        i) administrative
        ii) time
        iii) work load
        iv) teacher articulation

3. Are you presently using SPELT? What are the strengths and weaknesses of the program? (MQ-PERF;Q2)

4. Do you discuss the implementation of SPELT with other teachers? What kind of information did you share?
    If not, have you in the past? (MQ-SHARE)

5. Comment on the county record regarding educational change. (Q2)

6. Comment on the administrative feedback that you have received in implementing SPELT. (Q2)

7. List the strategies that you have used. (Q1)

Probe.

a. Explain how you used them. (MQ-PERF)
b. Comment on their effectiveness. (MQ-ASSESS)
c. How did you test effectiveness. (MQ-ASSESS)
d. Which ones did you try first? (Q1)
e. Phase 2 or 3 use? (MQ-KNOW, PERF)
f. Have you changed your approach in using SPELT since you first began using it? What are your future plans for SPELT? (MQ-ASSESS)

8. Does your school have a policy on SPELT? Yes - explain. No - should it? what form? (Q2,3; MQ-ASSESS)

9. I'm am interested in the students reaction to SPELT.
(Q3, MQ-ASSESS)

Probe

a. Did they enjoy the program strategies?
b. Did it enhance performance?
c. Is there any indication that they are receiving additional instruction in other courses?

10. Overall, comment on the program success in the _____. (Q2,3)

11. What should be the future direction of SPELT? (Q3)

12. Is there a particular type of student who best would benefit from a program like SPELT? (MQ-PLAN)

13. Explain the program as you see it. (MQ-KNOW)

14. It has been suggested that SPELT should be included as part of teacher training program in universities, do you agree? Why? (MQ-ASSESS)

15. Are you currently looking for more information about
    a. SPELT?
    b. metacognition?
    c. other cognitive education programs? (MQ-ACQ)

16. Do you have a SPELT binder? If so, describe the ways in which you are currently using it? When did you last look in it? Why? (MQ-ASSESS, PLAN)

17. Any other comments or suggestions? (Q2,3)

Probe.
    a. Inservices?
    b. Administrative support and/or direction?
    c. More teacher articulation between subjects?
    d. More teacher articulation between grade levels?
    e. A county policy coordinating use of SPELT between schools?
    f. More preparation time?
    g. Your choice?

Supplementary Questions for Interview:

APPENDIX C

(Rater's Sheet, Loucks et al., 1975, p.42)

LEVEL OF USE RATING SHEET (CBAM, 1975)

Tape #: Site: Interviewer:
Date: / / 75 I.D. #: Rater:

Level	Knowledge	Acquiring Information	Sharing	Assessing	Planning	Status Reporting	Performing	Overall LoU
Non-Use	0	0	0	0	0	0	0	0
D.P. A Orientation	I	I	I	I	I	I	I	I
D.P. B Preparation	II	II	II	II	II	II	II	II
D.P. C Mechanical Use	III	III	III	III	III	III	III	III
D.P. D-1 Routine	IVA	IVA	IVA	IVA	IVA	IVA	IVA	IVA
D.P. D-2 Refinement	IVB	IVB	IVB	IVB	IVB	IVB	IVB	IVB
D.P. E Integration	V	V	V	V	V	V	V	V
D.P. F Renewal	VI	VI	VI	VI	VI	VI	VI	VI
User is not doing:	ND	ND	ND	ND	ND	ND	ND	
No information in interview:	NI	NI	NI	NI	NI	NI	NI	

Is the individual a past user? Yes No

How much difficulty did you have in assigning this person to a specific LoU? None 1 2 3 4 5 6 7 Very much

Comments about interviewer --

General Comments --

Figure 5: LoU Rating Sheet

APPENDIX D

(LoU and Curriculum Categories Definitions, Loucks et al., 1975, p.8-9)

SCALE POINT DEFINITIONS OF THE LEVELS OF USE OF THE INNOVATION Levels of Use are distinct states that represent observably different types of behavior and patterns of innovation use as exhibited by individuals and groups. These levels characterize a user's development in acquiring new skills and varying use of the innovation. Each level encompasses a range of behaviors, but is limited by a set of identifiable Decision Points. For descriptive purposes, each level is defined by seven categories.	CATEGORIES	
	KNOWLEDGE That which the user knows about characteristics of the innovation, how to use it, and consequences of its use. This is cognitive knowledge related to using the innovation, not feelings or attitudes.	**ACQUIRING INFORMATION** Solicits information about the innovation in a variety of ways, including questioning resource persons, corresponding with resource agencies, reviewing printed materials, and making visits.
LEVEL 0 NON-USE State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved	Knows nothing about this or similar innovations or has only very limited general knowledge of efforts to develop innovations in the area.	Takes little or no action to solicit information beyond reviewing descriptive information about this or similar innovations when it happens to come to personal attention.
DECISION POINT A	*Takes action to learn more detailed information about the innovation.*	
LEVEL I ORIENTATION State in which the user has acquired or is acquiring information about the innovation and/or has explored or is exploring its value orientation and its demands upon user and user system.	Knows general information about the innovation such as origin characteristics, and implementation requirements.	Seeks descriptive material about the innovation. Seeks opinions and knowledge of others through discussions, visits, or workshops.
DECISION POINT B	*Makes a decision to use the innovation by establishing a time to begin.*	
LEVEL II PREPARATION State in which the user is preparing for first use of the innovation.	Knows logistical requirements, necessary resources and timing for initial use of the innovation, and details of initial experiences for clients.	Seeks information and resources specifically related to preparation for use of the innovation in own setting.
DECISION POINT C	*Begins first use of the innovation.*	
LEVEL 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 disjointed and superficial use	Knows on a day-to-day basis the requirements for using the innovation. Is more knowledgeable on short-term activities and effects than long-range activities and effects of use of the innovation	Solicits management information about such things as logistics, scheduling techniques, and ideas for reducing amount of time and work required of user.
DECISION POINT D-1	*A routine pattern of use is established.*	
LEVEL IV A ROUTINE Use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences	Knows both short- and long-term requirements for use and how to use the innovation with minimum effort or stress.	Makes no special efforts to seek information as a part of ongoing use of the innovation
DECISION POINT D-2	*Changes use of the innovation based on formal or informal evaluation in order to increa*	
LEVEL IV B REFINEMENT State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients	Knows cognitive and affective effects of the innovation on clients and ways for increasing impact on clients.	Solicits information and materials that focus specifically on changing use of the innovation to affect client outcomes
DECISION POINT E	*Initiates changes in use of innovation based on input of and in coordination with what*	
LEVEL 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	Knows how to coordinate own use of the innovation with colleagues to provide a collective impact on clients.	Solicits information and opinions for the purpose of collaborating with others in use of the innovation.
DECISION POINT F	*Begins exploring alternatives to or major modifications of the innovation presently in*	
LEVEL 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	Knows of alternatives that could be used to change or replace the present innovation that would improve the quality of outcomes of its use.	Seeks information and materials about other innovations as alternatives to the present innovation or for making major adaptations in the innovation.

Procedures for Adopting Educational Innovations Project. Research and Development Center for Teacher Education, University o
No. NIE-C-74-0087.

SHARING

Discusses the innovation with others. Shares plans, ideas, resources, outcomes, and problems related to use of the innovation.

Is not communicating with others about the innovation beyond possibly acknowledging that the innovation exists.

Discusses the innovation in general terms and/or exchanges descriptive information, materials, or ideas about the innovation and possible implications of its use.

Discusses resources needed for initial use of the innovation. Joins others in pre-use training, and in planning for resources, logistics, schedules, etc., in preparation for first use.

Discusses management and logistical issues related to use of the innovation. Resources and materials are shared for purposes of reducing management, flow and logistical problems related to use of the innovation.

Describes current use of the innovation with little or no reference to ways of changing use. .

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se client outcomes.

Discusses own methods of modifying use of the innovation to change client outcomes.

---

colleagues are doing.

Discusses efforts to increase client impact through collaboration with others on personal use of the innovation.

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use.

Focuses discussions on identification of major alternatives or replacements for the current innovation.

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of Texas at Austin, 1975, N.I.E. Contract

ASSESSING

Examines the potential or actual use of the innovation or some aspect of it. This can be a mental assessment or can involve actual collection and analysis of data.

Takes no action to analyze the innovation, its characteristics, possible use, or consequences of use.

Analyzes and compares materials, content, requirements for use, evaluation reports, potential outcomes, strengths and weaknesses for purpose of making a decision about use of the innovation.

Analyzes detailed requirements and available resources for initial use of the innovation.

Examines own use of the innovation with respect to problems of logistics, management, time, schedules, resources, and general reactions of clients.

Limits evaluation activities to those administratively required with little attention paid to findings for the purpose of changing use.

Assesses use of the innovation for the purpose of changing current practices to improve client outcomes.

Appraises collaborative use of the innovation in terms of client outcomes and strengths and weaknesses of the integrated effort.

Analyzes advantages and disadvantages of major modifications or alternatives to the present innovation.

CATEGORIES

PLANNING	STATUS REPORTING	PERFORMING
Designs and outlines short- and/or long-range steps to be taken during process of innovation adoption, i.e., aligns resources, schedules activities, meets with others to organize and/or coordinate use of the innovation.	Describes personal stand at the present time in relation to use of the innovation.	Carries out the actions and activities entailed in operationalizing the innovation.
Schedules no time and specifies no steps for the study or use of the innovation.	Reports little or no personal involvement with the innovation.	Takes no discernible action toward learning about or using the innovation. The innovation and/or its accouterments are not present or in use.
Plans to gather necessary information and resources as needed to make a decision for or against use of the innovation.	Reports presently orienting self to what the innovation is and is not.	Explores the innovation and requirements for its use by talking to others about it, reviewing descriptive information and sample materials, attending orientation sessions, and observing others using it.
Identifies steps and procedures entailed in obtaining resources and organizing activities and events for initial use of the innovation.	Reports preparing self for initial use of the innovation.	Studies reference materials in depth, organizes resources and logistics, schedules and receives skill training in preparation for initial use.
Plans for organizing and managing resources, activities, and events related primarily to immediate ongoing use of the innovation. Planned-for changes address managerial or logistical issues with a short-term perspective.	Reports that logistics, time, management, resource organization, etc., are the focus of most personal efforts to use the innovation.	Manages innovation with varying degrees of efficiency. Often lacks anticipation of immediate consequences. The flow of actions in the user and clients is often disjointed, uneven and uncertain. When changes are made, they are primarily in response to logistical and organizational problems.
Plans intermediate and long-range actions with little projected variation in how the innovation will be used. Planning focuses on routine use of resources, personnel, etc.	Reports that personal use of the innovation is going along satisfactorily with few if any problems.	Uses the innovation smoothly with minimal management problems; over time, there is little variation in pattern of use.
Develops intermediate and long-range plans that anticipate possible and needed steps, resources, and events designed to enhance client outcomes.	Reports varying use of the innovation in order to change client outcomes.	Explores and experiments with alternative combinations of the innovation with existing practices to maximize client involvement and to optimize client outcomes.
Plans specific actions to coordinate own use of the innovation with others to achieve increased impact on clients.	Reports spending time and energy collaborating with others about integrating own use of the innovation.	Collaborates with others in use of the innovation as a means for expanding the innovation's impact on clients. Changes in use are made in coordination with others.
Plans activities that involve pursuit of alternatives to enhance or replace the innovation.	Reports considering major modifications of or alternatives to present use of the innovation.	Explores other innovations that could be used in combination with or in place of the present innovation in an attempt to develop more effective means of achieving client outcomes.